State of Alabama Highway Safety Plan

Fiscal Year 2023

Prepared by

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NATIONAL PRIORITY SAFETY PROGRAM INCENTIVE GRANTS - The State applied for the following incentive grants:

S. 405(b) Occupant Protection: **Yes**
S. 405(e) Distracted Driving: **No**
S. 405(c) State Traffic Safety Information System Improvements: **Yes**
S. 405(f) Motorcyclist Safety Grants: **No**
S. 405(d) Impaired Driving Countermeasures: **Yes**
S. 405(g) State Graduated Driver Licensing Incentive: **No**
S. 405(d) Alcohol-Ignition Interlock Law: **No**
S. 405(h) Nonmotorized Safety: **No**
S. 405(d) 24-7 Sobriety Programs: **No**
S. 1906 Racial Profiling Data Collection: **No**

Highway Safety Planning Process

Data Sources and Processes

Identification of Highway Safety Problems

The State of Alabama has a comprehensive, evidence-based enforcement plan that encompasses all traffic safety program areas. This section gives the steps of the planning and problem identification processes applied by the Alabama Office of Highway Safety (AOHS) in creating its Highway Safety Plan (HSP). The following outlines the procedures that are followed in developing the countermeasure programs that are included in the HSP:

- A general problem identification is initiated as soon as the close out of the previous year's state crash data is completed, usually in the April-May time frame.
- The most current year of data after the close out is combined with the previous two years of data to have three years of crash data to perform the problem identification. Research has shown that three years is an optimal time span for predicting future hotspots.
- Hotspot analyses are run for the major subjects of interest, in this case speed, impaired driving, and lack of seat belt use using the Critical Analysis Reporting System (CARE).
- From these analyses, it becomes clear where the critical locations are, as well as the answer to the more general, "who, what, where, when, how old and why" questions to focus how these crashes can best be addressed.
- To ensure that the Community Traffic Safety Project/Law Enforcement Liaison (CTSP/LEL) Coordinators are thoroughly involved in this process, they are typically required to submit their plans in the April-May time frame, at about the same time as the statewide problem identification is being performed. The submitted plans include feedback on previous years' efforts in their respective areas.
- These plans are then combined to produce the specific action items that are implemented.

The HSP is evidence-based, as demonstrated by the results of the problem identification steps documented. AOHS does recognize there are many excellent countermeasure programs that need funding. For example, it is recognized that fatalities are caused by many factors other than speed, impaired driving, and lack of proper restraints.

However, optimality demands that the limited resources available be applied to those areas that have the maximum fatality reduction potential. According to the analysis of state crash data from 2021 these "top three" issues demonstrate the greatest crash elimination and

severity reduction potentials for fatal and severe injury crashes. However, even if all the goals for these various programs are met, there will still be an intolerably high death and injury toll, and the State embraces all the principles of the national Toward Zero Deaths (TZD) effort. AOHS uses the CARE system to develop a complete listing and mapping of problem crash locations (or hotspots) throughout the state. In addition to a breakdown by CTSP/LEL regions and Alabama Law Enforcement Agency (ALEA) posts, the results are also subdivided by crash type and roadway classification. This is because different agencies may deal with different roadway classifications, and different tactics may be applied to the different types of crashes. In addition, all agencies have access to the preliminary statewide plan. By providing both statewide and specific information to each area, the regional coordinators can identify the problems and locations in their region, and they can also determine how these locations relate to the statewide plan.

Once this information is provided to the CTSP/LEL Coordinators, they are instructed to focus their grant applications for the coming year on the hotspot locations given in the reports for their region. Other issues presented in their applications are reviewed by AOHS staff to ensure integrity and consistency among the regions. Once the grants are awarded, the enforcement programs are continuously evaluated, and any necessary adjustments are made throughout the fiscal year. The implementation of the Evidence-Based Enforcement Plan is demonstrated below in the following sections by major issue areas:

- Impaired driving and speed related crash hotspots – 402 funds
- Alcohol- and drug-related crashes hotspots – 405d funds
- Restraint-deficient hotspots – 402 funds

Media campaigns are also conducted alongside high visibility enforcement campaigns. The value of such integrated enforcement efforts is demonstrated by studies referenced throughout NHTSA Countermeasures that Work, the URL reference:
Countermeasures That Work: A Highway Safety Countermeasure Guide for Highway Safety Offices Tenth Edition, 2020

Process for Developing Highway Safety Performance Measures and Targets

The development of performance measures and targets was initiated by AOHS more than a decade ago, and it is updated annually to keep up with the evolving traffic safety conditions. An annual AOHS staff review provides data to develop and select evidence-based countermeasure strategies, which then determine the specific projects to address the most critical problem areas and to achieve established performance targets.

Each of the regions is charged with the responsibility to assess their specific traffic safety problems. Grant funds are allocated to the regions based on a review of these needs in terms of reducing the most critical problems identified in each of their respective regions. Specific projects involving the state CTSPs are largely focused on the problem locations discussed and defined in state hotspot listings.

AOHS will also continue to participate in high visibility enforcement (HVE) programs, such as the "Click It or Ticket" and "Drive Sober or Get Pulled Over" campaigns. Generally, funding is allocated to each region based on the percentage of hotspots in the region. For the shorter in duration HVE programs, funding is made available based on the fatalities in that region, which enables further participation for the national campaigns. AOHS continues to pledge its support to these programs and will fund the participating regions and agencies accordingly.

Several considerations are essential to understanding the rationale for the AOHS development of performance measures and targets. The following paragraphs present considerations for the rationale for establishing the performance measures and targets, many of which impact several items:

Baselines for Analysis and Agreement. Generally, the baselines for the estimates were calculated from the most recent five years of data. This can be seen from the data that demonstrate metrics over the past five available calendar years (2017-2021). Items C-1, C-2 and C-3a used the identical methodology as was approved in the coordination meetings with ALDOT to keep these goals consistent with the safety goals required by FHWA. **Goals for C-1, C-2, and C-3a were mutually agreed upon by the Alabama Office of Highway Safety, the Strategic Highway Safety Plan Steering Committee, and the Highway Safety Improvement Plan Committee.**

Distinction between Data and Estimates. The shaded areas in all graphs represent the projected number *assuming the established trend as given by a linear regression line over the previous known values continues.* Rolling 5-year averages are used to create a linear model to project two future years. The linear projection and slope are represented in the charts. The first projected year is not shaded as heavily as the "out" years to convey an idea of the reliability of the projection. Clearly, the further out that an estimate is projected, the less reliable it will be.

Accounting for Extrapolation Errors. Extrapolating from a limited number of past values can lead to extreme errors, especially since the latest FARS value that we have in most cases is 2020, requiring (for example) that the estimates of 2021, 2022 and 2023 all be based on an extrapolation of 2016 through 2020. (Unless otherwise noted, all references to years of data are calendar years.) Rarely, if ever, does such a linear trend establish a perfectly accurate prediction, especially in crash data where it is commonly accepted that *regression to the mean* follows most dramatic departures (positive or negative) from the established trend. However, the data that were used for estimation are felt to be the *best data* upon which to make and refine the assessments.

As a further refinement, the slope from last year is compared with the current slope to determine if it: (1) changed from positive to negative, or (2) changed significantly from a steep to a relatively level slope. This projection and slope comparison is used to estimate the next two years individually. By comparing the liner projection, raw baseline, and the individual year values, the estimate for the value for the goal was obtained.

All fatality count metrics. The two paragraphs above are particularly applicable for any metric that is dependent on fatality counts. Because of several economic factors (price of fuel and alcoholic beverages, reduction in driving by high-risk groups, reduction in speeds for fuel conservation, and several other well-established factors), the typical regression to the mean did not occur in the 2011-2013-time frame. However, regression to the mean was experienced in 2014, 2015, and especially in 2016 as the economy rebounded. The data chosen for the five-year trend and the baseline will go back no further than 2012 for the current estimates. Even this generally produces a very optimistic projection, but since the state has been urged to be aggressive (but not unrealistic) in setting goals, they will generally be somewhere between the projected trend line point for 2023 and the baseline. In the past, notable exceptions to these general patterns were observed in motorcycle and pedestrian fatalities; motorcycle and pedestrian fatalities are discussed as separate items in the paragraphs below.

One luxury we have is that the 2021 estimates are known with fair certainty. However, FARS and our state data (from CARE) rarely, if ever, produce the same fatality results. To assist in getting a more reliable estimate, a relation between FARS and CARE was created using the past three years of data. The estimated CARE counts are converted to FARS values that are more likely to be reported. These individual year values, along with the linear projection, and raw baseline are all considered in setting the final goals.

Motorcycle fatalities. The rationale regarding fatality trends in general (given above) does not apply to motorcycle fatalities. There are two reasons for this: (1) the same economic forces that reduce fatalities in general often work in just the opposite way when it comes to the use of motorcycles, i.e., they become a much more attractive mode of transportation because of the combined negative economic factors; and (2) because of this and the aging of the motorcycle-driving population in general, more and more motorcyclists are of a higher age and thus less able to either avoid or survive a severe injury.

Seat belt use. The projection for 2023 is based upon the five-year rolling average that includes the new method for estimating seat belt used as prescribed by NHTSA.

Five-year rolling average goals. Most of the crash related goals are set differently from years prior to 2014. Analysis concluded that since we were basing estimates on five-year rolling averages, it would not be correct to predict given a one-year estimate. Thus, the goals given are generally for the five-year average that will be computed at the end of 2023.

Pedestrian fatalities. Pedestrian fatalities have two contributing aspects: (1) the situation that brings the pedestrian into an inevitable crash by a motor vehicle, and (2) the ability of the pedestrian to take preventive action even when that collision cannot be avoided. To evaluate the effect of this second subtle (and usually ignored) factor, a comparison was made using 2016–2020-year data between those cases in which the pedestrian was killed and those in which the pedestrian was only injured. It was definitively shown that those who were killed were far more likely to be the subjects of impaired walking: on average they had several times the drug use indicators and twice the alcohol use indicators. Time of day also validated alcohol and drug use. There is no indicator in eCrash to tell the pedestrian was on a cell phone, texting or otherwise distracted. However, it seems clear when such is the case, the pedestrian will be more apt to be caught by surprise and thus will not take the normal last-minute remedial action to protect themselves. There is no reason to doubt that these study results are not still in effect in that they have been validated by several other studies.

Distracted Driving (DD) and walking. While distracted driving has not been broken out as a separate subject for setting a target, it has become clear that it is playing a major part in causing crashes in conjunction with several other causal factors. NHTSA estimates on the percentage of fatality crashes caused by DD currently stand at 10%, but these estimates have been growing over the past five years. Alabama *reported* 75 DD fatal crashes in 2020 and 72 DD fatal crashes in 2021. While these are below the NHTSA estimate, it seems clear that this could be a reporting issue for this new attribute within eCrash, and it is expected to grow as officers become more accustomed to recognizing and reporting it. It should be recognized that DD is embedded within many of the other crash types, and in particular: youth risk taking, speed, impaired driving, and pedestrian fatalities (see above).

DUI Drugs and Alcohol. A recent study by GHSA has confirmed that drug use, including both prescription and illegal drugs, have overcome alcohol as the major cause for impaired driving (nationally). This trend should be alarming to all traffic safety professionals in that the cultural acceptance of the use of marijuana is a reality. It also signals with it the reversal in any previous stigma regarding other drugs. Further, this trend is in its infancy with the recent legalization of the "recreational use" of marijuana in several other states. The problem is greatly exacerbated by the fact that there is no simple test equivalent to the alcohol portable BAC test units, nor are there any standards that are analogous to the 0.08 % BAC, and thus no practical way for law enforcement officers to prove that a driver is inebriated by marijuana. The combination of alcohol and additional combinations of drugs are highly problematic. With the difficulty in

identifying drugs, there can be little doubt the reported use/abuse of alcohol and drugs is significantly under-reported.

Assumption for collaborative goals - C-1: Number of Traffic Fatalities (FARS), C-2: Number of Severe Injuries in Traffic Crashes (State crash data files – most severe category: Suspected Serious Injuries), and C-3a: Total Fatality Rate/VMT (FARS/FHWA).

Evidence-Based Countermeasure Strategies/ Projects

The state has developed an Evidence-Based Enforcement (E-BE) plan to determine enforcement activity locations based on high-risk hotspots. These hotspots are identified according to criteria based on injury severity and the type of crash for which enforcement is being directed. These hotspots are then communicated to the Community Traffic Safety Program/Law Enforcement Liaison (CTSP/LEL) coordinators for each of the state's traffic safety regions. It is the responsibility of the CTSP/LELs to facilitate both regular and special enforcement programs within their respective regions. This response will continue with a discussion of the analyses performed, the deployment of resources, and the process for continuous follow-up and improvement.

The highest level of problem identification analysis is given by Table 1, which will give a detailed explanation in the response to "State's Overall Highway Safety Problems" below. At that point it will be seen that Table 1 identifies the most critical issues to be the following three items: (1) Restraint Deficient; (2) Impaired Driving and (3) Speeding. The first of these is the primary cause of increased injury severity in crashes. The second and third are crash causes, although speed can be both a cause and a severity increase. Impaired Driving is often highly correlated with both restraint deficiency and higher impact speeds. Thus, there is ample justification for considering these three simultaneously.

The following was the procedure employed to generate the hotspots that provided the basis for implementing the data driven approach for E-BE:

- Crashes that were in either the Speed or Impaired Driving category were identified and locations with the highest numbers of these crashes (particularly the severe crashes) were included in a list;
- Locations were defined by specific criteria depending on roadway classification.
- CARE identified hotspots in four major categories: (1) Interstate, (2) Federal and State Routes, (3) non-mileposted intersections (for Impaired Driving Crashes only) and (4) non-mileposted segments;
- The list was prioritized by crash frequency severity;

Each of the four regional coordinators use the hotspot specifications as the basis for their plans for the upcoming year. Their data were formatted in the same way as the statewide reports but only included information on hotspots specific to the given region. The reports provided on a regional basis are as follows:

- Regional Fatalities Bar Graph
- Top Speeding Related Mileposted State/Federal Route Crashes Map for Region
- Top Speeding Related Mileposted State/Federal Route Crashes Listing for Region
- Top Impaired Driving Related Mileposted State/Federal Route Crashes Map for Region
- Top Impaired Driving Related Mileposted State/Federal Route Crashes Listing for Region
- Top Impaired Driving Related Non-Mileposted Intersection Crashes Listing for Region
- Top Speeding Related Non-Mileposted Segment Crashes Listing for Region
- Top Impaired Driving Related Non-Mileposted Segment Crashes Listing for Region

Generally, each ALEA region receives a package of information that is formatted just like the statewide results but tailored to their region or roadway subset. All law enforcement agencies also have access to the statewide plan, and they are instructed to focus their E-BE details for the upcoming year on the hotspot locations. If any issues are raised at this point in the planning process, they are resolved by AOHS staff to ensure integrity and consistency among the regions.

The effective allocation of resources ideally leads to a reduction in the number of hotspots within the next year on both a statewide level and within each individual region. That is, given that the total number of crashes remains relatively stable, the concentration of efforts at the hotspots will reduce crashes at those locations so they may no longer be a defined as hotspots in the following year. Ideally, the goal would be to eliminate hotspots defined by the previous year's criteria altogether. Funding is determined for each region based on the percentage of hotspots in that region. There is also a consideration of the percentage of alcohol and speed crash issues that are present within each region. Federal funds distributed by the AOHS are used to focus completely on the high crash areas within each region.

Law enforcement agencies use saturation patrols, line patrols, checkpoints, and regular patrol for the E-BE projects to be effective. The enforcement activities and techniques that are used include:

- Conduct four local hotspot Evidence-Based Enforcement (E-BE) projects, one within each of the CTSP regions.
- Conduct a statewide E-BE project in conjunction with the Alabama Law Enforcement Agency (ALEA).
- Continue to require the CTSP Coordinators to conduct selective enforcement efforts that focus their plans on hotspot locations identified by the data analyses provided for their respective regions.
- Participate in the "Click It or Ticket" Campaign.
- Conduct a statewide "Drive Sober or Get Pulled Over" Campaign in conjunction with the national campaign.
- Conduct sustained E-BE for impaired driving, speeding, and seat belts throughout the year. The enforcement efforts are accompanied by PI&E campaigns that incorporate advertising, bonus spots, website links, and support of government agencies, and local coalitions to impact restraint usage. This part of the campaign consists of:
    - Development of marketing approach based on Nielsen and Arbitron ratings and targeted primarily towards the 18-34 male age group.
    - Placement of paid ads on broadcast television, cable television, digital ads, and radio in addition to public service spots. Paid advertising will be placed primarily in the largest media markets.
    - Management of public relations efforts including press releases and special media events to stimulate media coverage and alert the public to the campaign.
- In addition to the paid and free media, the AOHS website will have updated information including ads, articles and other information pertaining to the seat belt campaigns.
- Each CTSP/LEL Coordinator will be responsible for developing press releases and conducting press events that are specifically targeted to their regions.

AOHS monitors law enforcement agencies' activity reports to determine if adjustments are needed for their plans. When activity reports are received, they are assessed against the latest crash data to identify successful crash reductions in targeted locations, as well as new areas of risk that may be developing. This results in E-BE programs being continuously evaluated and the necessary adjustments being made. Follow-up is conducted with agencies to address any lack of performance issues or activities. Adjustments are made to the HSP annually based on the problem identification that includes the enforcement plans.

Process Participants

AOHS recognizes that traffic safety cannot be limited to one agency. It is a joint effort involving many key partnerships throughout the state. The following partners along with their general responsibilities are listed below:

- Community Traffic Safety Program/Law Enforcement Liaisons (CTSP/LEL) – employed in the field as an arm of the AOHS, these individuals have offices within their respective regions and build ongoing relationships with local and state level law enforcement.
- Alabama Law Enforcement Agency (ALEA) – this agency is responsible for all state- level law enforcement activities. This includes the support for the many computer systems that they have used in the past and currently, such as eCrash and eCite, the state's electronic crash and citation systems.
- Alabama Department of Transportation (ALDOT) –ADECA works closely with ALDOT in the development of common traffic safety performance measures and goals, which is a requirement of the Strategic Highway Safety Plan (SHSP).
- Strategic Highway Safety Plan (SHSP) Steering Committee – which also brings involvement and close concurrence with ALDOT and the following Federal agencies:
    - Federal Highway Administration (FHWA)
    - Federal Motor Carrier Safety Administration (FMCSA)
    - National Highway Traffic Safety Administration (NHTSA)
- Alabama Department of Public Health – provides data and information technology expertise for EMSIS and trauma data integration and use. ADPH also maintains the network of Child Passenger Safety fitting stations in the state and serves as the coordinator of technician training.
- Local law enforcement – including city police and county sheriffs, these partners are essential to all statewide and local enforcement programs.
- Traffic Records Coordinating Committee – a broad based committee that represents all developers and users of traffic safety information systems.
- State and local District Attorneys – involved to increase their level of readiness and proficiency for the effective prosecution of traffic related cases.
- Alabama Impaired Driving Prevention Council (AIDPC) - assembled by AOHS to develop and approve the Impaired Driving Strategic plan and to ensure that all aspects of the impaired driving problem are considered and as many alternative countermeasures as possible are evaluated.
- The University of Alabama Center for Advanced Public Safety (UA-CAPS) – a quasi-research agency that provides the information foundation from crash, citation, EMS runs and other databases. See: http://www.caps.ua.edu.

Description of Highway Safety Problems

Summary of Crash Severity by Crash Type (Table 1)

Beginning in 2010 it was determined that a tool should be established to enable decision makers to view the state's traffic safety issues at the highest possible level. This tool was named "Table 1" and it appears below. It was reasoned that, all other things being equal, traffic safety resource allocations should go to address those issues that cause the greatest number of fatalities. While this is a good default position to start from, all other things are rarely equal, and optimal resource allocations must also consider the cost of the countermeasures being considered and the proportion of the crashes that can reasonably be reduced by any given countermeasure. Thus, an item with a lower number of fatalities could become optimal to address if a lower cost countermeasure would reduce a larger number of its crashes and fatalities.

The eCrash system that went into effect July 1, 2009, creates data that meets most of the Model Minimum Uniform Crash Criteria (MMUCC). It provides data that are much timelier, since in many cases these reports are available the same day as the crash. Careful work was done to ensure that no variables or codes that could indicate a particular crash category of Table 1 were missed, and that the search criteria captured all the crashes for each of the categories for this evidence-based analysis.

The category with the highest number of fatal crashes is listed at the top of Table 1, descending to the crash type category with the lowest number of fatal crashes listed last. The number and percent of crashes by severity are listed for each category. This enables an easy comparison between the various crash types. It is important to realize that the categories of Table 1 are not mutually exclusive. However, since this is true in all the categories, these numbers serve to give the relative criticality of the categories that most often are the targets for funding or other resource allocations.

Table 1. Top Fatality Causes Alabama CY2021 Data

	Crash Type (Causal Driver)	Fatal Number	Fatal %	Injuries	Injury %	PDO No.	PDO %	Total
1	Belt Restraint Fault*	541	6.24%	4,476	51.62%	3,654	42.14%	8,671
2	Speed Involved	199	2.16%	2,785	30.29%	6,209	67.54%	9,193
3	ID/DUI All Substances	180	3.17%	1,953	34.40%	3,544	62.43%	5,677
4	Hit Roadside Obstacle	126	2.15%	1785	30.46%	3949	67.39%	5,860
5	Pedestrian Involved	126	17.14%	575	78.23%	34	4.63%	735
6	Wrong Way Items	113	3.19%	805	22.73%	2,623	74.08%	3,541
7	Large Truck Involved	112	1.17%	1,701	17.80%	7,741	81.02%	9,554
8	Fail to Yield-Ran (All)	111	0.38%	8,040	27.41%	21,184	72.21%	29,335
9	License Defect Causal	101	1.39%	2,127	29.22%	5,052	69.40%	7,280
10	Youth (16-20) Causal	82	0.38%	4,351	20.08%	17,233	79.54%	21,666
11	Mature (65 or Older)	81	0.61%	2,666	19.94%	10,621	79.45%	13,368
12	Motorcycle Involved	72	4.57%	1,044	66.33%	458	29.10%	1,574
13	Aggressive Operation	70	2.46%	792	27.89%	1,978	69.65%	2,840
14	Distracted Driving	45	0.33%	2,803	20.55%	10,794	79.12%	13,642
15	Drowsy Driving	33	0.97%	1,201	35.22%	2,176	63.81%	3,410
16	Vehicle Defects – All	29	0.64%	923	20.28%	3,600	79.09%	4,552
17	Utility Pole	26	1.03%	799	31.76%	1,691	67.21%	2,516
18	Child Restraint Fault*	22	0.85%	717	27.80%	1,840	71.35%	2,579
19	Work Zone Related	17	0.73%	420	18.07%	1,887	81.20%	2,324
20	Vision Obscured	12	0.97%	289	23.31%	939	75.73%	1,240
21	Bicycle	7	3.15%	174	78.38%	41	18.47%	222
22	Railroad Trains	6	9.84%	18	29.51%	37	60.66%	61
23	Roadway Defects – All	2	1.77%	22	19.47%	89	78.76%	113
24	School Bus Involved	1	0.18%	71	12.96%	476	86.86%	548

* This item is measured in the number of each severity of crash that resulted from the failure to use the proper restraint, as opposed to other items that are measured by the number of crashes caused by or related to the involvement of the item.

The comparison of gross fatality and injury counts is merely a first step in the analytical process to find optimal allocations of resources among programs. Obtaining this perspective is essential for intelligent decision making. Once the high-level decisions are made regarding which of the crash types will be addressed, further analyses must be performed to define countermeasures and improve their implementation. The severity classification in Table 1 also helps in this regard. For example, it might be noticed that the relative severity percentage of pedestrian, bicycle, motorcycle, and railroad crashes are significantly higher than the other categories, as is true for the top three categories as well. This is an important aspect to be considered when the goal is reducing deaths.

Procedure for Problem Identification

The overall problem identification for the Alabama Highway Safety Plan (HSP) begins with the most recently generated data for Table 1. This arranges crash types by the number of fatalities and sets a priority if in fact, "all other things were equal." But all other things are not equal, and further analysis is needed to account for countermeasure effectiveness and cost. Nevertheless, Table 1 effectively gives everyone in the traffic safety community a high-level view of the source of fatalities as well as how these fatalities are reflected in the lower severity crashes.

Two entries in Table 1 are important regarding the Occupant Protection Plan. The following defines these two entries:

- Restraint-Deficient Crashes (RD) – any crash in which one or more of the occupants of any involved vehicle (including drivers) were not properly restrained; and
- Child Restraint-Deficient Crashes (CRD) – any crash in which one or more children who are subject to child restraint laws were not properly restrained, independent of the restraint characteristics of the other occupants.

Clearly RD is at the top of this list, demonstrating that occupant restraint is one of the most critical issues in traffic safety and fatality reduction. Child Restraint Deficiencies (CRD) are near the bottom of Table 1 with only eleven fatalities. This reflects the extreme efforts that have gone into child protection by several agencies throughout the state. Special emphasis is given to children who are quite vulnerable if not properly restrained, and the importance of maintaining child restraint programs is clear. The enforcement efforts for CRD are effectively the same as that for RD.

Table 1 shows that one of the most effective ways of reducing fatalities is to increase restraint use, and this example will be used to further illustrate the problem identification process that is applied to all potential countermeasures. In reading through this example, please do not restrict consideration to only seat belts, but recognize how the same principles apply to all countermeasures under consideration.

The next step in the problem identification process is to analyze the data for these crashes and determine all the demographics related to them (e.g., who, what, where, when, how, how old, and the "why" of crashes involving non-restrained occupants). The goal is to (1) determine the most effective countermeasures that can be applied, and once these are defined, (2) identify the best tactics to be applied within each.

This starts by determining those types of crashes that were going to be targeted for occupant protection countermeasure implementation. For example, a recent study determined a very strong correlation between Restraint Deficiencies (RD) and other risky driving characteristics. DUI (alcohol and other drugs) and speed were correlated with non-use, and younger drivers 16-25 were particularly vulnerable. Young drivers are particularly susceptible to risk taking behaviors since the part of their brain that properly assesses risk is not fully developed until age 25. While the average seat belt use rate for all occupants has been measured above 90%, for those involved in fatal crashes the use rate was approximately 45%.

Evidence-based enforcement (E-BE) has been determined to be one of the most effective methods for increasing restraint use in general. This requires that specific locations be identified where there were concentrations of crashes involving unrestrained occupants. Once these hotspots are defined using the Critical Analysis Reporting Environment (CARE) software, the Community Traffic Safety Program/Law Enforcement Liaison (CTSP/LEL) Coordinators across the state are given information on the hotspot locations for the state. They are also provided detailed hotspot reports specific to their region to assist them in focusing their area efforts. Using the reports and maps developed for each region, the CTSP/LEL Coordinators develop plans, including the time schedule and work assignments, for their respective regions that focuses on the hotspot locations.

Narrative Description of Categories

The purpose of the narrative descriptions that follow is to give non-technical users of Table 1 a simple description for each of the items. This will enable better comparisons that are essential to optimal decisions regarding traffic safety resource allocations that must be made among the various crash categories.

Unless otherwise indicated, the counts presented in Table 1 are Crashes. Exceptions are 2021 crash categories 1 and 18, restraint items. These two exceptions are for restraints, and an asterisk (*) is placed on these items for the footnote that describes the reason for the exception (see Table 1 above).

The descriptions below are given in terms of the Table 1 item numbers that are used in the 2023 HSP. A brief rationale will be given for each category so that its use can be placed into a

real-world context. The ordering within the current Table 1 is in terms of the number of fatalities that were found for each category during CY2021. This numbering will change when Table 1 is updated in future years, due to the changes in the category definitions as well as the changes in the number of fatal crashes counted within each category.

These categories are not mutually exclusive. It is easy to imagine crashes that might include five to ten of the categories simultaneously. Users of Table 1 will need to apply their knowledge of traffic crash causes and severities to estimate which of the multiple causes might be the primary cause for the fatalities indicated, and thus, which should have the higher priority to counter.

Descriptions of the categories within Table 1:

1. Seatbelt Restraint Fault*- This item records those restraint faults (generally non-use but could be improper use) that have been found to normally result in an increased severity in those who are not properly restrained. It covers drivers and all occupants of age 6 and older. Persons aged less than 6 are covered in Category 18, Child Restraint Fault.
2. Speed Involved- This item includes all crashes in which speed was indicated to be a factor, which is generally indicated as "Over Speed Limit." However, for 2021 the PCC "Too Fast for Conditions" was added to this category.
3. ID/DUI All Substances- This item includes all crashes in which either alcohol or any other drug was indicated to be involved in the crash.
4. Hit Obstacle on Roadside- This item includes crashes where the vehicle ran off the road and struck an object on the roadside, restricted to obstacles for which the responsible agency would have some capability to either remove or otherwise mitigate the hazard.
5. Pedestrian Involved- This item includes all crashes that involved pedestrians in any way, independent of whether the pedestrian was the cause of the crash. See the comment under Motorcycle Involvement, Category 12.
6. Wrong Way Items - All crashes where the causal vehicle is in a lane for oncoming traffic; this includes median crossovers and lane departures into oncoming traffic on two-lane or four-lane roads. It also includes violations in no-passing zones since these offenses would put the causal driver into oncoming traffic lanes.
7. Large Truck Involved- Generally, this covers all trucks larger than the typical pickup truck. The attempt here is to concentrate on the size of the truck as opposed to its function or whether it is a CMV or not (some will be; others are not). See the comment under Motorcycle Involvement, Category 12.
8. Fail to Yield or "Ran" (All)- This is a new item that includes all subcategories of Failure to Yield the Right-of-Way and "Ran XXX," such as "Ran a Stop Sign" or "Ran a Traffic Signal." The reporting of just one or a small subset of these did not seem to be

warranted since the underlying cause of such behavior is the same regardless of where it manifests itself.

9. Causal Driver License Status Deficiency- This item includes all crashes in which the causal driver had one or more of the following driver license status deficiencies: Denied, Expired, Fraudulent, Revoked, and/or Suspended. It serves as an indicator as to whether the change of license status has a significant effect on the crash expectations of those drivers involved.
10. Youth Aged 16-20 Caused - This item includes all crashes for which drivers of age 16-20 (inclusive) were listed as the causal drivers.
11. Mature – Age > 64 Caused- This item includes all crashes for which drivers of age 65 or older were listed as the causal drivers.
12. Motorcycle Involved- This item is for those crashes in which a motorcycle was involved either as the causal vehicle or the second unit in the crash.
    General comment on vehicle type involvement. Discussions were conducted as to whether categories that involved vehicle types should be those "involved" or those "caused by." It was determined that countermeasures to these crashes could, and in some cases should, change the behaviors of vehicle drivers that are not of the category type who caused the crash. Thus, it was felt that all crashes in which they were involved should be included, and not just those caused by the driver of the specific vehicle type. This applies to all categories that are defined by a vehicle type, including pedestrians.
13. Aggressive Operation- This code is indicated by officers when there are two or more PCCs that are relevant and thus the indication is that the driver was under some psychological stress to disregard several safety considerations simultaneously.
14. Distracted Driving- Many different things tend to distract drivers. These would include distracted by: Passenger; Use of Electronic Communication Device; Use of Other Electronic Device; Fallen Object; Fatigued/Asleep; Insect/Reptile; Other Distraction Inside the Vehicle; and/or Other Distraction Outside the Vehicle. Of these, Fatigued/Asleep is redundant with Drowsy Driving (see 16).
    For purposes of analysis, it is being left as a contributor to this list to be consistent with the way it is reported on the crash report. It should be noted that Drowsy Driving may include items of fatigue and sleep that are not within the Distracted Driving category. See Category 15, which was a new category that was added for the 2020 HSP.
15. Drowsy Driving- This item includes all indications that the driver or drivers were drowsy or falling asleep.
16. Vehicle Defects (All) - This includes all reportable vehicle defects.
17. Utility Pole - There are many roadside obstacles that are struck by vehicles that run off the road. Utility poles are listed here since generally, utility poles are obstacles that are of special interest to utility companies.
18. Child Restraint Fault*- This includes the child passengers aged 5 or younger who were not properly restrained.

19. Work Zone Related - There are about ten locations within a work zone in which a crash can be specified to have been located. This item includes any or all of them. The work zone does not need to be a cause of the crash in any way for it to be counted; the crash just needs to be in or adjacent to the work zone.
20. Vision Obscured- This covers the following situations in which vision might be obscured by something in the roadway or its environment.
21. Bicycle (Pedalcycle) Involved- This is all crashes in which a pedalcycle (mostly bicycles) were involved independent of who caused the crashes. See comment under Motorcycle Involvement, Category 12.
22. Railroad Train Involved- This counts the number of crashes in which a railroad train was involved independent of who may have caused the crashes. See comment under Motorcycle Involvement, Category 12.
23. Contributing Roadway Defects- Any crash where a roadway defect was noted as a Contributing Circumstance. Contributing Circumstance are recorded as "E Roadway/Sign/Signal Defect" in the eCrash system.
24. School Bus Involved- This is the number of crashes that involved a school bus independent of the causal unit. See comment under Motorcycle Involvement, Category 12.

Methods for Project Selection

The goal of Alabama project selection approach is to create the safest surface transportation system possible, using comparable metrics from other states in the Southeast to assess progress in maintaining continuous recognizable improvement. Its primary ideals are to save the most lives and reduce the most suffering possible. The approach to project selection is to apply an evidence-based approach that draws upon detailed problem identification efforts to quantify and compare alternatives that are given within the NHTSA document *Countermeasures That Work*. Over the years the primary focus has evolved to implementing an Evidence-Based Enforcement (E-BE), concentrating on enforcement with special emphasis on speed reduction, impaired driving elimination and increasing the use of restraints; using data that are centered around the hotspot analyses performed for each of these countermeasure subject areas.

The approach toward implementing this goal involves a concentration on the necessity for a cooperative effort that involves teamwork and diversity, including all organizations and individuals within the state who have traffic safety interests, many of which were given above. The focus of crash reduction countermeasures is on the locations with the highest potential for severe crash frequency and severity reduction, as identified for speed and impaired driving, which were the largest two causes of fatal crashes, and for restraint non-use, which is the greatest factor causing increased crash severity.

There are several approaches used in the evidence-based project selection, some of which are outlined as follows:

- Compare similar results year to year from the data that is used to drive the countermeasure selections. For example, similar hotspot analyses are performed from year to year to determine the changes in the crash statistics as well as the correlated demographics. This quantifies both improvements and setbacks.
- If the indications are that a program implemented in the previous fiscal year fell short of its intended target, analyses are performed to determine the various causes in terms of continual improvement in the future.
- If it is determined that a specific program was particularly successful, then its characteristics are studied to determine if they can be applied or even reinforced in future efforts.
- For new countermeasures, at the highest level, evaluate alternative overall countermeasure strategies and select the ones that will best solve the problem.
- Once new countermeasures are resolved, use further analytical techniques to fine tune those that have been selected for implementation.

Project selection involves refining the performance measure targets each year. At the same time, evidence-based countermeasure strategies and specific projects to address problem areas and to achieve performance targets are developed and selected.

The AOHS planning process follows the timeline below:

- December- Annual Report (AR) is prepared and submitted to NHTSA. The AR serves as a key evaluation tool in determining the effectiveness of planned activities and individual projects.
- March- AOHS collects up to date state data from CAPS to determine hot spots in the CTSP regions. This analysis helps determine funding levels and percentages for enforcement campaigns, as well as helps evaluate and identify emerging issues.
- April- Results from data analysis and countermeasure selection are presented to project directors at the Quarterly Project meeting. Once this information is communicated, the involved agencies and potential subrecipients are given the application deadline.
- May- Grant applications are submitted.
- May-July- Applications are reviewed and recommended by AOHS for funding. AOHS also prepares the Highway Safety Plan for NHTSA.
- July 1- Submit Highway Safety Plan to NHTSA.
- October 1- Grant year begins.

AOHS does not have a formal grant selection committee to oversee the submission and approval of project proposals outside of office staff. Rather, AOHS fully utilizes the year-round interactions and meetings with traffic safety stakeholders and committees to identify how the state can work together to address issues in a coordinated way. For example, the AOHS meets quarterly with the AIDPC and TRCC to stay informed on actions different organizations are taking throughout the state to address Impaired Driving and Traffic Records issues, respectively. These meetings allow for communication and collaboration amongst the different organizations and agencies' jurisdictions on current and emerging issues.

List of Information and Data Sources

The following data sources are listed in order of the amount of use of each source:

- Crash data from the Alabama eCrash system.
- Citation data from the Alabama eCite system.
- FARS data for fatal crashes, from NHTSA.
- Traffic volume trends from FHWA Office of Highway Policy Information.
- Transportation Economic Trends 2017, Bureau of Transportation Statistics.
- AASHTO Traffic Volume Trends.

Description of Outcomes regarding SHSP and HSIP Coordination

In addition to AOHS, the programs implemented receive extensive review and recommendations by those who developed the state's Strategic Highway Safety Plan (SHSP). The overall performance measures and targets set in the SHSP for the State of Alabama are complementary to, and consistent with, those developed by AOHS. Over the past several years, the AOHS Highway Safety Plans (HSP), including Table 1, have been incorporated into the SHSP, which is mandated by FHWA and the FAST Act. This reflects the statewide agreement with the targets and approaches being taken by AOHS in the use of Table 1 as a planning tool at the highest levels. These targets were set by AOHS using FARS and CARE crash data. In those cases where the goals had to be consistent with the SHSP and the HSIP, the appropriate ALDOT officials were involved in assuring the concurrence among the three documents.

AOHS has worked collectively with ALDOT in performance measures development and target setting for the common goals of the HSP, SHSP and the Highway Safety Improvement Plan (HSIP). The common goals were mutually accepted by the Alabama Office of Highway Safety, the Strategic Highway Safety Plan steering committee, and the Highway Safety Improvement Plan committee. The major goals of both the HSP and the SHSP are to bring about the most effective and coordinated statewide allocation of traffic safety resources possible, including funding, equipment, and personnel.

Performance Report

Progress towards meeting State performance targets from the previous fiscal year's HSP

	2023 HSP				
Performance Measure:	**Target Period**	**Target Year(s)**	**Target Value FY22 HSP**	**Data Source*/ FY22 Progress Results**	**On Track to Meet FY22 Target YES/NO/In Progress**
C-1) Total Traffic Fatalities	5 Year	2018-2022	961	2016-2020 FARS 970	In Progress
C-2) Serious Injuries in Traffic Crashes	5 Year	2018-2022	6000	2017-2021 State Crash Data 5874	In Progress
C-3) Fatalities/VMT	5 Year	2018-2022	1.4	2016-2020 FARS 1.38	In Progress
C-4) Unrestrained Passenger Vehicle Occupant Fatalities, All Seat Positions	5 Year	2018-2022	370	2016-2020 FARS 382	In Progress
C-5) Alcohol-Impaired Driving Fatalities	5 Year	2018-2022	263	2016-2020 FARS 264	In Progress
C-6) Speeding-Related Fatalities	5 Year	2018-2022	255	2016-2020 FARS 266	In Progress
C-7) Motorcyclist Fatalities	5 Year	2018-2022	84	2016-2020 FARS 89	In Progress
C-8) Unhelmeted Motorcyclist Fatalities	5 Year	2018-2022	11	2016-2020 FARS 10	In Progress
C-9) Drivers Age 20 or Younger Involved in Fatal Crashes	5 Year	2018-2022	129	2016-2020 FARS 129	In Progress
C-10) Pedestrian Fatalities	5 Year	2018-2022	115	2016-2020 FARS 113	In Progress
C-11) Bicyclist Fatalities	5 Year	2018-2022	7	2016-2020 FARS 7	In Progress
B-1) Observed Seat Belt Use for Passenger Vehicles, Front Seat Outboard Occupants (State Survey)	5 Year	2022	92.5	State Survey 91.3	In Progress

Performance Measure: C-1) Number of traffic fatalities (FARS)

Performance Target Details

2015	2016	2017	2018	2019	Baseline	Goal
849	1083	948	953	930	953	**961**

Performance Target Justification

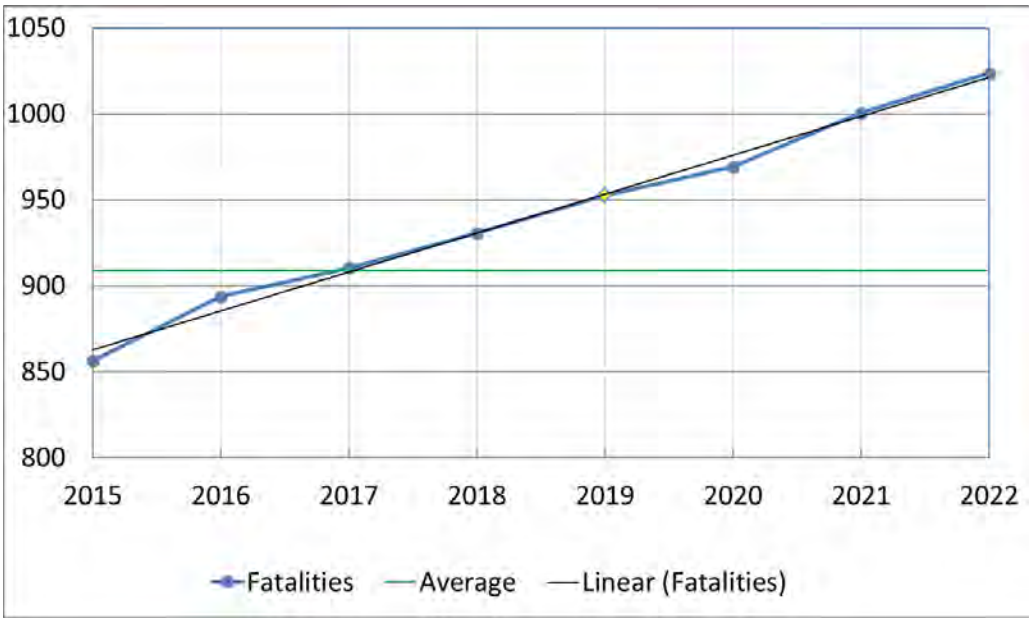
Based on analysis of previous 5-year averages and trends in more recent state crash data, AOHS projected a realistic goal to not allow Number of Traffic Fatalities to increase more than .84 percent from the five-year baseline average of 953 (2015-2019) to 961 by 2022. **This goal was mutually agreed upon by the Alabama Office of Highway Safety, the Strategic Highway Safety Plan steering committee, and the Highway Safety Improvement Plan committee**.

The five-year average (2016-2020) of traffic fatalities is 970. However, the goal is in progress to being achieved, according to state data projection from 2017-2021.The 2021 Estimate uses the average fatalities from Jan-Nov. The average, 79.45, is multiplied by 12 for the 2021 estimate.

State Projections- Alabama

2017	2018	2019	2020	2021*	Average
948	953	930	934	953	943.6

5 Year Rolling Averages of Traffic Fatalities



Performance Measure: C-2) Number of serious injuries in traffic crashes (State crash data files)

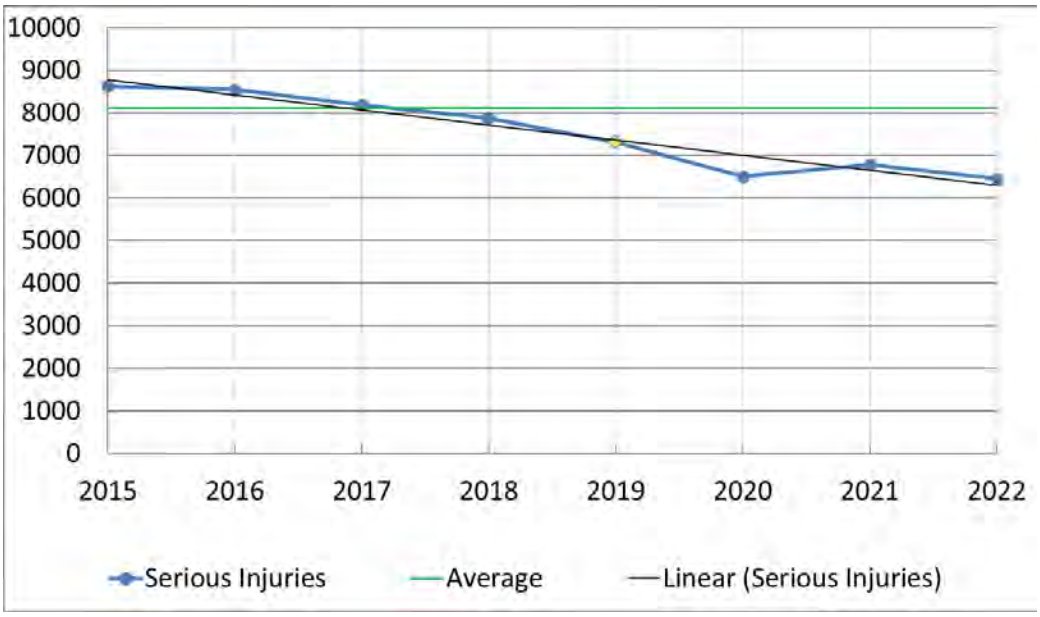
Performance Target Details

2015	2016	2017	2018	2019	Baseline	Goal
8760	8152	7484	7002	5103	7300	**6000**

Performance Target Justification

Based on analysis of previous 5-year averages and trends in more recent state crash data, AOHS projected a realistic goal to reduce Number of Severe injuries in Traffic Crashes by 18 percent from the five-year baseline average of 7,300 (2015-2019) to 6,000 by 2022. **This goal was mutually agreed upon by the Alabama Office of Highway Safety, the Strategic Highway Safety Plan steering committee, and the Highway Safety Improvement Plan Committee.** The projected five-year average (2017-2021) using state data is 5,874. The goal is in progress to being achieved.

5 Year Average of Serious Injuries



Performance Measure: C-3) Fatalities/VMT (FARS, FHWA)

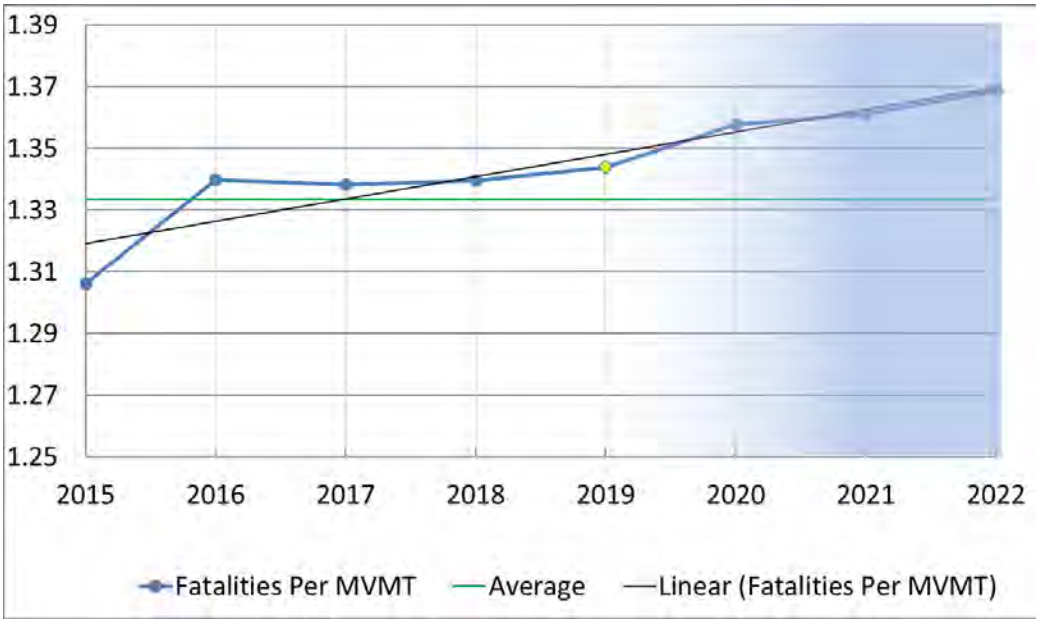
Performance Target Details

2015	2016	2017	2018	2019	Baseline	Goal
1.26	1.55	1.32	1.32	1.27	1.34	**1.4**

Performance Target Justification

Based on analysis of previous 5-year averages and trends in more recent state crash data, AOHS has projected a realistic goal to not allow the Total Fatality Rate/VMT to increase by more than 4.46 percent from the five-year baseline average of 1.34 (2015-2019) to 1.4 by 2022. **This goal was mutually agreed upon by the Alabama Office of Highway Safety, the Strategic Highway Safety Plan steering committee, and the Highway Safety Improvement Plan committee.** The five-year average (2016-2020) of total fatalities/100M VMT is 1.38. The goal is in progress to be achieved.

5-Year Rolling Averages of Total Fatalities/100 MVMT



Performance Measure: C-4) Number of unrestrained passenger vehicle occupant fatalities, all seat positions (FARS)

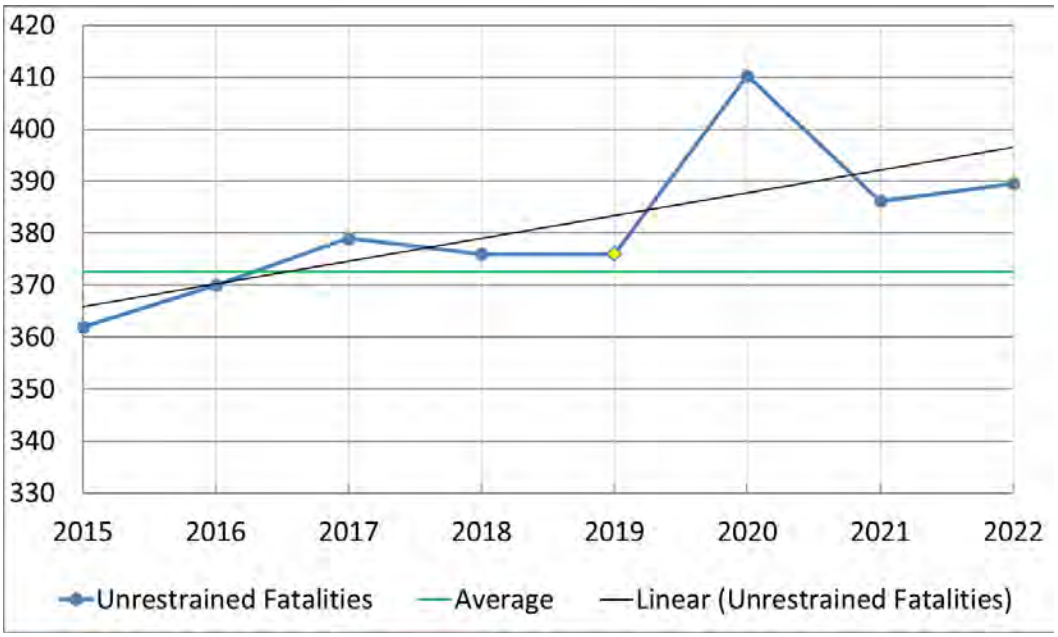
Performance Target Details

2015	2016	2017	2018	2019	Baseline	Goal
355	423	398	354	352	376	**370**

Performance Target Justification

AOHS projected a realistic goal to reduce Unrestrained Passenger Vehicle Occupant Fatalities by 1.6 percent from the five-year baseline average of 376 (2015-2019) to 370 in 2022. The projected five-year average (2017-2021) of Unrestrained Fatalities is 358. The goal is in progress to being achieved.

5-Year Rolling Averages of Unrestrained Vehicle Occupant Fatalities



Performance Measure: C-5) Number of fatalities in crashes involving a driver or motorcycle operator with a BAC of .08 and above (FARS)

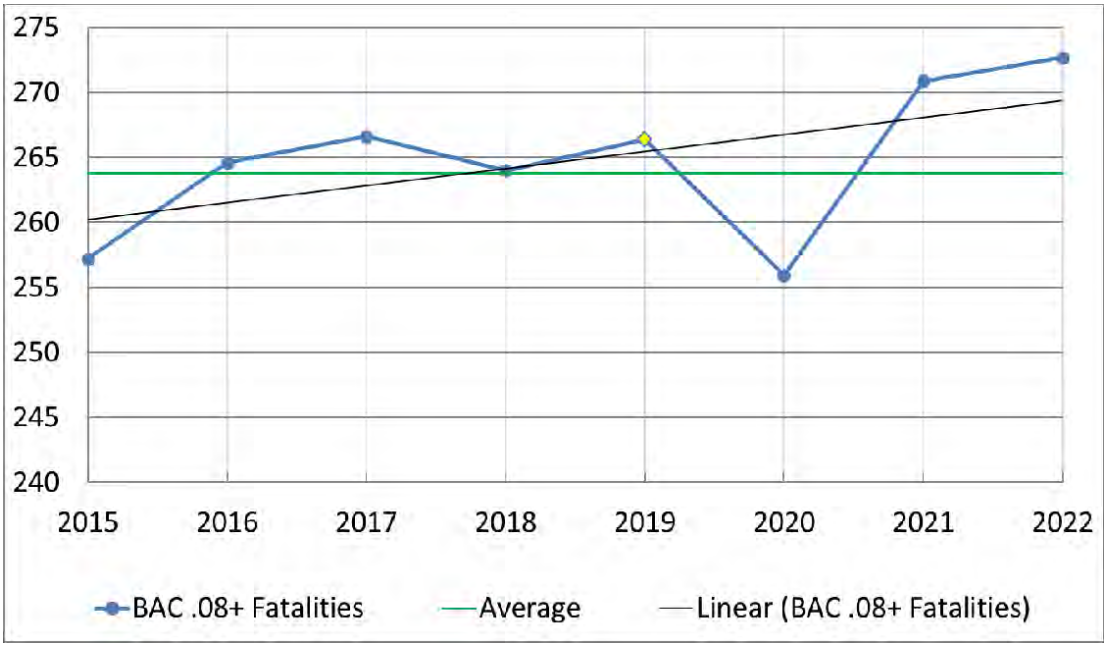
Performance Target Details

2015	2016	2017	2018	2019	Baseline	Goal
244	298	267	246	277	266	**263**

Performance Target Justification

Based on analysis of previous 5-year averages and trends in recent state crash data, AOHS projected a realistic goal to reduce the alcohol-impaired driving fatalities by 1.13 percent from the five-year baseline average of 266 (2015-2019) to 263 in 2022. The projected five-year average (2017-2021) using state data is 242. The goal is in progress to being achieved

5-Year Rolling Averages of Fatalities Involving a Driver with a BAC .08 and Above



Performance Measure: C-6) Number of speeding-related fatalities (FARS)

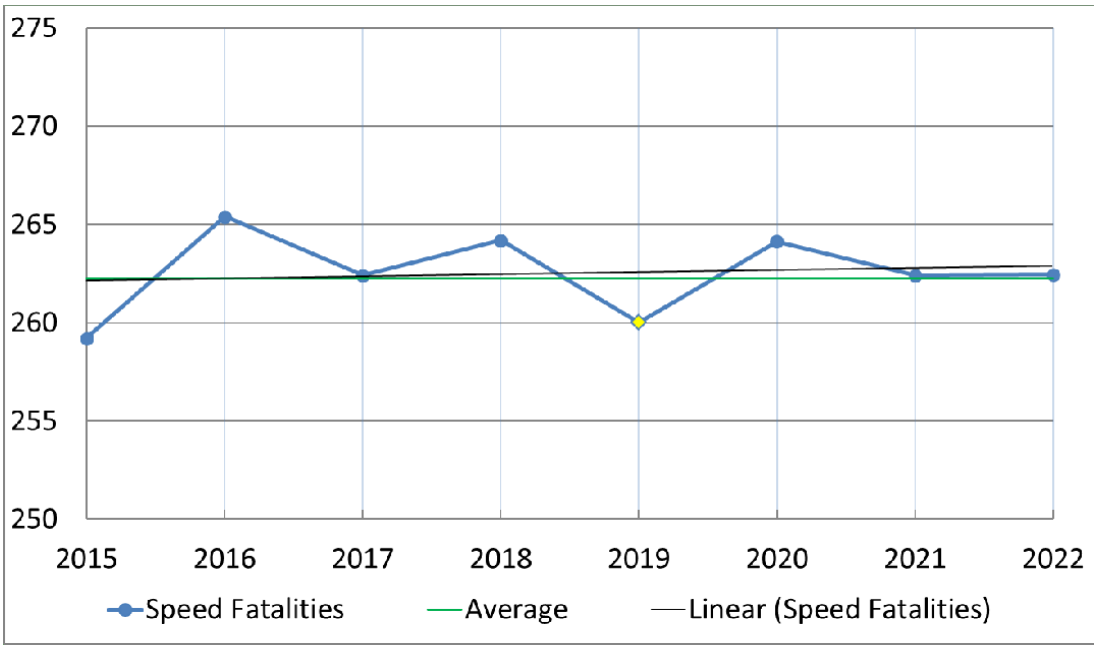
Performance Target Details

2015	2016	2017	2018	2019	Baseline	Goal
236	329	257	262	216	260	**255**

Performance Target Justification

Based on analysis of previous 5-year averages and trends in recent state crash data, AOHS projected a realistic goal to reduce the alcohol-impaired driving fatalities by 1.92 percent from the five-year baseline average of 260 (2015-2019) to 255 in 2022. The projected five-year average (2017-2021) using state data is 244. The goal is in progress to being achieved

5-Year Rolling Averages of Speeding-related Fatalities



Performance Measure: C-7) Number of motorcyclist fatalities (FARS)

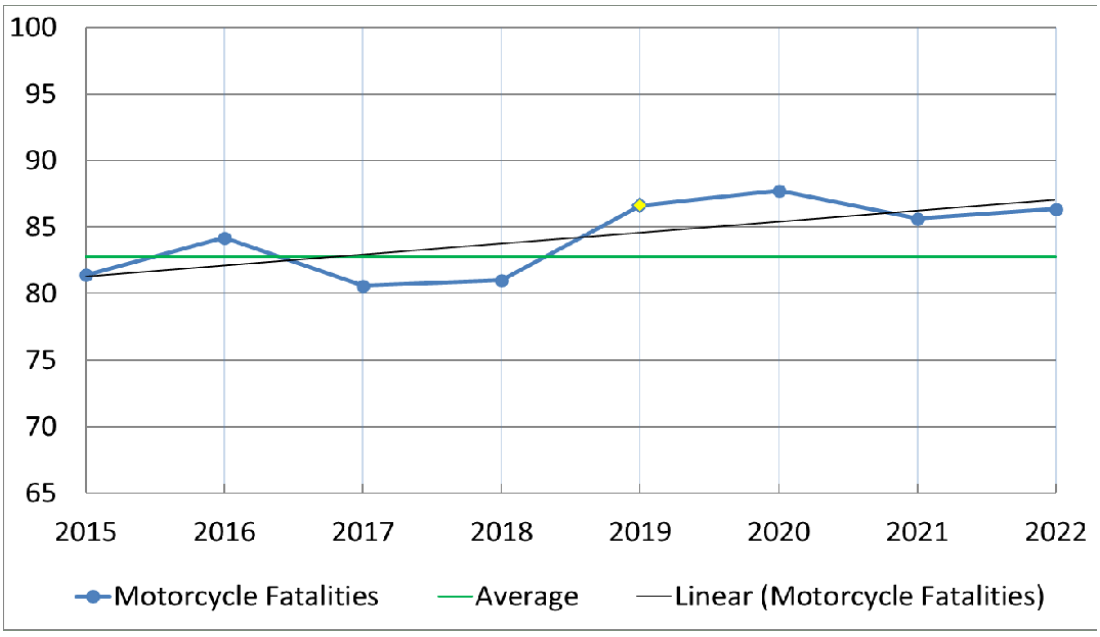
Performance Target Details

2015	2016	2017	2018	2019	Baseline	Goal
67	112	79	82	93	87	**84**

Performance Target Justification

Based on analysis of previous 5-year averages and trends in recent state crash data, AOHS projected a realistic goal to reduce the number of motorcyclist fatalities by 3.44 percent from the baseline average of 87 (2015-2019) to 84 in 2022. The projected five-year average (2017-2021) using state data is 79. The goal is in progress to being achieved.

5-Year Rolling Averages of Motorcyclist Fatalities



Performance Measure: C-8) Number of Unhelmeted motorcyclist fatalities (FARS)

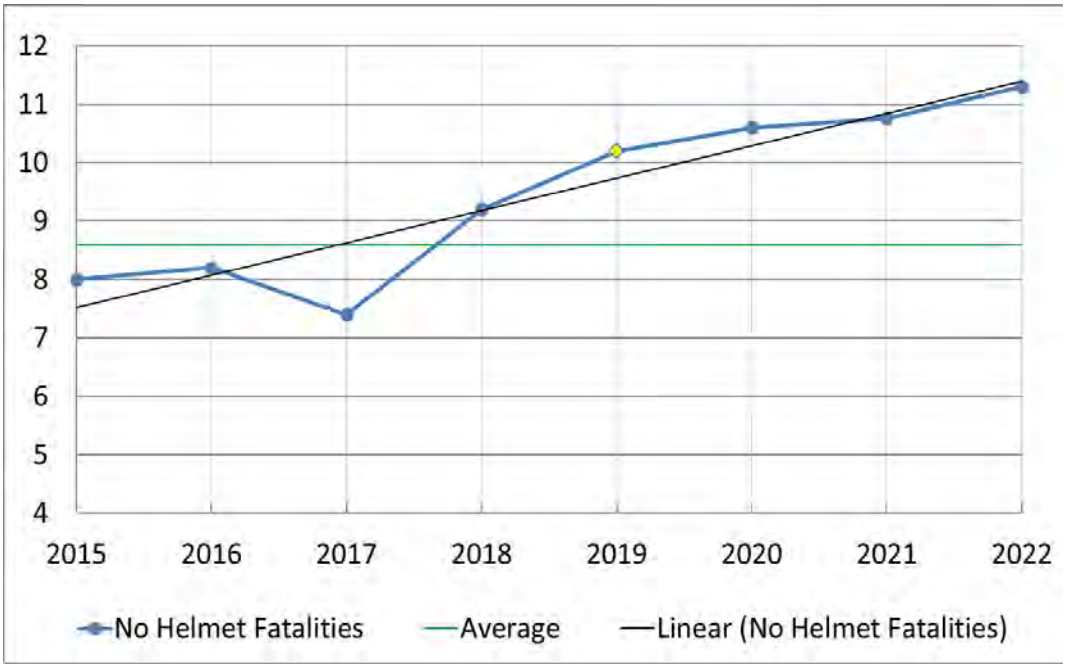
Performance Target Details

2015	2016	2017	2018	2019	Baseline	Goal
9	11	6	10	15	10	**11**

Performance Target Justification

Based on analysis of previous 5-year averages and trends in recent state crash data, AOHS projected a realistic goal to not allow un-helmeted motorcyclist fatalities to increase by more than 10 percent of the five-year baseline average of 10 (2015-2019) to 11 in 2022. The projected five-year average (2017-2021) using state data is 9. The goal is in progress to being achieved.

5-Year Rolling Averages of Un-Helmeted Motorcyclist Fatalities



Performance Measure: C-9) Number of drivers Age 20 or Younger Involved in Fatal Crashes (FARS)

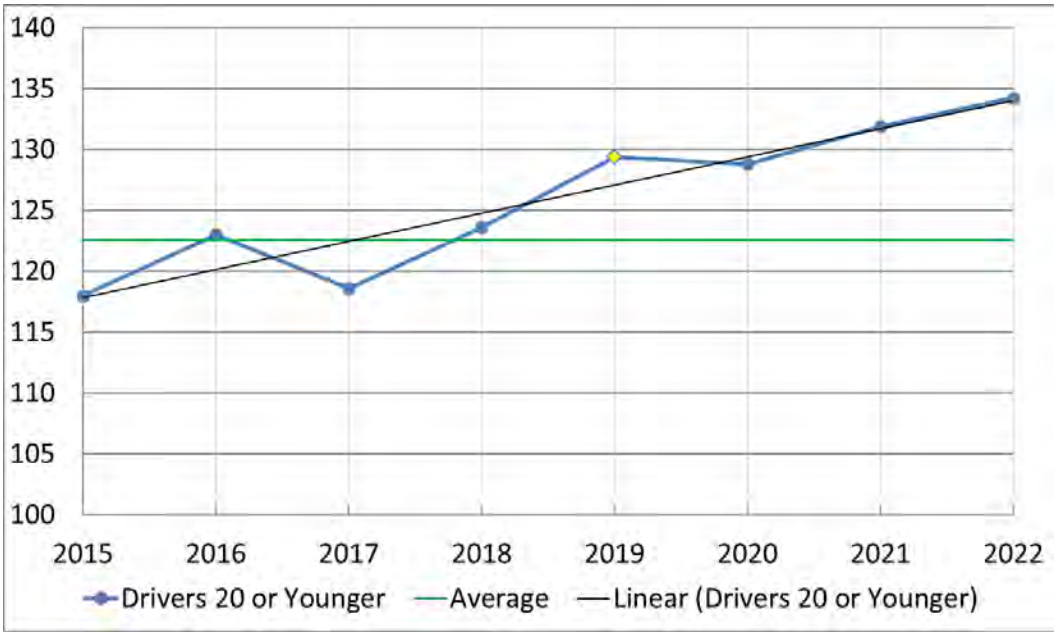
Performance Target Details

2015	2016	2017	2018	2019	Baseline	Goal
122	161	117	127	120	129	**129**

Performance Target Justification

Based on analysis of previous 5-year averages and trends in recent state crash data, AOHS projected a realistic goal to maintain the baseline of drivers age 20 or younger involved in Fatal Crashes at 129 (2015-2019) in 2022. The projected five-year average (2017-2021) using state data is 115. The goal is in progress to being achieved.

5-Year Rolling Averages of Drivers Age 20 or Younger involved in a Fatal Crash



Performance Measure: C-10) Number of Pedestrian Fatalities (FARS)

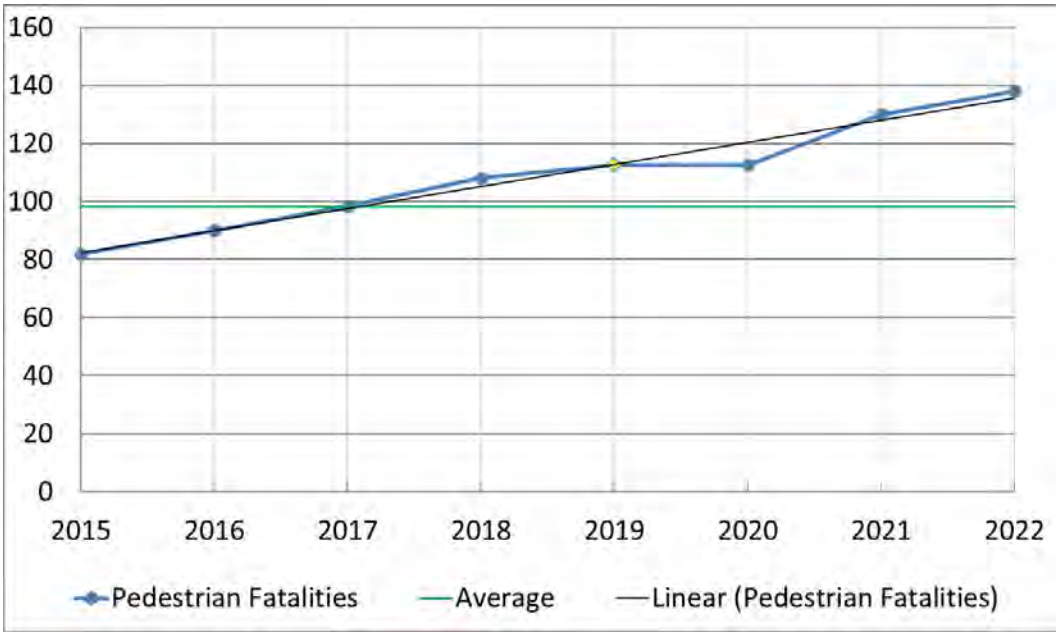
Performance Target Details

2015	2016	2017	2018	2019	Baseline	Goal
98	120	119	107	119	113	**115**

Performance Target Justification

Based on analysis of previous 5-year averages and trends in recent state crash data, AOHS projected a realistic goal to not allow the number of pedestrian fatalities to increase more than 1.77 percent from the baseline average of 113 (2015-2019) to 115 in 2022. The projected five-year average (2017-2021) using state data is 112. The goal is in progress to being achieved.

Five-year Rolling Average of Pedestrian Fatalities



Performance Measure: C-11) Number of bicyclist fatalities (FARS)

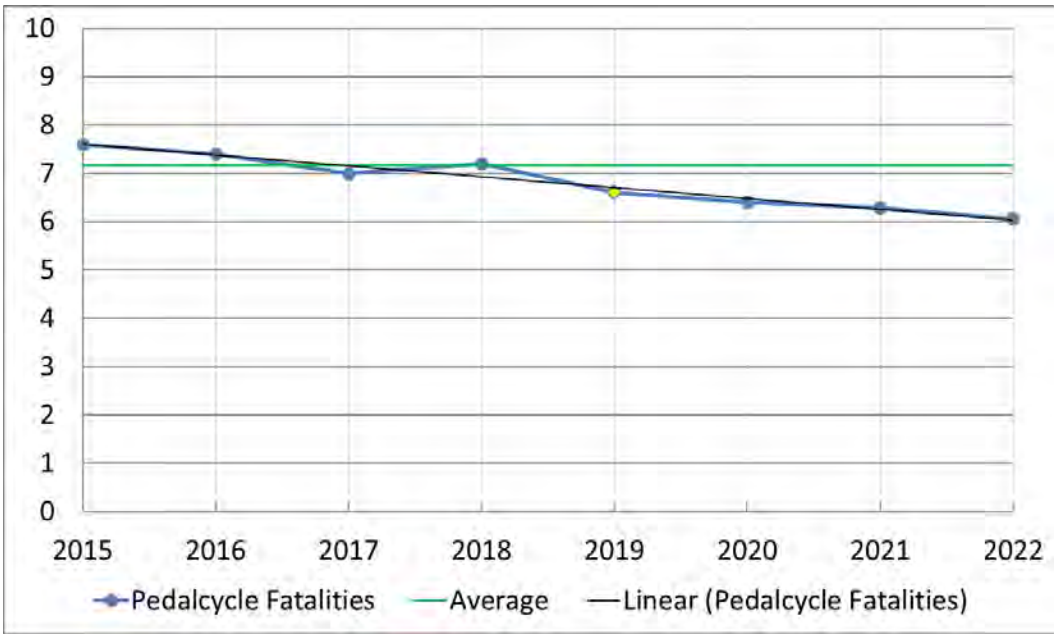
Performance Target Details

2015	2016	2017	2018	2019	Baseline	Goal
9	9	4	7	7	7	**7**

Performance Target Justification

Based on analysis of previous 5-year averages and trends in recent state crash data, AOHS has projected a realistic goal to maintain the number of bicycle fatalities to the five-year baseline average of 7 (2015-2019) in 2022. The projected five-year average (2017-2021) using state data is 7. The goal is in progress to being achieved.

5-Year Rolling Averages of Bicyclist Fatalities



Performance Measure: B-1) Observed seat belt use for passenger vehicles, front seat outboard occupants (survey)

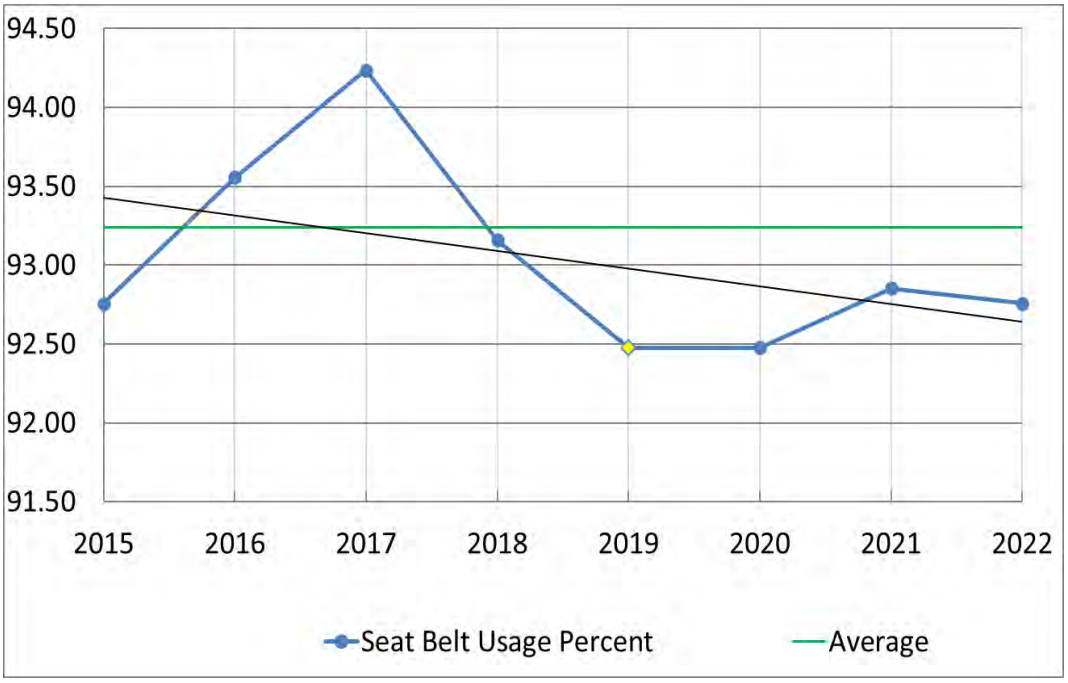
Performance Target Details

2015	2016	2017	2018	2019	Baseline	Goal
93.3	92	92.9	91.9	92.3	92.5	**92.5**

Performance Target Justification

Based on analysis of previous observed seat belt usage rate observational surveys and trends in recent state crash data, AOHS has projected a realistic goal to maintain the observed seat belt usage at the five-year baseline average (2015 -2019) of 92.5% in 2022. The five-year average (2017-2021*) using state data is 92.1%. The goal is not in progress to being achieved. Alabama will continue the efforts to increase seatbelt use that have proven to be effective in the past and will continually seek to find ways to improve these programs

5-Year Rolling Averages of Observed Seat Belt Use



Alabama Traffic Safety Activity Measures

Year	2016	2017	2018	2019	2020	2021
Speeding Citations	30,807	36,027	43,345	37,292	39,077	36,802
DUI Arrests	906	830	687	987	770	958
Seat Belt Citations	10,575	12,002	12,574	9,875	10,337	9,794

Performance Plan

	PERFORMANCE PLAN CHART – 2023 Highway Safety Plan		2016	2017	2018	2019	2020
C-1	Traffic Fatalities	FARS Annual	1083	948	953	930	934
	Cap the increase of total fatalities to 1,000 (2019 - 2023 rolling average) by 2023	5-Year Rolling Avg.	894	911	931	953	970
C-2	Serious Injuries in Traffic Crashes	State Annual	8152	7484	7005	5103	5103
	Reduce serious traffic injuries to 6,500 (2019 – 2023 rolling average) by 2023	5-Year Rolling Avg.	8542	8185	7873	7300	7300
C-3	Fatalities/100M VMT	FARS Annual	1.56	1.34	1.34	1.30	1.38
	Cap the increase of fatalities/100 MVMT to 1.42 (2019-2023 rolling average) by 2023.	5-Year Rolling Avg.	1.35	1.35	1.35	1.36	1.38
C-4	Unrestrained Passenger Vehicle Occupant Fatalities, All Seat Positions	FARS Annual	423	398	354	352	384
	Reduce unrestrained passenger vehicle occupant fatalities, all seat positions 3.45 percent from 382 (2016-2020 rolling average) to 369 (2019 – 2023 rolling average) by 2023.	5-Year Rolling Avg.	370	379	376	376	382
C-5	Alcohol-Impaired Driving Fatalities	FARS Annual	298	265	249	272	236
	Maintain alcohol impaired driving fatalities at 264 (2019 – 2023 rolling average) by 2023.	5-Year Rolling Avg.	261	266	264	266	264
C-6	Speeding-Related Fatalities	FARS Annual	329	257	262	216	265
	Maintain speeding-related fatalities at 266 (2019 – 2023 rolling average) by 2023.	5-Year Rolling Avg.	266	262	264	260	266
C-7	Motorcyclist Fatalities	FARS Annual	112	79	82	93	78

	PERFORMANCE PLAN CHART – 2023 Highway Safety Plan		2016	2017	2018	2019	2020
	Reduce motorcyclist fatalities by 12.16 percent from 89 (2016-2020 rolling average) to 78 (2019 – 2023 rolling average) by 2023.	5-Year Rolling Avg.	84	81	81	87	89
C-8	Unhelmeted Motorcyclist Fatalities	FARS Annual	11	6	10	15	10
	Cap the increase of unhelmeted, motorcyclist fatalities to 10 percent from 10 (2016-2020 rolling average) to 11 (2019 – 2023 rolling average) by 2023.	5-Year Rolling Avg.	8	7	9	10	10
C-9	Drivers Age 20 or Younger involved in Fatal Crashes	FARS Annual	161	117	127	118	120
	Cap the increase of drivers age 20 and younger involved in fatal crashes to 3.88 percent from 129 (2016-2020 rolling average) to 134 (2019 - 2023 rolling average) by 2023.	5-Year Rolling Avg.	123	119	124	129	129
C-10	Pedestrian Fatalities	FARS Annual	120	119	107	119	101
	Cap the increase pedestrian fatalities to 3.54 percent from 113 (2016-2020 rolling average) to 117 (2019 – 2023 rolling average) by 2023.	5-Year Rolling Avg.	90	98	108	113	113
C-11	Bicyclist Fatalities	FARS Annual	3	7	9	6	10
	Reduce bicyclist fatalities 14.29 percent from 7 (2016-2020 rolling average) to 6 (2019 – 2023 rolling average) by 2023.	5-Year Rolling Avg.	7	7	7	7	7
B-1	Observed Seat Belt Use for Passenger Vehicles, Front Seat Outboard Occupants (State Survey)	State Annual	92.0	92.9	91.8	92.3	92.3
	Cap the decrease of the observed seat belt use for passenger vehicles, front seat outboard occupants by .84 percentage points from 92.5 percent in 2020 to 91.7 percent by 2023.	5-Year Rolling Avg.	93.6	94.2	93.1	92.5	92.5

Performance Measure: C-1) Number of traffic fatalities (FARS)

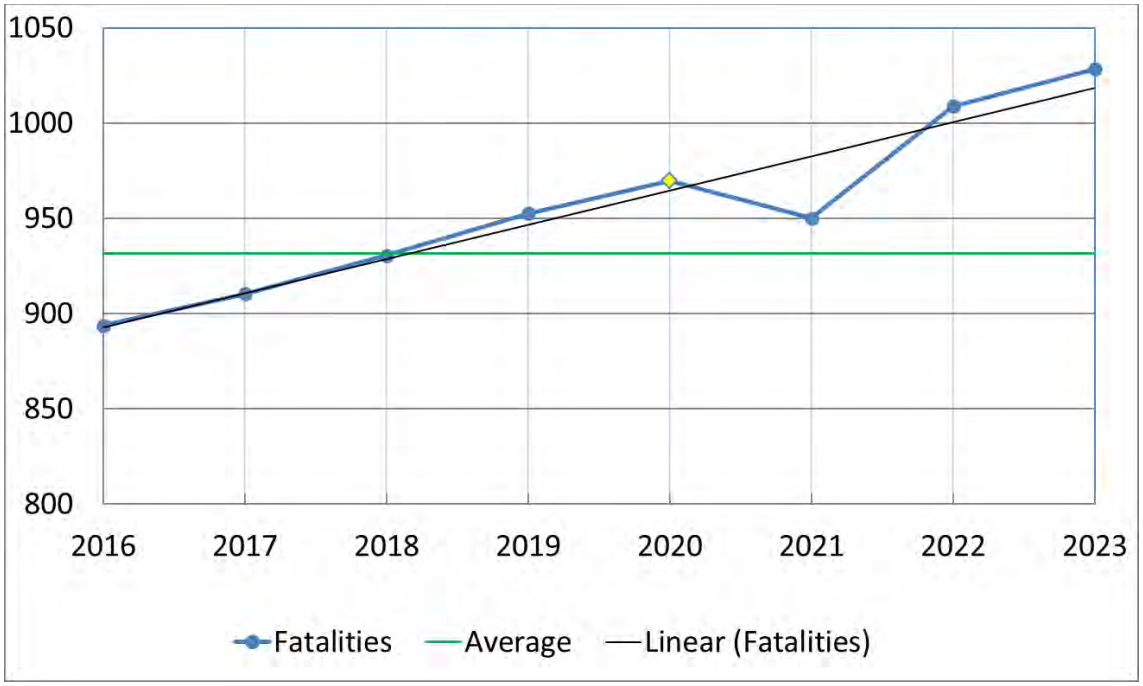
Performance Target Details

2016	2017	2018	2019	2020	Baseline	Goal
1083	948	953	930	934	970	**1000**

Performance Target Justification

Based on analysis of previous 5-year averages and trends in more recent state crash data, AOHS has projected a realistic goal to not allow Number of Traffic Fatalities to increase more than 3.09 percent from the five-year average of 970 to 1,000 (2019 - 2023 rolling average) by 2023. **This goal was mutually agreed upon by the Alabama Office of Highway Safety, the Strategic Highway Safety Plan steering committee, and the Highway Safety Improvement Plan Committee.**

5 Year Rolling Averages of Traffic Fatalities



Performance Measure: C-2) Number of serious injuries in traffic crashes (State crash data files)

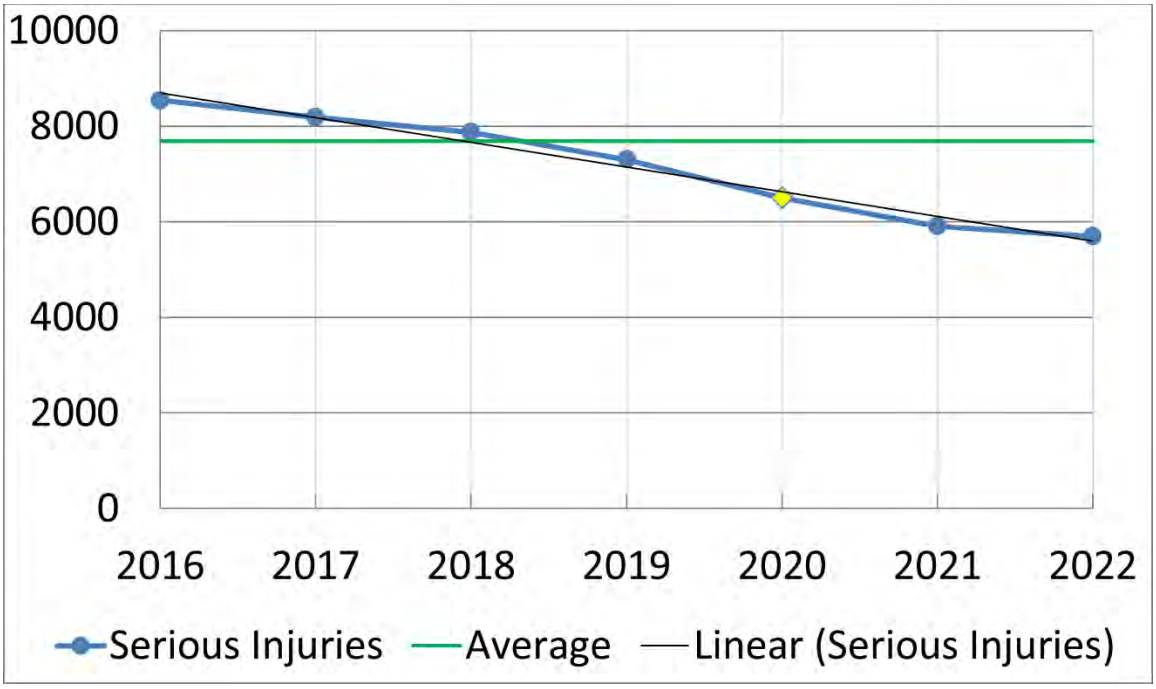
Performance Target Details

2016	2017	2018	2019	2020	Baseline	Goal
8152	7484	7002	5103	4782	6505	**6500**

Performance Target Justification

Based on analysis of previous 5-year averages and trends in more recent state crash data, AOHS has projected a realistic goal to reduce Number of Severe injuries in Traffic Crashes by .1 percent from the five-year baseline average (2016-2020) of 6505 to 6500 in 2023. **This goal was mutually agreed upon by the Alabama Office of Highway Safety, the Strategic Highway Safety Plan steering committee, and the Highway Safety Improvement Plan Committee.**

5 Year Rolling Averages of Serious Injuries



Performance Measure: C-3) Fatalities/VMT (FARS, FHWA)

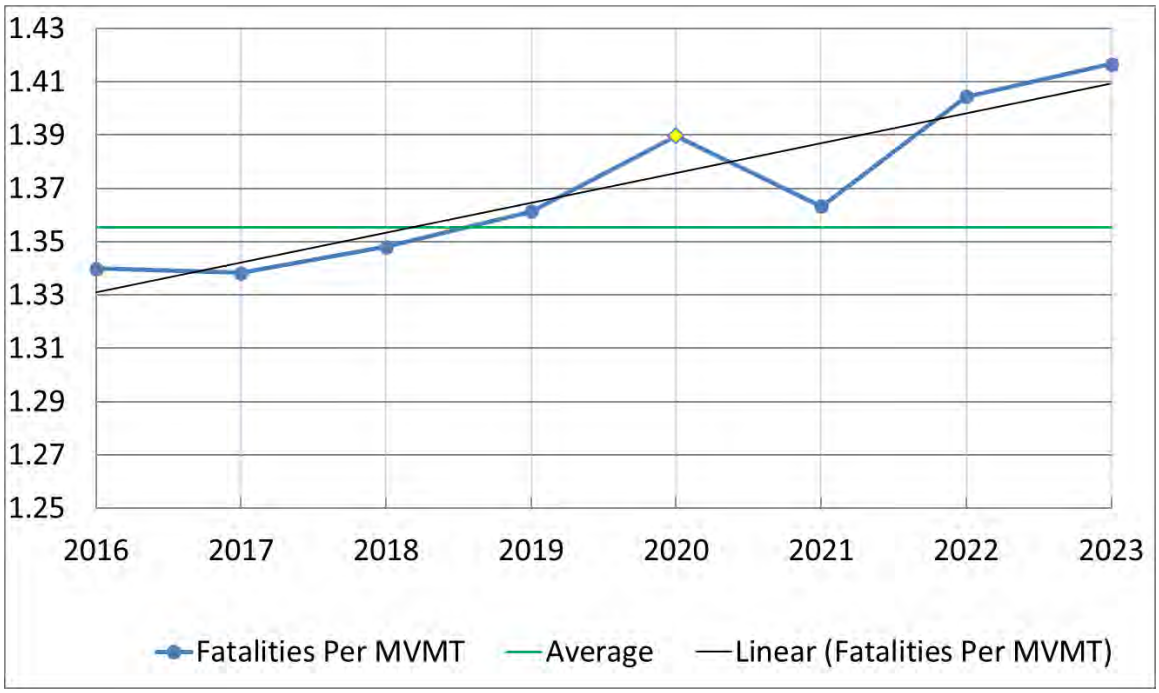
Performance Target Details

2016	2017	2018	2019	2020	Baseline	Goal
1.5	1.3	1.4	1.3	1.4	1.39	**1.42**

Performance Target Justification

Based on analysis of previous 5-year averages and trends in more recent state crash data, AOHS has projected a realistic goal to not allow the Total Fatality Rate/VMT to increase by more than 2.16 percent from the five-year baseline average of 1.39 (2016-2020) to 1.42 by 2023. **This goal was mutually agreed upon by the Alabama Office of Highway Safety, the Strategic Highway Safety Plan steering committee, and the Highway Safety Improvement Plan Committee.**

5 Year Rolling Averages of Traffic Fatalities/100 MVMT



Performance Measure: C-4) Number of unrestrained passenger vehicle occupant fatalities, all seat positions (FARS)

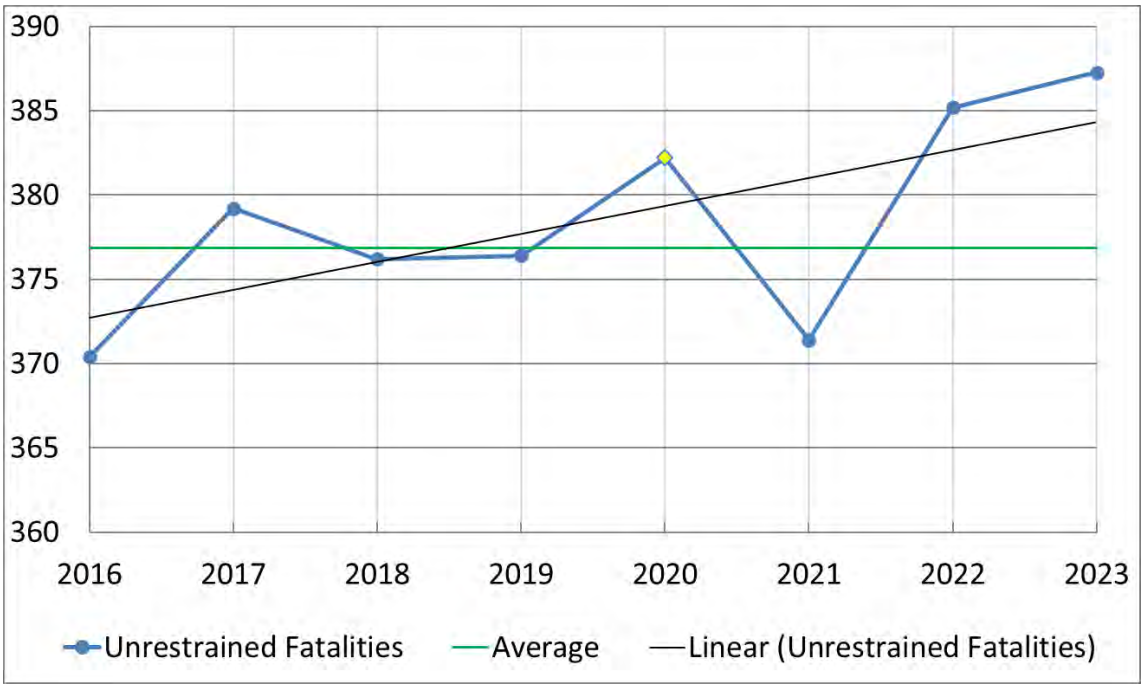
Performance Target Details

2016	2017	2018	2019	2020	Baseline	Goal
423	398	354	352	384	382	**369**

Performance Target Justification

AOHS has projected a realistic goal to reduce unrestrained passenger vehicle occupant fatalities, all seat positions 3.45 percent from 382 (2016-2020 rolling average) to 369 (2019 – 2023 rolling average) by 2023.

5 Year Rolling Averages of Unrestrained Vehicle Occupant Fatalities



Performance Measure: C-5) Number of fatalities in crashes involving a driver or motorcycle operator with a BAC of .08 and above (FARS)

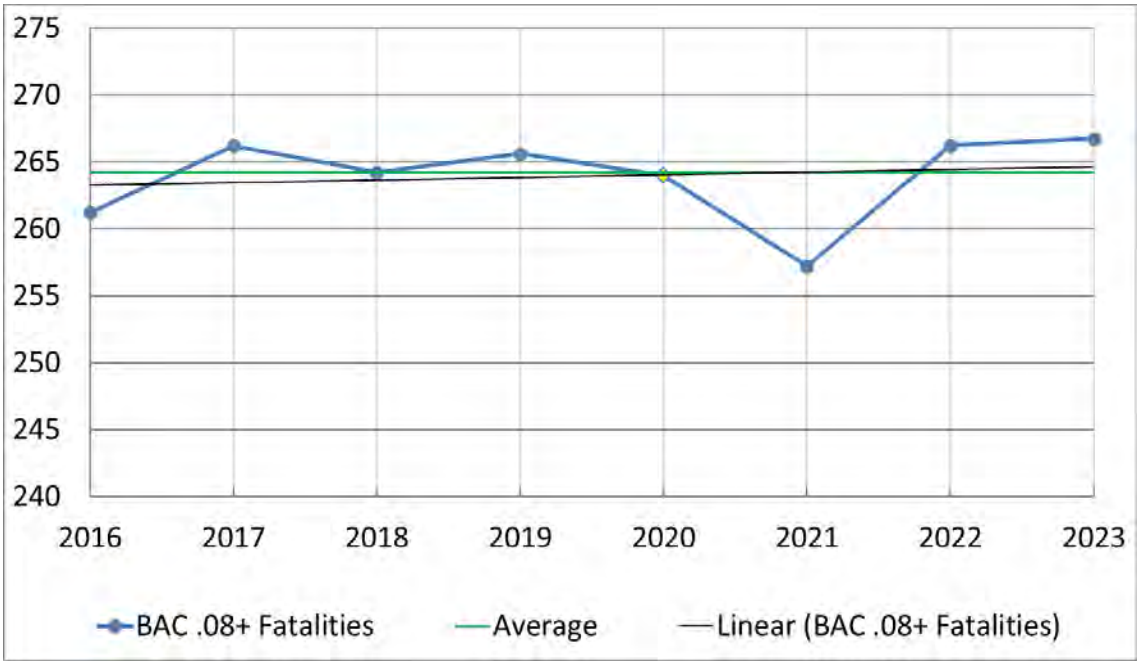
Performance Target Details

2016	2017	2018	2019	2020	Baseline	Goal
298	265	249	272	236	264	**264**

Performance Target Justification

AOHS has projected a realistic goal to maintain alcohol impaired driving fatalities at 264 (2019 – 2023 rolling average) by 2023.

5 Year Rolling Averages of Fatalities Involving a Driver with a BAC .08 and Above



Performance Measure: C-6) Number of speeding-related fatalities (FARS)

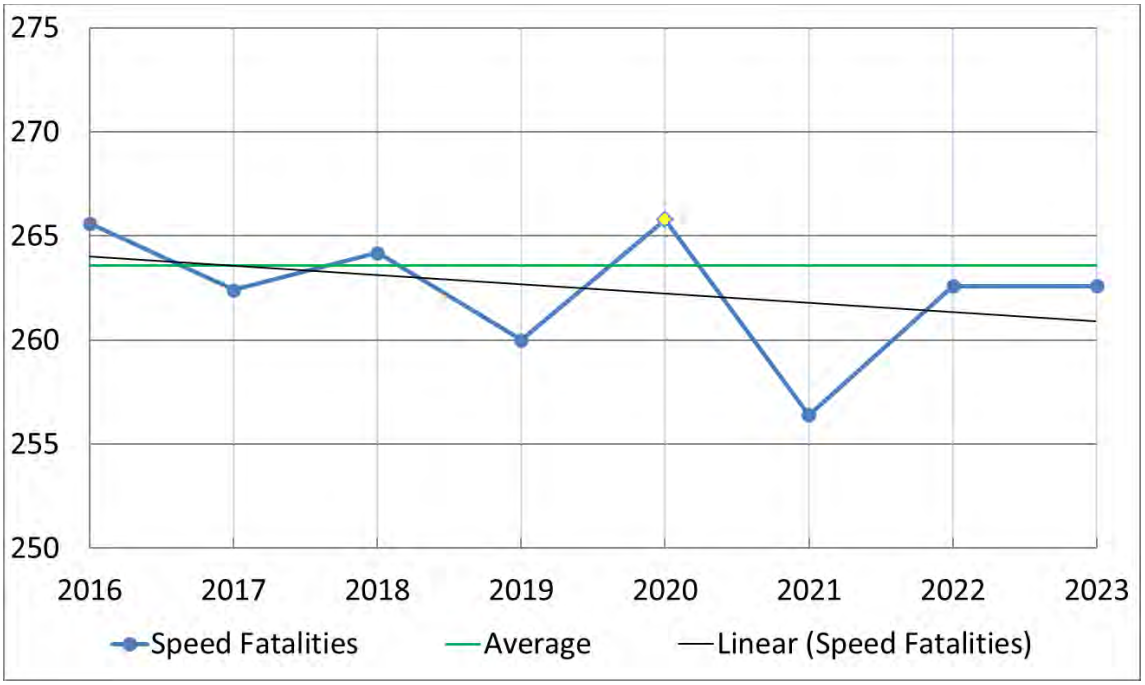
Performance Target Details

2016	2017	2018	2019	2020	Baseline	Goal
329	257	262	216	265	266	**265**

Performance Target Justification

AOHS has projected a realistic goal to maintain speeding-related fatalities at 266 (2019 – 2023 rolling average) by 2023.

5 Year Rolling Averages of Speeding-related Fatalities



Performance Measure: C-7) Number of motorcyclist fatalities (FARS)

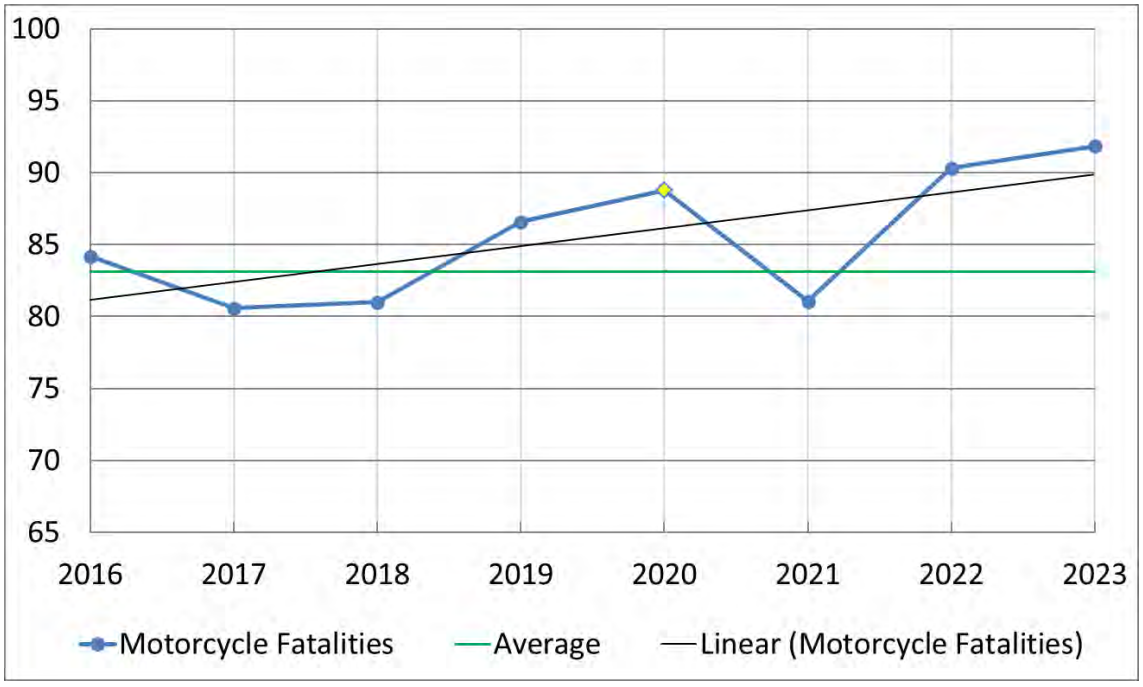
Performance Target Details

2016	2017	2018	2019	2020	Baseline	Goal
112	79	82	93	78	89	**78**

Performance Target Justification

AOHS has projected a realistic goal to Reduce motorcyclist fatalities by 12.16 percent from 89 (2016-2020 rolling average) to 78 (2019 – 2023 rolling average) by 2023.

5 Year Rolling Averages of Motorcyclist Fatalities



Performance Measure: C-8) Number of Unhelmeted motorcyclist fatalities (FARS)

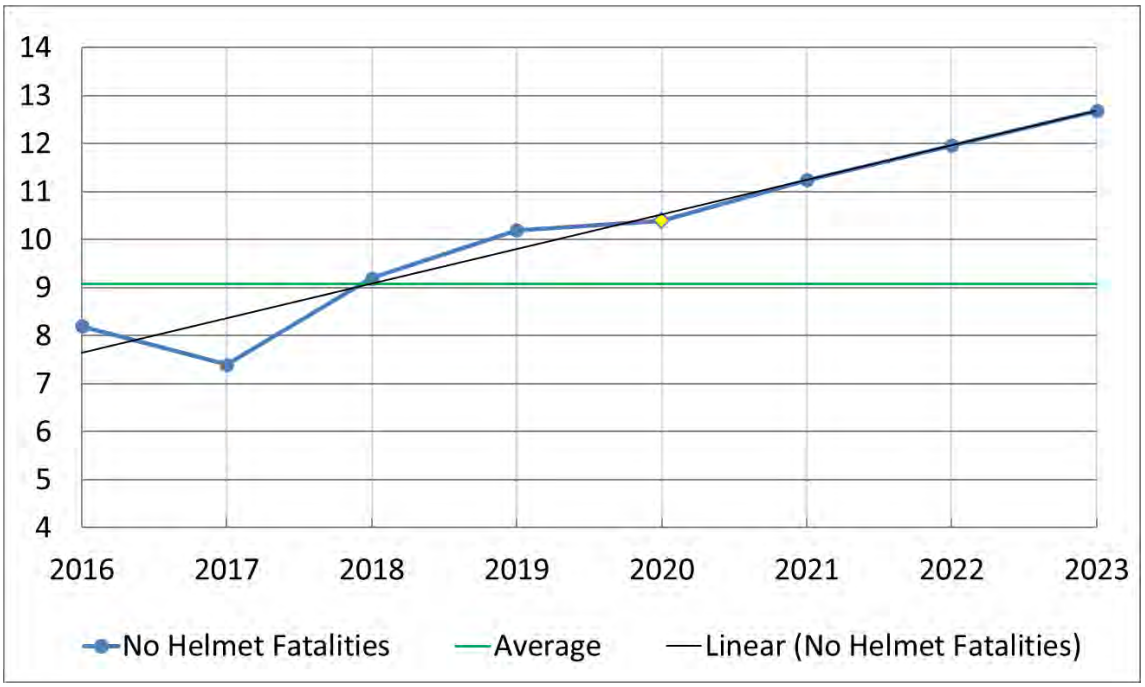
Performance Target Details

2016	2017	2018	2019	2020	Baseline	Goal
11	6	10	15	10	10	**11**

Performance Target Justification

AOHS has projected a realistic goal to Cap the increase of unhelmeted, motorcyclist fatalities to 10 percent from 10 (2016-2020 rolling average) to 11 (2019 – 2023 rolling average) by 2023.

5 Year Rolling Averages of Un-Helmeted Motorcyclist Fatalities



Performance Measure: C-9) Number of drivers Age 20 or younger involved in fatal crashes (FARS)

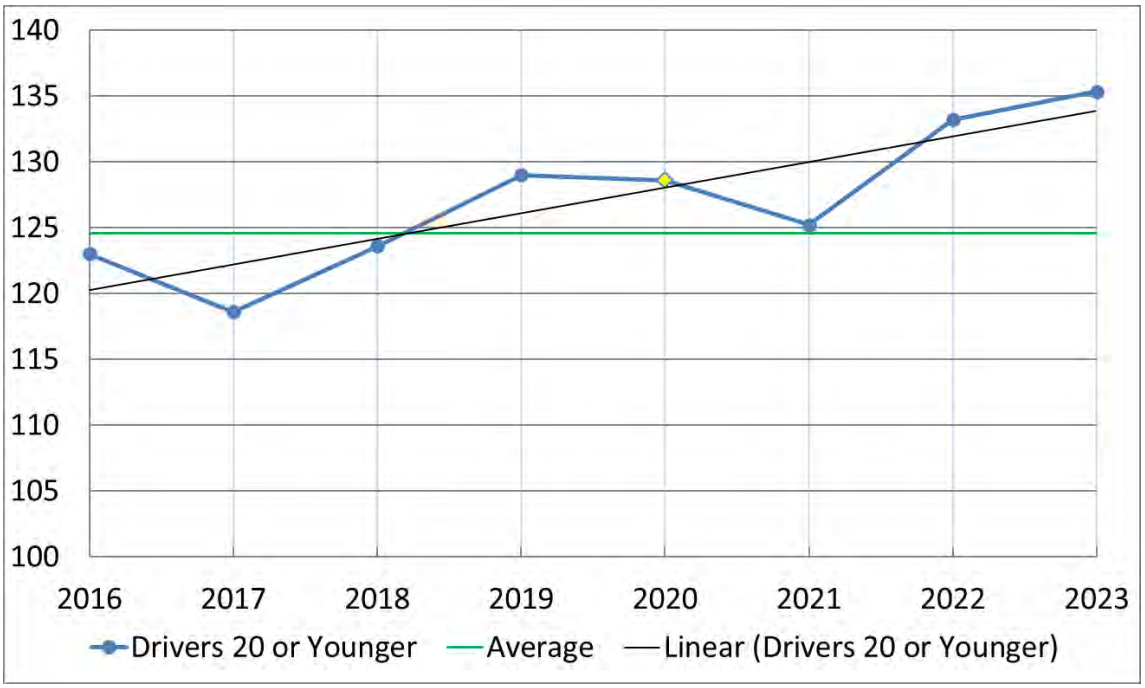
Performance Target Details

2016	2017	2018	2019	2020	Baseline	Goal
161	117	127	118	120	129	**134**

Performance Target Justification

AOHS has projected a realistic goal to cap the increase of drivers age 20 and younger involved in fatal crashes to 3.88 percent from 129 (2016-2020 rolling average) to 134 (2019 - 2023 rolling average) by 2023.

5 Year Rolling Averages of Drivers Age 20 or Younger involved in a Fatal Crash



Performance Measure: C-10) Number of pedestrian fatalities (FARS)

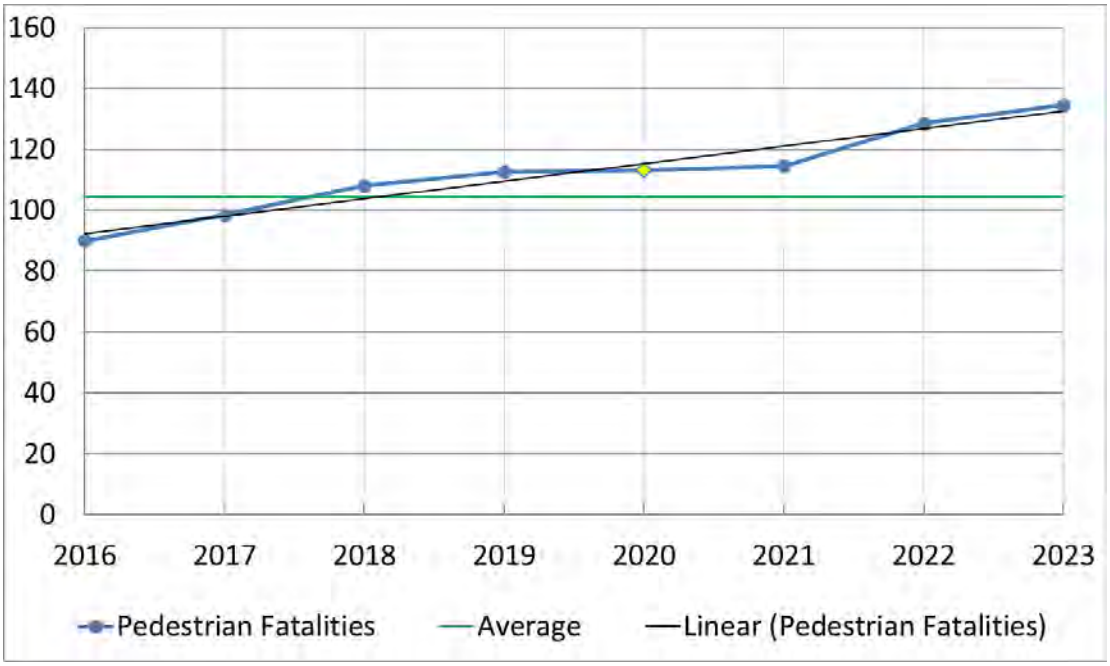
Performance Target Details

2016	2017	2018	2019	2020	Baseline	Goal
120	119	107	119	100	113	**117**

Performance Target Justification

AOHS has projected a realistic goal to cap the increase pedestrian fatalities to 3.54 percent from 113 (2016-2020 rolling average) to 117 (2019 – 2023 rolling average) by 2023.

5 Year Rolling Averages of Pedestrian Fatalities



Performance Measure: C-11) Number of bicyclist fatalities (FARS)

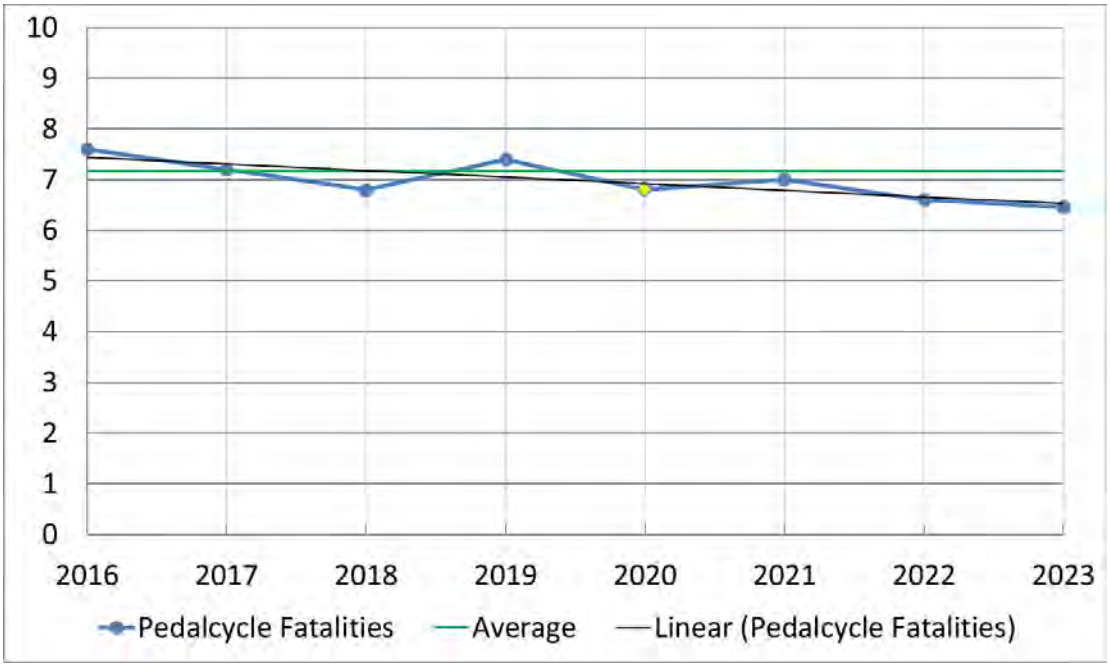
Performance Target Details

2016	2017	2018	2019	2020	Baseline	Goal
3	7	9	6	10	7	**6**

Performance Target Justification

AOHS has projected a realistic goal to reduce bicyclist fatalities 14.29 percent from 7 (2016-2020 rolling average) to 6 (2019 – 2023 rolling average) by 2023.

5 Year Rolling Averages of Bicyclist Fatalities



Performance Measure: B-1) Observed Seat Belt Use for Passenger Vehicles

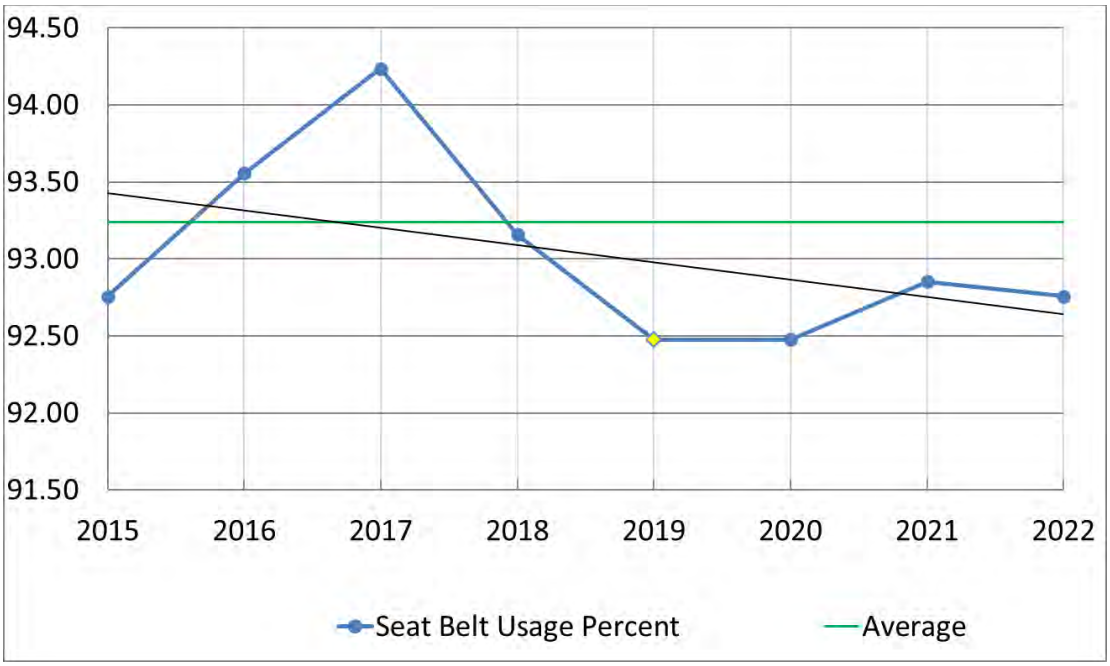
Performance Target Details

2015	2016	2017	2018	2019	Baseline	Goal
93.3	92	92.9	91.9	92.3	92.5	**91.7**

Performance Target Justification

AOHS has projected a realistic goal to Cap the decrease of the observed seat belt use for passenger vehicles, front seat outboard occupants by .84 percentage points from 92.5 percent in 2020 to 91.7 percent by 2023.

5 Year Rolling Averages of The Observed Seat Belt Use for Passenger Vehicles, Front Seat Outboard Occupants (survey).



Program areas

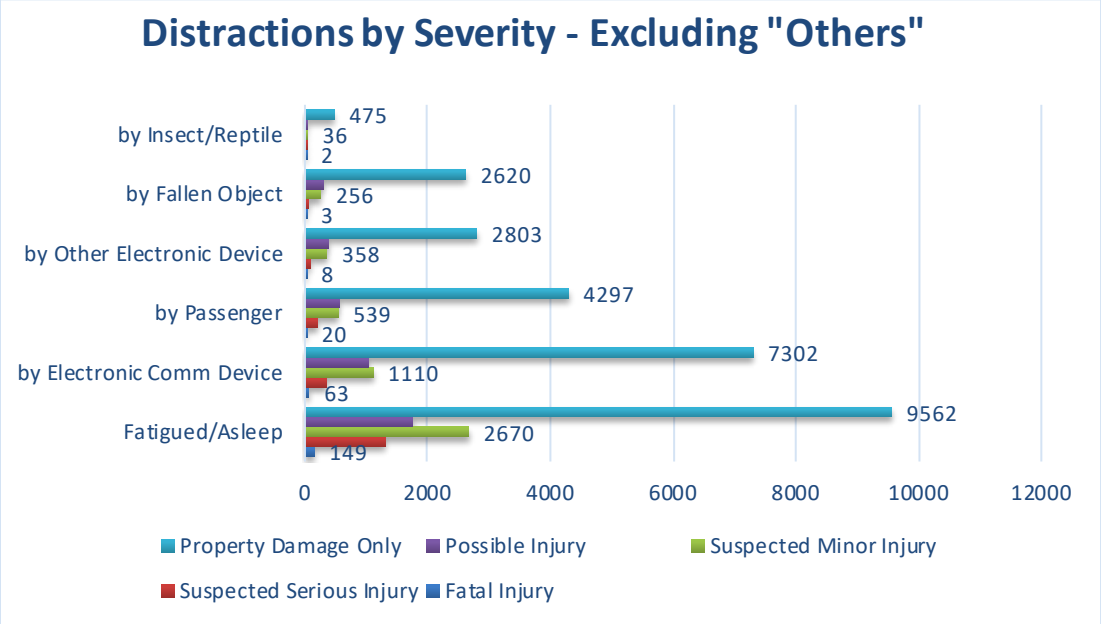
Program Area: Distracted Driving

Description of Highway Safety Problems

Distracted Driving recording in Alabama may be different from many other states. This section will explain the last available five years of Distracted Driving data (CY2017-2021), and it will provide the rationale for the methods that are applied to process it for the 2023 HSP problem identification.

The following are the relevant values found from the Distracted Driving Officer's Opinion in the order from the smallest to the largest frequency (directly from the crash report database):

Distraction Descriptor	Frequency	Percent (Non-Other)
Distracted by Insect/Reptile	590	1.5
Distracted by Fallen Object	3322	8.5
Distracted by Other Electronic Device	3686	9.4
Distracted by Passenger	5766	14.7
Distracted by Communication Device	10024	25.6
Fatigued/Asleep	15770	40.3
TOTAL USABLE VALUES	**39158**	**100.0**



Five analyses will be performed from these six categories: (D1) Insect/Reptile, (D2) Fallen Object, (D3) Passenger, (D4) Fatigued/Asleep, and (D5) A combination of the two Electronic Devices categories.

D1. Insect/Reptile (2 fatal, 13 Suspected Serious, 36 Suspected Minor)

This is the lowest frequency distraction, but it should not be discounted. The months of April through September were over-represented, with a high point in June (as would be expected). Preventative actions (e.g., warnings) should be taken during these months as well as the morning and early afternoon hours. County roads showed the expected significant over-representation in the rural areas.

The largest crash problem drivers had with this distraction was with collisions with other vehicles (over half; 56.95%). The second crash problem resulted from Running Off the Road, where collisions were essentially with whatever obstacle was closest on the roadside. The largest vehicle collision type (nearly half; 48.47%) was that of Rear Ends (front to rear). About a third of the crashes were single vehicle.

D2. Fallen Object (3 fatal, 65 Suspected Serious, 256 Suspected Minor)

Generally, this distraction will occur from some object being dropped within the vehicle. Exceptions are impossible to determine, but there is an "Other" code for distractions outside of the vehicle that would probably be used if an object fell outside the vehicle. It is important that drivers maintain discipline and pull off the roadway in a safe manner if they or one of their passengers has lost control of an object. Most (74.74%) of the crashes involve collisions with other vehicles. Of these, the majority (64.39%) are Rear End (front to rear) crashes, and only about 17.55% were single vehicle crashes.

D3. Passenger (20 fatal, 205 Suspected Serious, 539 Suspected Minor)

Saturday and Sunday are over-represented in passenger-caused distractions, probably because weekend travel tends to be less formal. The late afternoon rush hours (3 PM through 5:59 PM) are over-represented as well. Federal, State, and County roads had significant over-representations, while Interstate highways were significantly under-represented. There is a correlation between this distraction and disregarding traffic signs and signals. A very large majority (72.98%) of these crashes involve "Collisions with Vehicles in Traffic." Drivers who tend to tailgate need to be particularly aware of issues with this distraction, in that slightly more than 50% of these crashes were Rear End (front to rear). A large number of correlated crashes involved Following Too Close (496) and Misjudged Stopping Distance (292).

The next section will cover Fatigued/Asleep (F/A) distractions. It will be followed by discussions of distractions caused by a combination of the following two electronic device distractions: (1) Electronic Communication Devices or (2) Any other Electronic Device. These electronic devices will be referenced collectively as Electronic Devices (EDs). We will spend more time and space on these two sections because these particular distractions have a significantly higher number of fatalities and serious injuries than the other distraction items considered above.

D4. Fatigued/Asleep (149 fatal, 1308 Suspected Serious, 2670 Suspected Minor)

The following presents a summary of Fatigued/Asleep (F/A) crashes by year.

Frequency of F/A Crashes by Year

Year	Number	% of Total
2017	3229	20.48
2018	3336	21.15
2019	3255	20.64
2020	2797	17.74
2021	3153	19.99
TOTAL	**15,770**	**100.0%**

Significant Fatigue/Asleep Findings and Recommendations

This Section will continue by presenting the major findings for the Fatigue/Asleep (F/A) Distraction item organized by the following major attribute groupings: Geographical, Time and Weather, Driver Related, Severity and Vehicles.

Geographical Findings

- Rural or Urban. Rural areas had over twice their expected proportion with over half of the F/A crashes being in rural areas, while the non-F/A crashes only had about 23% in the rural areas. The reason for this is fairly obvious – roadside views tend to get uninteresting when the roadside scenery is not changing, and rural areas tend to involve longer, and potentially more boring trips. The recommendation here would be to place some type of diversion on those highways that are exhibiting excessive F/A crashes. Notifying drivers of the fact that these roads exhibit more than their expected F/A crashes would seem to be a way to reduce F/A crashes on them.
- Highway Classification. This reflects the rural/urban finding above. Interstates have been found to be particularly vulnerable to F/A-caused crashes, and they have the highest over-representation. However, in Alabama, State and County roads are also significantly over-represented, probably for different reasons. The monotonous nature of driving on Interstates is obvious; however, they may be much more forgiving than State and

County roads when it comes to vehicles veering off the roadway and making a safe recovery.

- At Intersection. Intersections occur much more often in urban areas, so the rural tendency of F/A crashes is supported by the finding of under-representation at intersections. It might also be reasoned that the intersection itself provides a "wake-up call" for the driver.
- Mileposted Routes. This is one of the most important findings in that it differentiates the particular roadways that exhibit a proclivity toward F/A. It is reasonable that some roadway types and specific roads are more prone to create the conditions for F/A than others. Findings from Alabama confirm this result, showing that some roadways have up to five times the relative proportion of F/A crashes than those of their non-F/A crashes. The highest route for potential F/A crash reduction was I-65, which had a reduction potential of over 500 crashes (over the five-year period of the study). Other busy Interstates also had high reduction potentials.
- Locale. As expected, Open Country is the only Locale that is significantly over-represented. Note that some Open Country areas occur within town or city limits, which would classify them as urban in.
- Driver Residence Distance. The Greater than 25 Miles (from home) is about 60% higher than what would be expected from the proportion of non-F/A crashes, which is statistically significant at a very high level.

Time and Weather Findings

- Year. The proportion of F/A to non-F/A crashes has remained stable at effectively the same levels, with no statistically significant differences over the past five years. This indicates neither improvement nor deterioration in the degree for F/A caused crashes.
- Month. It would be expected that the months in which longer trips occur would be over-represented in F/A crashes. This over-representation starts in April, and it becomes significant for May, June, July, and August, (collectively) which are the expected vacation months. Public PI&E warnings regarding the dangers of drowsy driving should be timed appropriately. However, even the lowest F/A crash months have over 1000 F/A crashes, so it is important to not marginalize any month, and to keep the recognition of this problem before the public all year round.
- Day of the Week. Clearly Saturday and Sunday are the bad days for F/A crashes, which would be expected since the bulk of the traffic during the week is for commuting and delivery. Also, see C122 and C123, which show the high correlation of F/A with Impaired Driving (ID/DUI).
- Time of Day. Ten PM and after, and the later hours, including late early morning until 8 AM. F/A crashes happen during the day, but not nearly as much as in the late night and early morning (dark) hours. This also illustrates the correlation with ID/DUI.
- Lighting Conditions. It is not just the time, but also the presence or absence of light. Most of the Dark-Roadways that are Lighted do not show over-representations. But this must be qualified by the fact that these conditions exist mainly in the urban rather than

the rural areas. Lighting and environmental conditions all work together, and it is difficult to analyze each of them independently.

- Weather. There appears to be something about rain that keeps drivers awake. Perhaps it is the fear of the obvious consequences of dozing off. It would be good if we could move this fear into clear weather as well. For now, it appears that bad weather is a positive factor in reducing the number of F/A crashes.

Driver Related Findings

- First Harmful Event. There is nothing unexpected in these results. When a person drifts off to sleep behind the wheel, the results are random. If there happens to be a vehicle in its path, the crash may be avoided only by evasive action on the part of the victim driver. Any evasive action would be expected to avoid the perceived worst-case scenario, even if it results in an alternative crash. Thus, this attribute generally identifies the objects that are the first things encountered by a vehicle that randomly departs the roadway and is effectively driverless.
- Manner of Crash. The major finding here is obviously that F/A crashes are dominated (66.35%) by single-vehicle crashes, which is consistent with many of the findings above. Even though there are some large numbers on some of the two-vehicle Manner of Crash types, most of them are under-represented.
- Number of Vehicles. This quantifies the dominance of single-vehicle crashes at 69.31% of all F/A crashes. Those that do involve more than one vehicle are distributed over the number of vehicles involved.
- Causal Unit (CU) Left Scene. The proportion of F/A crashes where the causal driver left the scene is one of the lowest found for all crash types. Perhaps this is due to their not being fully cognizant of what went on prior to the crash. Also, the severity of most F/A crashes would make many of them impossible to drive away from.
- CU Driver Raw Age. The youngest drivers (aged 16-17) are significantly under-represented (16-17). Ages 18 and above are significantly over-represented up until age 46. Ages above 60 are generally under-represented. This is evidence of a correlation with alcohol and drugs, and it also indicates that the 16-17 year olds are typically not driving on the longer trips in which F/A becomes problematic. We would also expect the very youngest drivers to have a high level of excitement from driving that would make sleep and fatigue less likely.
- CU Driver Gender. Very clearly, males are significantly over-represented in F/A crashes, with their proportion being over 40% higher than expected. The reason for this is not clear, but it probably is related to males being the primary drivers both on longer trips and those that go late into the night.
- CU Officer Opinion Alcohol. The effect of alcohol and drugs on creating drowsy drivers cannot be disputed. Here the proportion of F/A drivers who were using alcohol is over 70% higher for F/A crashes than for non-F/A crashes.

- CU Officer Opinion Drugs. (Non-alcohol) drugs are even more over-represented than is alcohol. The proportion of F/A drivers using drugs is estimated to be close to four times that of non-F/A drivers.
- Vehicle Maneuvers. Falling asleep at the wheel can be described as an unforced error (in tennis terminology). After that, what happens are random occurrences. It seems that if that event is at a curve, there is an excellent chance (over 60% higher proportion) that it will result in a crash. Even worse is if the vehicle departs the roadway where the probability of a crash is increased by over a factor of three. However, the overwhelming proportion of F/A crashes (81.18%) are on straight and level roadways, attesting to the effects of boredom.

Findings Related to Severity

- Crash Severity. The highest non-fatal injury categories (Incapacitation and Non-Incapacitating) are highly over-represented by over twice the proportion that occurs for non-F/A crashes. The fatal proportion is smaller than these, but its proportion is still 69.1% higher than non-F/A crashes. Some possible reasons for these higher severities will be given in the next attributes considered in this section. We also postulate that the consequences of crashes are more severe when drivers do not have awareness to take defensive actions once the inevitable crash event sequences are in process.
- Adjusted EMS Arrival Delay Time. The 0 to 5-minute delay from crash time to ambulance arrival is significantly under-represented, as is the 6-10-minute delay. After that, all of the delay categories are over-represented. All of the delay times above 10 minutes and under 90 minutes are significantly over-represented. We expect that this is due to the rural nature of the large majority of these crashes. The times being analyzed here are from the crash report to the time that the ambulance arrives. There is no accounting for the delay between the crash itself and when it is reported. This is especially relevant in late night times, which characterize F/A crashes. Certainly, rural roads that have relatively few vehicles late at night would be susceptible to this increased delay problem.
- Number Injured Including Fatalities. Single injury crashes have the highest over-representation. However, all of the multiple injury classifications are over-represented up to and including 7 injuries. Twelve crashes had multiple fatalities.
- CU Estimated Speed at Impact. This is the largest single factor that determines whether a crash results in a fatality or not. In this case the average speed at impact of the F/A crashes was 49.96 MPH, while that of the non-F/A crashes was 30.04 MPH. It has been determined in a large number of former studies within Alabama that, above 40 MPH, each increase in the impact speed of 10 MPH doubles the probability of that given crash being fatal. Since this doubling is from its next lower 10 MPH-lower speed estimate, this is an exponential increase. So, for example, if the probability of a crash being fatal at 40 MPH is 1%, the probability at 50 MPH would be 2%, the probability at 60 MPH would be 4%, and the probability at 70 MPH would be 8%, doubling from its previous value for each increase in 10 MPH (hypothetical numbers are used here for illustration only). This

reflects the laws of physics and kinetic energy. Severity display C025 shows that the probability of a F/A crash being fatal is 0.94%, while that same probability for a non-F/A crash is only 0.56%. This explains the major cause of the increased severity of F/A crashes.

Findings Related to Vehicles

- Causal Unit (CU) Type. Pick-ups (21.34%) and Passenger Cars (51.00%) were the only two vehicle types over-represented in F/A crashes. If anything, it would be the drivers that are prone to use these vehicles that might be over-represented, as opposed to the vehicles themselves.
- CU Model Year. Vehicle years that are over-represented start in 1992 and go through 2005. Under-representation starts at 2006 and continues through 2019. Above that, only 2020 is statistically significant above expectations.

Hotspot Analysis

These high crash locations are quite important since it has been determined that characteristics of the roadway itself can tend to produce an affinity toward drowsiness. The following guidance is given for these analyses:

- Hotspot analyses can be performed using a F/A filter for any type of roadway in Alabama. Such a filter will only allow F/A crashes to be considered in the analysis.
- Since Interstate, State and County Roads tend to have more F/A crashes, hotspot analyses on these roadway types will be the most fruitful for Hotspot Analyses.
- As an example, the first F/A hotspot (criteria: more than 50 F/A crashes in a ten-mile segment) was not found on I-65 until about the 100-mile marker.
- The above does not indicate that no F/A crashes occurred; only that they were not of such a concentration to qualify according to the noted hotspot criterion (50 F/A crashes in a ten-mile segment).
- Clearly, it will usually take most drivers some time and distance before they become drowsy. The Hotspot analyses that are performed should have the goal of determining where such criteria are met in order to establish potential countermeasures at critical mile markers.
- Taking a break more frequently than every hour or 80 miles would be an excellent recommendation.

D5. Electronic Device Distractions (71 fatal, 431 Suspected Serious, 1468 Suspected Minor)
Combined Electronic Communication Device (e.g., phone) and Other Electronic Device
The following is a summary of Electronic Communication and Electronic Other Device Distraction (ED) crashes by year.

Frequency of ED Crashes by Year Electronic Other

Year	Communication	Electronic	Total ED	% of Total
2017	2019	834	2853	20.81
2018	1953	767	2720	19.84
2019	1975	759	2734	19.94
2020	1851	614	2465	17.98
2021	2226	712	2938	21.43
TOTAL	**10024**	**3686**	**13,710**	**100.0%**

Significant ED Findings and Recommendations

This Section will continue by presenting the major findings for the Electronic Communication and Other Electronic Devices (ED) Distraction items organized by the following major groupings of the attributes: Geographical, Time and Weather, Driver Related, Severity and Vehicles.

Geographical Findings

- County. Counties with moderately large cities and large traffic in the rural areas tend to be the most over-represented. For example, counties with the highest potential ED reductions (> 80 ED crashes over the five years) are Baldwin, Lee, Shelby, Cullman, Houston, and Madison.
- Rural or Urban. Rural areas are over-represented in ED crashes by a proportion that is about 25.7% higher than the non-ED rural crash areas. The overall rural-urban breakdown for ED crashes is 29.39% Rural and 70.61% Urban.
- Highway Classification. In comparison with their non-ED crashes, County, State and Federal roads ED crashes are significantly over-represented. Interstates and Municipal roads are significantly under-represented.
- Intersection Related. Intersection related crashes were significantly under-represented. Only 23.53% of all ED crashes were Intersection Related. This is clearly an indication that drivers put the electronic devices away when encountering cross traffic.
- Locale. The open country locale had about a 17.1% higher ED proportion than expected, in comparison with the comparable non-ED crashes. Other significantly over-represented locales included Residential (11.9%) and School Zones (2.29%).

Time and Weather Findings

- Month. October through February are under-represented, while the spring and summer months are generally over-represented. This would be a good indication of the time of year when more people are using their electronic devices in the vehicles.
- Day of the Week. Weekends are significantly over-represented. All of the weekdays are under-represented, Wednesday, significantly so. The use of EDs seems not as prevalent on business as opposed to pleasure trips.
- Time of Day. All of the hours after 4.59 PM are over-represented, right through the midnight hour. Hours after 3:59 AM are under-represented until 5-5:59 PM. The rest of the hours are all significantly under-represented.
- Weather. Crashes in the rain are only about 0.578% of what is expected, showing that there is a greater concentration on driving (as opposed to the use of EDs) during inclement weather conditions

Driver Related Findings

- First Harmful Event. The following are the highest First Harmful Events, in general order of their frequency:
    - Ran Off Road Right
    - Collision with Ditch
    - Collision with Mailbox
    - Collision with Utility Pole
    - Collision with Culvert Headwall
    - Collision with Tree
    - Crossed Centerline
    - Collision with Signpost
    - Overturn/Rollover
    - Collision with Fence
    - Collision with Guardrail End
    - Collision with Embankment
    - Ran Off Road Left
- Driver Raw Ages. Ages from 16-40 are all significantly over-represented. Most of those 55 and above are significantly under-represented (where there were enough cases to determine statistical significance). Thus, ED crashes seem to be highly correlated with the younger ages, i.e., the younger the causal driver age, the greater their involvement in ED crashes.
- Driver Gender. Male drivers are significantly higher in their proportion of ED crashes (58.50%) than in non-ED crashes (50.15%), a factor of nearly 17% higher ED proportion than expected.
- Driver Employment Status. Drivers who cause ED crashes are much more likely to be employed (57.64%) than those involved in non-ED crashes (45.85%); the proportion being about 26% higher than expected. This is probably related to their vehicle ownership.

- Officer Opinion Alcohol. The proportion of DUI drivers who cause ED crashes (4.38%) is significantly higher in the crash being caused by alcohol than in the non-ED crashes (3.35%), a proportion increase of about 31%.
- Officer Opinion Drugs. The proportion of drivers under the influence of drugs who cause ED crashes (1.48%) is significantly greater than those involved in non-ED crashes (1.24%), a proportion increase of about 24%.

Findings Related to Severity

- Crash Severity. Comparing ED with non-ED crashes, fatal crashes are only about 91.3% of what would be expected. The ED proportion of fatal crashes is 0.52%, while the non-ED proportion of fatal crashes is 0.57%. However, all of the other injury classifications are over-represented, which results in Property Damage Only crashes being significantly under-represented.
- Adjusted EMS Arrival Delay. Due to the ED occurrences in the rural areas, ambulance delay times when ED crashes occur have longer delay times. They are under-represented in both the 0-5 and 6-10 delay times. With only a few exceptions, all of the other (longer) delay times are over-represented.
- Number of Vehicles. The number of 2-vehicle ED crashes is only about 90% of that for non-ED crashes. ED crashes are over-represented in single vehicle, but also in most of the multiple vehicle crashes above 2 vehicles. Three-, 4- and 5-vehicle vehicle crashes are all over 40% higher than expected if they were the same as non-ED crashes.

ED Findings Related to Vehicles

- Number of Pedestrians. Reflecting the under-representation in urban areas, ED crashes are also under-represented in pedestrian collisions. The single pedestrian involved proportion for ED crashes was 0.44% (one pedestrian in every 227.3 ED crashes), while the non-ED proportion was 0.69% (one in every 144.9 non-ED crashes). This demonstrates that drivers pay more attention when pedestrians are present.
- Number of Pedalcycles. A quite comparable effect appears to occur when drivers encounter riders on bicycles. They wake up and are much less likely to allow their fatigue or drowsiness to cause a crash. Because of the relatively few bicycle (the most common pedalcycle) crashes, it is not accurate to compare ED with non-ED as we did with pedestrian crashes above. The general crash rate of bicycles as given by the most recent five years of data was 0.16% for non-ED crashes, and it was 0.13% for ED crashes. There is no reason to think that drivers would not respond to the presence of bicycle riders similarly to the way that they respond to the presence of pedestrians.
- CMV Involved. CMVs are involved in about 64.6% fewer crashes that would be expected from the proportion occurring in non-ED crash population. The proportion for ED crashes is 3.57%, while the proportion for non-ED crashes is 5.52%.

- Causal Unit Type. The causal vehicle types that are most over-represented in order of worst first (% higher than expected from non-ED crashes): Passenger Cars (11.1%), Sport Utility Vehicles (9.6%), and Pick Ups (6.0%). While the causal unit type per se obviously has little impact on causing ED crashes, the personality types of the drivers of these vehicles may lead to certain drivers engaging in dangerous distracting activities more than drivers of other vehicle types.
- Causal Unit Model Year. Vehicle model years 2009 through 2015 are over-represented in their proportions of ED crashes, showing that those who are inclined to be distracted are driving neither brand-new vehicles, nor those that will shortly be in need of replacement.

Countermeasure Strategy: Communication Campaign

Program Area: **Distracted Driving**

Project Safety Impacts

A new countermeasure strategy for the AOHS will focus on a communication campaign to educate the general and motoring public on the dangers of distraction while on public roads and highways. As noted in *NHTSA Countermeasures that Work* document, while a majority of the motoring public knows that distracted driving is a problem, a campaign addressing this issue faces substantial obstacles. However, Alabama is confident that the first step to impact traffic safety in this area is to simply begin. While enforcement efforts are difficult to implement targeting distraction, especially with the particular laws in the state, our office plans to utilize digital ticketing advertising platforms to our intended audience in order to help raise awareness.

- **General deterrence** seeks to increase the public perception that distracted drivers will face severe consequences, thus discouraging all individuals from driving while distracted.

Projected traffic safety impacts of the Distracted Driving Communication Campaign would include decreased crashes where distraction is a primary contributing circumstance.

Linkage Between Program Area

As part of the Alabama Office of Highway Safety (AOHS) traffic safety planning effort, special problem identification studies are performed for the various program areas chosen. When any new issues arise, or for all countermeasures for which discretionary funds are expended, special analytical procedures are employed. The process is as follows:

- Analyze results of problem identification to set performance measure targets for the program year

- Evaluate the potential overall countermeasure strategies at a very high level in the light of evidence-based information that is generated primarily from crash records with some supplements provided by citation records.
- Select the overall programs that will be implemented from a strategic point of view.
- Use further analytics to fine-tune the particular countermeasures that will be implemented, e.g., the specific locations for selective enforcement and determine allocation of funds.
- This analytical review includes all of the countermeasures that are presented in this plan as well as the particular tactics to be applied in their implementations
- After reviewing performance goals, the AOHS then examines and selects countermeasures to help achieve the state's targets. The following outlines the strategies of countermeasures to be applied during FY 2023:
    - Community Traffic Safety Programs/Law Enforcement Liaison (CTSP/LEL) – will provide coordination for the local implementations of the statewide occupant protection program, and the CTSP/LEL Coordinators and the administrative support for their offices will be maintained.
    - The University of Alabama Center for Advanced Public Safety (UA-CAPS) will provide the information required for allocating traffic safety resources in an optimal way, and they will continue to be supported in providing AOHS with Alabama crash and traffic safety data throughout the year.
    - Conduct four local Hotspot Evidence-Based Enforcement Program (E-BEP) projects, one within each of the CTSP/LEL regions focusing on hotspot locations.
    - Perform a statewide E-BE project will be conducted in conjunction with the Alabama Law Enforcement Agency (ALEA), also focusing on hotspot locations.
    - Continue the Law Enforcement Liaison (LEL) programs statewide. Beginning in FY 2007, this program was absorbed by the regional CTSP/LEL offices and was funded through the Community Traffic Safety Projects. This funding arrangement will continue in FY 2023.
    - Participate in national and regional High Visibility Enforcement campaign on the statewide level, paired with a corresponding mass media campaign.
    - Initiate or participate in mass communication campaigns to educate the motoring public on issues outside of a specified HVE campaign.

Funding allocation is determined by evaluating the threshold of resources that are required to carry out each planned activity for the duration of the project in a calculated and realistic manner.

Rationale

To promote movement toward the AOHS vision while maintaining the ideals given above the following mission statement was developed:
Conduct Evidence-Based Enforcement (E-BE) coupled with Public Information and Education (PI&E) and other supportive countermeasures that will reduce fatalities and injuries by focusing on the locations identified for speed and impaired driving hotspots with additional strong consideration to hotspots where deficiencies in occupant protection and distracted driving are found.

Reducing the number of speed and impaired-driving related crashes while increasing the use of appropriate restraints has been shown in the past to produce the maximum benefit for the resources that are dedicated to traffic safety. These lessons from the past need to be extended in the future because there are still considerable benefits that can be attained by these programs. It is important to recognize that the majority of fatalities are caused by the *choice* to speed, drive impaired, use an electronic device, or not buckle up (quite often combinations of the four). By changing driver and occupant behavior, the number of hotspot locations will be reduced, and overall traffic safety will be improved.

Distracted driving is known to be a growing concern, and efforts will be made during the coming fiscal year to determine the best way to counter crashes from this cause. Recent increases in pedestrian incidents can be attributed to the combination of distracted driving and distracted walking, often involving electronic devices. Fatal pedestrian crashes have been particularly over-represented in drug and alcohol use. This has also been impacted by the significant migration to urban areas in the past few years.

While current laws in Alabama make it difficult to conduct high visibility enforcement efforts targeting Distracted Driving, a communication campaign can educate the general public regarding the dangers of the behavior. This communication countermeasure will be funded with State funds and is meant to affect a reduction in drivers and pedestrians alike, and aid in the reduction of fatalities and significant injuries.

Planned Activity: Traffic Safety Paid Media

Planned activity number: **23-TF-ST-001**
Primary Countermeasure Strategy ID: **Communication Campaign**

Planned Activity Description

Drivers under the age of twenty are the largest group reported as distracted at the time of fatal crashes. A texting driver is 23 times more likely to be involved in a crash than a non-texting driver. The Auburn MPG will collaborate with ADECA/LETS in the creation of impactful graphic

designs that communicate a concise message on the dangers of distracted driving and coordinate the distribution of digital tickets for high school events with Click Media throughout the state. A component of the variable messaging creatives will also contain pedestrian focuses in geolocations targeted for higher than normal occurrences.

Intended Subrecipients

Auburn University

Funding sources

Source Fiscal Year	Funding Source ID	Eligible Use of Funds	Estimated Funding Amount	Match Amount	Local Benefit
2023	Other		$150,000.00		

Program Area: Impaired Driving (Drug and Alcohol)

Description of Highway Safety Problems

The AOHS conducted a problem identification analysis for Impaired Driving in the State of Alabama to pinpoint common factors and assess strategies that could be used to combat the growing issue. AOHS compared FY2017-2021 Impaired Driving (ID) crashes against FY2017-2021 non-ID crashes to determine any significant differences that have occurred in the most recent five-year time frame. Impaired Driving (ID) includes both alcohol and all other drugs, and the goal was to pinpoint common factors and assess strategies that could be used to combat any growing issues. It is important to recognize that alcohol is a drug, and that is the reason for the term "alcohol and other drugs." The findings of these analytics were then taken into consideration when planning both enforcement campaigns and training programs to fund in the upcoming fiscal year.

The comparison of ID crashes against non-ID crashes covered the most recent five-year period for which state data were available (CY2017-2021). An *over- represented* value of an attribute is a situation found where that attribute has a greater share of ID crashes than would be expected when comparing its proportion of ID crashes to its non-ID crash proportion. That is, the non- ID crashes are serving as a control to which the ID crashes are being compared, attribute by attribute. In this way anything different about ID crashes surfaces and can be subjected to further analyses. These findings typically do not change in any significant way from year to year as long as the normal influences on crashes remain in effect.

Overall Crashes by Year

Before getting into the ID subset, it is good to review the overall difference in the crash frequencies over the past years. The following table gives a comparison of total crashes over CY2017-2021 by severity that will be useful when the ID crashes are presented by severity.

Crashes by Severity for Years 2017-2021 (All Crashes)

	2017	2018	2019	2020	2021	Total
Fatal Injury	861	872	846	857	887	4,323
Suspected Serious Injury	5,883	5,235	3,906	3,579	3,893	22,196
Suspected Minor Injury	11,689	11,914	12,794	11,325	12,141	60,063
Possible Injury	15,012	15,132	14,789	11,511	11,953	68,397
Property Damage Only	119,544	122,762	122,570	103,419	118,876	587,171
Unknown	4,514	4,248	4,220	3,521	4,006	20,509
TOTAL	**157,203**	**160,163**	**159,125**	**134,212**	**151,954**	**762,657**

Location Analysis

FY2023 - Impaired	Hotspots
Mileposted Interstate Locations	18
State and Federal Routes	25
Intersections	83
Segments	23
TOTAL	**149**

Problem Identification Analysis Results for Impaired Driving in the State of Alabama

A summary of findings is given after the analyses presented below. The first category is a general comparison of 2021 against 2017-2020. All of the other categories below (e.g., Geographical Factors, etc.) are obtained from a comparison of ID vs. Non-ID crashes for all five years (2017-2021).

Impaired Driving (ID) Comparison Against Non-ID Crashes for CY 2017-2021

- In a comparison over all five years, there were 889 fatal ID crashes (3.16% of all of the ID crashes). It also had a fatality proportion that was over six (6.757) times the proportion for non-ID fatal crashes.
- Suspected Serious Injury (SSI) and Suspected Minor Injury (SMI) crashes were also highly overrepresented with an Odds Ratio for SSI of 3.851 times its expectation for non- ID, and the Odds Ratio for SMI being 2.109 times its non-ID expectation.

Geographical Factors

- [Terminology: *expected numbers* (or expectations) for attribute items below are obtained from a comparison to the proportions for non-ID crashes.]
- County - Generally, the overrepresented counties are those with combined large population centers and large rural areas, as opposed to the highly urbanized counties or the extremely rural counties. One reason the highly urbanized counties are under-represented is the large number of low severity crashes that occur there separate and apart from impaired driving (ID). See the rural-urban comparison below. Placed in Max Gain order, the counties with the highest potential for reduction which had a minimum potential saving of 200 ID crashes were: Baldwin, Madison, Cullman, Marshall, and Limestone.
- City Comparisons of ID crashes to Non-ID Crash Frequency. There is little surprise in this result, which generally tracks the rural areas in the counties by population. Traffic safety professionals should look for any locations that fall counter to this trend. The (virtual rural county area) cities (worst-first order) with a potential for ID crash reduction of at

least 200 ID crashes are: Rural Mobile, Rural Cullman, Rural Madison, Rural Baldwin, Rural Limestone, Rural Tuscaloosa, and Rural Blount.

- Overall Area Comparisons Conclusions – Generally those rural areas adjacent to (or containing) significant urbanized areas are overrepresented, since these urban areas generate more traffic in the rural areas. Possible factors for relatively fewer severe ID crashes within urban areas include:
    - Less need for motor vehicle travel and shorter distances to the drinking establishments or parties;
    - Larger police presence in the metropolitan areas; and
    - Lower speeds in rural areas.
- Severity of Crash by Rural-Urban – While only about 41.12% of ID crashes occur in rural areas, 67.83% of the fatal ID crashes occur there. Similar results are found for the highest severity non-fatal crashes (Suspected Serious Injury), where the proportion is 58.53%. This is obviously the result of higher impact speeds in the rural areas. Note that additional causes of increased severity are given in the Factors Affecting Severity Section, below.
- Rural/Urban ID Crash Frequency – Not only are impaired driving crashes more severe in rural areas, but the frequency of ID crashes in rural areas is quite high, despite the much lower population and traffic volumes. ID crashes occurred in about 41.12% rural as compared to about 58.88% urban areas. Compared to non-ID crashes, only 22.8% of non-ID crashes are expected in the rural areas, so the rural proportion is over double its expected value (significant odds ratio = 1.803).
- Highway Classifications – County roads had 2.012 times their expected proportion of crashes, and State routes had about 4.4% more than expected. All other roadway classifications were underrepresented. County road characteristics no doubt contribute to the crash frequency. County roads are also known to be less "crashworthy," i.e., they result in more severe crashes at comparable impact speeds because of narrow shoulders and obstacles close to the roadway.
- Locale – Reflecting the rural over-representation, open country and residential roadways show a high-level of over-representation (1.567 and 1.341 odds ratios, respectively) as compared with the more urbanized area types, especially Shopping or Business, which only had about half (0.535) of its expected proportion.

Time Factors

- Year – The two most current years (2020 and 2021) were found to be the most overrepresented. These have significantly high Odds Ratios of 1.089 and 1.040, respectively. The earlier years all have Odds Ratios that indicate fewer ID crashes than would be predicted from their non-ID counterparts. As a result of this mix, there was no measurable trend over the years, and we conclude that the proportion of ID to non-ID crashes is effectively stable, and no trend can be determined at this time.
- Month – ID crashes were significantly higher than expected in March and April, which

had Odds Ratios of 1.082 and 1.075, respectively. September and October were the only two significantly underrepresented months, with Odds Ratios of 0.944 and 0.927, respectively.

- Day of the Week – The analysis by day of the week is not only useful for the typical work week, but it also reflects the typical "holiday (virtual) weekend" patterns. The days can be classified as follows:
    - Typical work weekday (Monday through Thursday) – these days are significantly underrepresented in ID crashes due to the need for many to go to work the following day.
    - Friday – this pattern is also reflected in the day before a weekend (or holiday), i.e., before a day off. The high ID frequency on this day is due to those who are getting an early substance abuse start to the weekend, recognizing they have no work responsibilities the following day. However, the large numbers of non-ID crashes on Fridays causes Friday to be underrepresented, with an Odds Ratio of 0.909 despite it having the third highest ID crash frequency, right behind Saturday and Sunday.
    - Saturday – the "Saturday" pattern is the worse for ID crashes in that it has both an early morning component (like Sunday) and a late-night component (like Friday). So, it could be viewed as a combination of the typical Friday and Sunday.
    - Sunday – since this is the last day of a holiday sequence or weekend, its over- representation comes mainly from those who start on Saturday night and do not complete their use of alcohol/drugs until after midnight. Sunday is the most overrepresented day (Odds Ratio = 2.016) with over twice its expected number of ID crashes; however, the low number of non-ID crashes on Sunday also contributes to this overrepresentation.
    - "Holiday Weekends" – these can be viewed as a sequence of the weekend-pattern days. For example, the Wednesday before Thanksgiving would follow the Friday pattern assuming most are at work on Wednesday (which has not been typical recently). The Thanksgiving Thursday, Friday and Saturday would follow the Saturday pattern, and the Sunday at the end of the weekend would follow the typical Sunday pattern. This is the reason long holiday events (i.e., several days off) can be more prone to ID crashes than the typical weekend. Each day off can be viewed as a repetition of a Saturday. Three-day weekends typically give Monday off, so Monday would behave like the typical Sunday, and both the Saturday and Sunday would follow the Saturday pattern.
- Time of Day – The extent to which nighttime hours are overrepresented is quite striking. Optimal times for ID enforcement would start immediately following any rush hour details and would continue through at least 4:00 to 4:59 AM (Odds Ratio 3.093). The 5-6 AM hour is also significantly overrepresented with an odds ratio of 1.359. All of the hours from 8 PM through 4:59 AM have Odds Ratios greater than two. Conversely, the daytime hours from 7 AM through 3:59 PM all have Odds Ratios less that 0.5 (less than half of the typical non-ID proportion of crashes).

- Time of Day by Day of the Week – This quantifies the extent of the crash concentrations on (1) Friday nights, (2) Saturday mornings and Saturday nights; and (3) early Sunday mornings. This is a very useful summary for deploying selective enforcement details, especially during weekend hours.

Factors Affecting Severity

- ID Crash Severity - The rate of injuries and fatalities are consistently higher in ID crashes than that of non-ID crashes. Fatality crash proportions for ID crashes are 6.757 times their expected proportion, while the next two highest (non-fatal) injury classifications have over twice their expected values when compared with non-ID crashes. The odds ratio is over three (3.851) for the highest non-fatal classification, Suspected Serious Injury.
- Speed at Impact – All impact speeds above 45 MPH (with the sole exception of 66-70 MPH) are dramatically overrepresented with odds ratios above 2.00. The overrepresentations increase, as expected, with increased speed with 46-50 MPH having an odds ratio of 2.023, and over 100 MPH being 9.540. Past analyses have found the general rule of thumb that for every 10 MPH increase in speeds, the probability of a crash being fatal doubles. This was validated by a cross-tabulation of impact speeds by severity for CY2017-2021.
- Fatality Crashes by Restraint Use for Impaired Drivers – A comparison of the probability of a fatal crash indicates that a fatality is almost six (5.81) times more likely if the ID impaired driver is not using proper restraints. Generally, one in 65 ID crashes are fatal; but without restraints, the fatal crash ratio is 1 in about 11. So, the combined effect of lower restraint use and higher speeds is a devastating combination that accounts for much of the high lethality of ID crashes.
- Number Injured (Including Fatalities) – Not only are ID crashes generally more severe to the driver, but the number of multiple injuries in these ID crashes is overrepresented as well. This might have something to do with the preference of those going out to socialize to take some of their friends with them. All of the multiple injury categories are overrepresented in the ID crashes, as is the single injury classification. The multiple injury classifications of 4 and 5 injured had at least twice their expectations, and the 2 and 3 injuries all had close to twice their expectations (as measured by the Odds Ratio) as well.
- Police Arrival Delay – ID crashes generally had longer police arrival delays; in this case all arrival delays over 31 minutes were overrepresented. There can be little doubt this has to do with the rural nature of these crashes and the potential that the late-night occurrence might not be discovered for some time. Delay times of 91 to 120 minutes had over twice its expected proportion (Odds Ratio 2.215) as compared to non-ID crashes. The delay of 121-180 minutes was about the same with an Odds Ratio of 1.920.
- EMS Arrival Delay – Higher EMS delays were overrepresented for impaired driving injury crashes in all categories above ten minutes, and dramatically (over twice the expected) for the very longer times of 61 minutes and above. This obviously contributes to the

injury severity of crashes including the chances the crash results in one or more fatalities. As for the very long times, these might be due to the delay in discovering crashes that have run off the roads due to their generally overrepresented rural locations.

Driver and Vehicle Demographics

- Driver Age – Younger (16 to 20-year-old) drivers have a very serious problem in crash causation even in the absence of impairment. However, ID crashes are not generally caused by youth and inexperience. In fact, 16-18-year-old drivers are highly statistically underrepresented, with Odds Ratios of 0.158, 0.264, and 0.452, respectively, but this under-representation diminishes linearly through age 22, where it first becomes statistically over-represented. The over-representations continue on to age 58. There is a bimodal distribution in the 21–54-year-olds; the first group is 21 through about 40; a second group is seen from 41 to 58. Generally, the first of these might be classified largely as social drinkers; while it is inescapable that the middle- aged driver-caused ID crashes are largely attributed to problem drinkers, or those addicted to alcohol or other drugs.
- Impaired Driver Gender – Males are a far greater issue in ID crashes, and if there are countermeasures that can be directed toward them, doing so would be much more cost- effective than those that are not gender-based, all other things being equal. The ratio of male to female causal ID drivers is close to 3 to 1, with males having 71.74% of the crashes and females having 24.85%.
- Causal Vehicle Type – Pick-ups had a significant overrepresentation and came out at the top of the Max Gain (1712) order because of their number of ID involvements. Motorcycles were also highly overrepresented. Also of interest is the proportion of pedestrians that involve ID, which is close to three times their expected number (2.862). Four-wheel ATVs had the highest over-representation (Odds Ratio = 3.605), perhaps because ATV drivers do not believe the ID laws apply to them as long as they are not on the public highways. In order of their number of their ID crashes, the following had significant odds ratios: Passenger Car, Pick- Up (Four-Tire Light Truck), Motorcycle, Pedestrian, and 4-Wheel/Off Road ATV.
- Driver License Status – ID crashes are very highly overrepresented in causal drivers without legitimate licenses, which challenges the effectiveness of license suspension and revocations as a traffic safety countermeasure. There is no way to estimate its deterrent value, but the correlation of irregular licenses with ID crashes indicates that within itself, these actions are not definitive. Those who will drive while intoxicated will only rarely be affected by their license status. Revoked is overrepresented for the ID causal drivers by over seven times its expected proportion (compared to non-ID crashes). The following gives the highest overrepresented categories along with the number of additional crashes (in parenthesis) that were attributed to the over-representation in the five-year period: Suspended (2390), Revoked (638), Not Applicable or Unlicensed (2879), and Expired (544).

- Driver Employment Status – ID driver unemployment rate is 37.10%, and its proportion is about 80% higher than expected over the 2017-2021 time period. Self-employed and employed sum to 42.27%. This is an important factor that will be given continued consideration as the economy rebounds from the 2020 COVID-19 pandemic.

Countermeasure Strategies in Program Area

Countermeasure Strategy
Drug Recognition Expert (DRE) Training
High Visibility Enforcement
Prosecutor Training

Countermeasure Strategy: Drug Recognition Expert (DRE) Training

Program Area: **Impaired Driving (Drug and Alcohol)**

Project Safety Impacts

Without proper training and adequate resources, the average law enforcement officer will find that convicting the drug impaired driver is almost infinitely more difficult than convicting the alcohol impaired driver. The presence of DREs in Alabama will impact both the highway and the courtroom. A Drug Recognition Expert Program (DRE) will be funded to train and certify law enforcement officers from various agencies around Alabama as Drug Recognition Experts. Each certified DRE will be able to diagnose an individual arrested for DUI to be either under the influence of some drug other than alcohol or suffering from a medical issue. If the DRE determines the defendant is under the influence of a drug, then the DRE will identify the category or categories of impairing drugs. The training staff of certified DRE instructors will evaluate the achievement and field certifications. The state's DRE Coordinator will conduct continuous evaluations of certified DREs based on their level of activity, number of evaluations and toxicological confirmation rates. The DRE Coordinator will also ensure the DREs fulfill their two-year recertification requirement.

A multidisciplinary approach and close coordination among all components of the criminal justice system was sought in developing the strategies to combat the issue of Impaired Driving. This set of countermeasure approaches includes the entire criminal justice system, including laws, enforcement, prosecution, adjudication, criminal and administrative sanctions, and related communications. As detailed in the Alabama Impaired Driving Strategic Plan, the state's goal is to achieve both *specific* and *general* deterrence through goals defined as:

- **Specific deterrence** focuses on individual offenders and seeks to ensure that impaired drivers will be detected, arrested, prosecuted, and subject to swift, sure, and appropriate sanctions, and thereby reduce recidivism;
- **General deterrence** seeks to increase the public perception that impaired drivers will face severe consequences, thus discouraging all individuals from driving impaired.

Projected traffic safety impacts of the DRE program include increased number of DWI citations and convictions in court of guilty individuals.

Linkage Between Program Area

As part of the Alabama Office of Highway Safety (AOHS) traffic safety planning effort, special problem identification studies are performed for the various program areas chosen. When any new issues arise, or for all countermeasures for which discretionary funds are expended, special analytical procedures are employed. The process is as follows:

- Analyze results of problem identification to set performance measure targets for the program year.
- Evaluate the potential overall countermeasure strategies at a very high-level in the light of evidence-based information that is generated primarily from crash records with some supplements provided by citation records.
- Select the overall programs that will be implemented from a strategic point of view.
- Use further analytics to fine-tune the countermeasures that will be implemented, e.g., the specific locations for selective enforcement and determine allocation of funds.

This analytical review includes all the countermeasures that are presented in this plan as well as the tactics to be applied in their implementations. After reviewing performance goals, the AOHS then examines and selects countermeasures to help achieve the state's targets. The following outlines the strategies of countermeasures to be applied during the fiscal year linked to the program area:

- Funding and support for the Drug Recognition Expert Training Program- allocation is determined by evaluating the threshold of resources that are required to carry out each planned activity for the duration of the project in a calculated and realistic manner.

Rationale

Alabama is one of 49 states and the District of Columbia to implement the Drug Evaluation and Classification Program (DECP). At the heart of this program is the Drug Recognition Expert (DRE). A DRE is a law enforcement officer trained in detecting and recognizing impairment caused by substances other than alcohol. The Los Angeles Police Department originated the

program in the early 1970s when officers noticed that many of the individuals arrested for driving under the influence had very low or zero alcohol concentrations. The officers reasonably suspected that the arrestees were under the influence of drugs but lacked the knowledge and skills to support their suspicions. Working with medical doctors, research psychologists, and other medical professionals they developed a simple, standardized procedure for recognizing drug influence and impairment, which led to the first DRE program. In the early 1980s, the National Highway Traffic Safety Administration (NHTSA) took notice of the LAPD's DRE program. The two agencies collaborated to develop a standardized DRE protocol which led to the DEC program. During the ensuing years, NHTSA and various other agencies and research groups examined the DEC program. Their studies demonstrated that a properly trained DRE can successfully identify drug impairment and accurately determine the category of drugs causing such impairment. Recent studies conducted by NHTSA have established the value of DRE programs.

A continuation and expansion of this program in Alabama will enable law enforcement officers to better detect, apprehend, assess, document, and subsequently help the prosecutor prove, in court, the defendant was under the influence of a drug while driving (or committing any other improper act, e.g., domestic violence and homicide). To implement the program successfully in Alabama, AOHS will fund a State DRE coordinator to facilitate and plan training courses, reimburse allowable travel expenses for trainees, as well as associated costs with hosting training courses.

Planned Activity: Drug Recognition Expert Training Program

Planned activity number: **M5CS-23-ID-M5**
Primary Countermeasure Strategy ID: **Drug Recognition Expert (DRE) Training**

Planned Activity Description

The goal of the Drug Recognition Expert Program (DRE) is to train and certify law enforcement officers from various agencies around Alabama as Drug Recognition Experts. Each certified DRE will be able to diagnose an individual arrested for DUI to be either under the influence of some drug other than alcohol or suffering from a medical issue. If the DRE determines the defendant is under the influence of a drug, then the DRE will identify the category or categories of impairing drugs.

Intended Subrecipients

Alabama Law Enforcement Agency

Funding sources

Source Fiscal Year	Funding Source ID	Eligible Use of Funds	Estimated Funding Amount	Match Amount	Local Benefit
2021	FAST Act 405d Impaired Driving Mid	405d Mid Drug and Alcohol Training (FAST)	$345,000.00	$86,250.00	

Countermeasure Strategy: High Visibility Enforcement

Program Area: **Impaired Driving (Drug and Alcohol)**

Project Safety Impacts

To implement the State's Evidence-Based Enforcement Plan, there will be four local Selective Traffic Enforcement Program (STEP) projects during the coming year as well as one statewide STEP project. Each of these STEP projects will focus on Hotspot crashes and the problem locations that have been identified across the state. One STEP project will take place in each of the four CTSP/LEL regions and the statewide STEP project will be conducted in conjunction with the Alabama Law Enforcement Agency (ALEA). By conducting these STEP projects, additional efforts can be focused on the reduction of impaired driving related crashes and speed related crashes. The Law Enforcement activity will be sustained for twelve (12) months. The enforcement effort is evidence-based, with the objective of preventing traffic violations, crashes, and crash fatalities and injuries in locations most at risk. The enforcement program will continuously be evaluated, and the necessary adjustment will be made.

There will also be four local Alcohol High Visibility Enforcement projects during the coming year as well as one statewide Alcohol High Visibility Enforcement project. Each of these projects will focus on alcohol related Hotspot crashes and the problem locations that have been identified across the state. One project will take place in each of the four CTSP/LEL regions and the statewide project will be conducted in conjunction with the Alabama Law Enforcement Agency (ALEA). By conducting these HVE projects, additional evidence-based efforts can be focused on the reduction of impaired driving related crashes. The law enforcement activity will be sustained for twelve (12) months. However, at least three additional "Drive Sober or Get Pulled Over" mobilizations will take place during holiday periods known for increased travel and a higher potential for impaired motorists to be on the roadways and in conjunction with a paid media campaign. These periods include Christmas and New Year's, St. Patrick's Day, and the Fourth of July. For the eighth year since 2015, this HVE campaign will be accompanied by a comprehensive, multiplatform media campaign throughout the state. The enforcement effort is

evidence-based, which will prevent traffic violations, crashes, and crash fatalities and injuries in locations most at risk. The enforcement program will continuously be evaluated, and the necessary adjustments will be made. *NHTSA Countermeasures that Work* reviewed enforcement efforts as a deterrent for alcohol and drug-impaired driving. Alabama will integrate both publicized sobriety checkpoints and saturation patrol programs.

The value of such public enforcement efforts is demonstrated first by studies referenced in Page 1- 25 of *NHTSA Countermeasures that Work:*
The CDC's systematic review of 15 high-quality studies found that checkpoints reduce alcohol-related fatal crashes by 9% (Bergen et al., 2014). Similarly, a meta-analysis by Erke et al. (2009) found that checkpoints reduce alcohol-related crashes by 17%, and all crashes by 10 to 15%. Publicized sobriety checkpoint programs have proven effective in reducing alcohol-related crashes among high-risk populations including males and drivers 21 to 34 years old (Bergen et al., 2014).
Additionally, checkpoints can be combined with other enforcement activities (as Alabama plans on doing). According to the results of a survey conducted with State patrol agencies and local LEAs, the prevalence of self-reported alcohol-impaired driving was lower in States where sobriety checkpoints, saturation patrols, and enforcement of open container laws were conducted. Alabama also provides training resources for SFST and ARIDE classes, so law enforcement officers have access to training that enhances the application of detecting impaired drivers.

Countermeasures that Work also describes the best practice implementation of High Visibility Saturation Patrols (1-29). Recommended saturation patrols, as well as roving patrols, are to be publicized extensively and conducted regularly in areas where impaired driving is common or where alcohol-involved crashes have occurred. A demonstration program in Michigan, where sobriety checkpoints are prohibited by State law, revealed that saturation patrols can be effective in reducing alcohol- related fatal crashes when accompanied by intensive publicity (Fell et al., 2008). It is projected that High Visibility Enforcement projects in each of the CTSP/LEL and State Trooper Regions conducted year-round and during targeted holiday periods, when tied with a multimedia PI&E campaign will achieve the following:

- Reduce of the number and severity of the hotspots found over time.
- Increase of the number of citations by citation type issued over time.

Linkage Between Program Area

As part of the Alabama Office of Highway Safety (AOHS) traffic safety planning effort, special problem identification studies are performed for the various program areas chosen. When any new issues arise, or for all countermeasures for which discretionary funds are expended, special analytical procedures are employed. The process is as follows:

- Analyze results of problem identification to set performance measure targets for the program year
- Evaluate the potential overall countermeasure strategies at a very high-level in the light of evidence-based information that is generated primarily from crash records with some supplements provided by citation records.
- Select the overall programs that will be implemented from a strategic point of view.
- Use further analytics to fine-tune the particular countermeasures that will be implemented, e.g., the specific locations for selective enforcement and determine allocation of funds. This analytical review includes all the countermeasures that are presented in this plan as well as the particular tactics to be applied in their implementations. After reviewing performance goals, the AOHS then examines and selects countermeasures to help achieve the state's targets. The following outlines the strategies of countermeasures to be applied during FY 2023:
    - Community Traffic Safety Programs/Law Enforcement Liaison (CTSP/LEL) – will provide coordination for the local implementations of the statewide evidence-based enforcement program, and the CTSP/LEL Coordinators and the administrative support for their offices will be maintained.
    - The University of Alabama Center for Advanced Public Safety (UA-CAPS) will provide the information required for allocating traffic safety resources in an optimal way, and they will continue to be supported in providing AOHS with Alabama crash and traffic safety data throughout the year.
    - Conduct four local Hotspot Evidence-Based Enforcement (E-BE) projects, one within each of the CTSP/LEL regions focusing on hotspot locations.
    - Perform statewide E-BE projects in conjunction with the Alabama Law Enforcement Agency (ALEA), also focusing on hotspot locations.
    - Participate in national and regional High Visibility Enforcement campaign on the statewide level, paired with a corresponding mass media campaign.

  Funding allocation is determined by evaluating the threshold of resources that are required to carry out each planned activity for the duration of the project in a calculated and realistic manner.

Rationale

AOHS's problem identification process analyzes the data for crashes and determines all of the demographics related to them (e.g., the who, what, where, when, how, how old, and the “why” of crashes involving non-restrained occupants). The goal is to (1) determine the most effective

countermeasures that can be applied, and once these are defined, (2) identify the best tactics to be applied within each.

This starts by determining those types of crashes that were going to be targeted for countermeasure implementation. For example, a recent study determined a very strong correlation between Restraint Deficiencies (RD) and other risky driving characteristics. In particular, DUI (alcohol and other drugs) and speed were correlated with non-use, and younger drivers 16-25 were particularly vulnerable. Young drivers are particularly susceptible to risk taking behaviors since the part of their brain that properly assesses risk is not fully developed until age 25. While the average seat belt use rate for all occupants has been measured above 90%, for those involved in fatal crashes the use rate was approximately 45%.
(See Fatalities at http://www.safehomealabama.gov/PlansAnalysis/FARSandALFatalities.aspx)

Evidence-based enforcement (E-BE) has been determined to be one of the most effective methods for increasing restraint use in general. This requires that specific locations be identified where there were concentrations of crashes involving unrestrained occupants. Once these hotspots are defined using the Critical Analysis Reporting Environment (CARE) software, the Community Traffic Safety Program/Law Enforcement Liaison (CTSP/LEL) Coordinators across the state are given information on the hotspot locations for the state as a whole. They were also provided detailed hotspot reports specific to their region to assist them in focusing their area efforts. Using the reports and maps developed for each region, the CTSP/LEL Coordinators develop plans, including the time schedule and work assignments, for their respective regions that focuses on the hotspot locations.

Planned Activity: Drive Sober or Get Pulled Over High Visibility Enforcement Campaign

Planned activity number: **M5HVE-23-DS-M5**
Primary Countermeasure Strategy ID: **High Visibility Enforcement**

Planned Activity Description

In addition to paid media, AOHS will have a High Visibility Enforcement program focused on Impaired Driving for a two-week period. The enforcement program will consist of members from the Municipal Law Enforcement Agencies, County Sheriffs and Alabama Law Enforcement Agency. This campaign will begin in August and conclude on Labor Day, in line with the dates for the national Drive Sober or Get Pulled Over campaign.

Intended Subrecipients

Regional CTSP/LEL Offices

Funding source

Source Fiscal Year	Funding Source ID	Eligible Use of Funds	Estimated Funding Amount	Match Amount	Local Benefit
2021	FAST Act 405d Impaired Driving Mid	405d Mid HVE (FAST)	$200,000.00	$50,000.00	

Planned Activity: Impaired Driving - High Visibility Enforcement Campaign

Planned activity number: **M5HVE-23-ID-M5**

Primary Countermeasure Strategy ID: **High Visibility Enforcement**

Planned Activity Description

There will be four local Alcohol High Visibility Enforcement projects during the coming year as well as one statewide Alcohol High Visibility Enforcement project. Each of these projects will focus on alcohol related Hotspot crashes and the problem locations that have been identified across the state. One project will take place in each of the four CTSP/LEL regions and the statewide project will be conducted by the Alabama Law Enforcement Agency (ALEA). By conducting these HVE projects, additional evidence-based efforts can be focused on the reduction of impaired driving related crashes. The law enforcement activity will be sustained for twelve (12) months.

However, at least three additional "Drive Sober or Get Pulled Over" mobilizations will take place during holiday periods known for increased travel and a higher potential for impaired motorists to be on the roadways and in conjunction with a paid media campaign. These periods include Christmas and New Year's, St. Patrick's Day, and the Fourth of July. For the eighth year since 2015, this HVE campaign will be accompanied by a comprehensive, multiplatform media campaign throughout the state. The enforcement effort is evidence-based, which will prevent traffic violations, crashes, and crash fatalities and injuries in locations most at risk. The enforcement program will continuously be evaluated, and the necessary adjustments will be made.

Intended Subrecipients

The Alabama Law Enforcement Agency and Regional CTSP/LEL offices

Funding sources

Source Fiscal Year	Funding Source ID	Eligible Use of Funds	Estimated Funding Amount	Match Amount	Local Benefit
2021	FAST Act 405d Impaired Driving Mid	405d Mid HVE (FAST)	$1,300,000.00	$325,000.00	

Planned Activity: Impaired Driving- Paid Media Campaign

Planned activity number: **M5PEM-23-ID-M5**

Primary Countermeasure Strategy ID: **High Visibility Enforcement**

Planned Activity Description

As a part of the nationwide impaired driving campaign to reduce impaired driving-related fatalities, Alabama will participate in High Visibility Impaired Driving Enforcement Paid Media Campaigns for the eighth year since 2015. The campaign messages will be placed and aired during holiday periods known for increased travel and a higher potential for impaired motorists to be on the roadways. These periods include Christmas and New Year's, St. Patrick's Day, Cinco de Mayo, and the Fourth of July. Along with traditional print, radio and television advertisements, Auburn University will use additional means of reaching the motoring public. Through professional services contracts, Alabama will be also able to place campaign messages in movie theatres, as well as participate in an increased online presence via web ads and newer mediums such as iHeart Radio, Spotify, and Pandora.

Intended Subrecipients

Auburn University

Funding sources

Source Fiscal Year	Funding Source ID	gible Use ofFunds	timated Funding Amount	Match Amount	Local Benefit
2021	FAST Act 405d Impaired Driving Mid	405d Mid Paid/Earned Media(FAST)	$700,000.00	$175,000.00	

Countermeasure Strategy: Prosecutor Training

Program Area: **Impaired Driving (Drug and Alcohol)**

Project Safety Impacts

According to *NHTSA Countermeasures that Work* (Page 1-39), "DWI cases can be highly complex and difficult to prosecute, yet they are often assigned to the least experienced prosecutors". In one survey, about half of prosecutors and judges said the training and education they received prior to assuming their position was inadequate for preparing them to prosecute and preside over DWI cases (Robertson & Simpson, 2002). Traffic Safety Resource Prosecutors (TSRPs) are current (or former) prosecutors who specialize in the prosecution of traffic crimes, and DWI cases. They provide training, education, and technical support to other prosecutors and law enforcement agencies within their State. Judicial Outreach Liaisons (JOLs) are current (or former) judges who are experienced in handling DWI cases. Many JOLs have presided over DWI or Drug courts. They share information and provide education to judges and other court personnel about DWI cases."

A multidisciplinary approach and close coordination among all components of the criminal justice system was sought in developing the strategies to combat the issue of Impaired Driving. This set of countermeasure approaches includes the entire criminal justice system, including laws, enforcement, prosecution, adjudication, criminal and administrative sanctions, and related communications. As detailed in the Alabama Impaired Driving Strategic Plan, the state's goal is to achieve both *specific* and *general* deterrence through goals defined as:

- **Specific deterrence** focuses on individual offenders and seeks to ensure that impaired drivers will be detected, arrested, prosecuted, and subject to swift, sure, and appropriate sanctions, and thereby reduce recidivism.
- **General deterrence** seeks to increase the public perception that impaired drivers will face severe consequences, thus discouraging all individuals from driving impaired.

By offering educational opportunities and technical support throughout the state, courts are better prepared to prosecute DWI offenders. AOHS will allocate sufficient funds to allow for a full time Traffic Safety Resource Prosecutor to provide training requirements to all District Attorneys, ADAs, and their staff in order to increase the level of readiness and proficiency for the effective prosecution of traffic impaired driving cases.

Additionally, the goals of this program will emphasize:

- Practical Impaired Driving Course: Nuts & Bolts
- Handling the DUI Experts
- Impaired Driving Legal Updates
- Search & Seizure
- Jury Selection

Linkage Between Program Area

As part of the Alabama Office of Highway Safety (AOHS) traffic safety planning effort, special problem identification studies are performed for the various program areas chosen. When any new issues arise, or for all countermeasures for which discretionary funds are expended, special analytical procedures are employed. The process is as follows:

- Analyze results of problem identification to set performance measure targets for the program year
- Evaluate the potential overall countermeasure strategies at a very high-level in the light of evidence-based information that is generated primarily from crash records with some supplements provided by citation records.
- Select the overall programs that will be implemented from a strategic point of view.
- Use further analytics to fine-tune the countermeasures that will be implemented, e.g., the specific locations for selective enforcement and determine allocation of funds.
- After reviewing performance goals, the AOHS then examines and selects countermeasures to help achieve the state's targets.
- Planning and Administration – The Alabama Office of Highway Safety (AOHS) will continue to perform the overall administrative functions for the planned programs and projects.
- Community Traffic Safety Programs/Law Enforcement Liaison (CTSP/LEL) – will provide coordination for the local implementations of the statewide occupant protection program, and the CTSP/LEL Coordinators and the administrative support for their offices will be maintained.
- The University of Alabama Center for Advanced Public Safety (UA-CAPS) will provide the information required for allocating traffic safety resources in an optimal way, and they will continue to be supported in providing AOHS with Alabama crash and traffic safety data throughout the year.
- Conduct four local Hotspot Evidence-Based Enforcement (E-BE) projects, one within each of the CTSP/LEL regions focusing on hotspot locations.
- Perform statewide E-BE projects in conjunction with the Alabama Law Enforcement Agency (ALEA), also focusing on hotspot locations.

- Continue the Law Enforcement Liaison (LEL) programs statewide. Beginning in FY 2007, this program was absorbed by the regional CTSP/LEL offices and was funded through the Community Traffic Safety Projects. This funding arrangement will continue.
- Participate in national and regional High Visibility Enforcement campaign on the statewide level, paired with a corresponding mass media campaign.
- Fund and support the Drug Recognition Expert Training Program
- Continue to fund Traffic Safety Resource Prosecutor Program
- Funding allocation is determined by evaluating the threshold of resources that are required to carry out each planned activity for the duration of the project in a calculated and realistic manner.

Rationale

While Alabama has not been as permissive as many states in their marijuana laws, it has seen a general increase in ID caused by drugs as opposed to alcohol. This is an alarming trend that is indicative of the increased social acceptance of drug use. During the 2021 Alabama legislative session, a restrictive medical marijuana legalization bill was passed and signed by the governor. The under-reporting of drug cases must be much higher than alcohol cases since there is a general inability of most law enforcement officers to identify many of the drug-related ID cases. Alabama has taken this problem identification and continues to recognize the importance of offering educational training to judges, prosecutors, and law enforcement officers to better identify and litigate impaired driving cases.

The TSRP program will be a utilized resource in the battle against impaired driving and the problems being faced both on the law enforcement level and the prosecutorial level. It will focus on the overall goal of increasing the level of readiness and proficiency for the effective investigation, preparation, and prosecution of traffic related cases involving impaired driving from misdemeanor offenses to traffic homicide cases. The TSRP will further serve as a liaison while providing technical assistance, training, and counsel to prosecutors and law enforcement, as well as information to communities regarding the dangers of driving under the influence. Funding for the TSRP program was determined by identifying the costs necessary for any planned activity associated with the countermeasure.

Planned Activity: Traffic Safety Resource Prosecutor Program

Planned activity number: **FP-23-FP-AL**

Primary Countermeasure Strategy ID: **Prosecutor Training**

Planned Activity Description

Goals for the TSRP program are to provide training requirements to all District Attorneys, ADAs, and their staff in order to increase the level of readiness and proficiency for the effective prosecution of traffic impaired driving cases.

Intended Subrecipients

Office of Prosecution Services

Funding sources

Source Fiscal Year	Funding Source ID	Eligible Use of Funds	Estimated Funding Amount	Match Amount	Local Benefit
2021	FAST Act NHTSA 402	Alcohol(FAST)	$250,000.00	$62,500.00	$0.00

Program Area: Occupant Protection (Adult and Child Passenger Safety)

Description of Highway Safety Problems- Occupant Protection Plan

The central basis for the development of occupant restraint countermeasures by the Alabama Office of Highway Safety (AOHS) is the strategic Occupant Protection Plan, which was developed for the state in FY2012, and it has been updated each year in the May-June time frame. This plan is evidence-based to reflect the particular occupant protection issues within the State. The major goal of the plan is to ensure that resources dedicated to occupant protection are allocated to bring about the maximum traffic safety benefits to the roadway users of the State.

The plan considers all restraint programs to be conducted in Alabama over a five-year planning horizon with special emphasis on those that are proposed to be funded under the 405b Occupant Protection Grants and 402 Grants section for FY 2023. The purpose of the 405b program is to "encourage States to adopt and implement occupant protection laws and programs to reduce highway deaths and injuries from individuals riding unrestrained in motor vehicles."

Having a front seat occupant seat belt usage rate measured in FY2021 at 91.3% qualifies Alabama as a high seat belt use state. This means that the State qualifies for special restraint funding by (1) submitting an occupant protection plan, (2) participating in the Click It or Ticket campaign, (3) maintaining child restraint inspection stations, and (4) having an adequate number of child passenger safety technicians. Alabama meets all requirements.

The overall problem identification for the Alabama Highway Safety Plan (HSP) begins with the most recently generated data for Table 1. It is important to note the categories of Crash Types are not mutually exclusive, so there are interactions between them that need to be given further analysis. For example, any of the crash causes might occur with or without occupants being properly restrained. As an example, certain age groups have been found more inclined to use restraints than others. Nevertheless, Table 1 serves effectively in giving the traffic safety community a high-level view of the source of fatalities as well as how these fatalities are also reflected in the lower severity crashes.

Table 1: Top Fatality Causes Alabama CY2021 Data

	Crash Type (Causal Driver)	Fatal Number	Fatal %	Injuries	Injury %	PDO No.	PDO %	Total
1	Belt Restraint Fault*	541	6.24%	4,476	51.62%	3,654	42.14%	8,671
2	Speed Involved	199	2.16%	2,785	30.29%	6,209	67.54%	9,193
3	ID/DUI All Substances	180	3.17%	1,953	34.40%	3,544	62.43%	5,677
4	Hit Roadside Obstacle	126	2.15%	1785	30.46%	3949	67.39%	5,860
5	Pedestrian Involved	126	17.14%	575	78.23%	34	4.63%	735
6	Wrong Way Items	113	3.19%	805	22.73%	2,623	74.08%	3,541
7	Large Truck Involved	112	1.17%	1,701	17.80%	7,741	81.02%	9,554
8	Fail to Yield-Ran (All)	111	0.38%	8,040	27.41%	21,184	72.21%	29,335
9	License Defect Causal	101	1.39%	2,127	29.22%	5,052	69.40%	7,280
10	Youth (16-20) Causal	82	0.38%	4,351	20.08%	17,233	79.54%	21,666
11	Mature (65 or Older)	81	0.61%	2,666	19.94%	10,621	79.45%	13,368
12	Motorcycle Involved	72	4.57%	1,044	66.33%	458	29.10%	1,574
13	Aggressive Operation	70	2.46%	792	27.89%	1,978	69.65%	2,840
14	Distracted Driving	45	0.33%	2,803	20.55%	10,794	79.12%	13,642
15	Drowsy Driving	33	0.97%	1,201	35.22%	2,176	63.81%	3,410
16	Vehicle Defects – All	29	0.64%	923	20.28%	3,600	79.09%	4,552
17	Utility Pole	26	1.03%	799	31.76%	1,691	67.21%	2,516
18	Child Restraint Fault*	22	0.85%	717	27.80%	1,840	71.35%	2,579
19	Work Zone Related	17	0.73%	420	18.07%	1,887	81.20%	2,324
20	Vision Obscured	12	0.97%	289	23.31%	939	75.73%	1,240
21	Bicycle	7	3.15%	174	78.38%	41	18.47%	222
22	Railroad Trains	6	9.84%	18	29.51%	37	60.66%	61
23	Roadway Defects – All	2	1.77%	22	19.47%	89	78.76%	113
24	School Bus Involved	1	0.18%	71	12.96%	476	86.86%	548

* This item is measured in the number of each severity of crash that *resulted* from the failure to use the proper restraint, as opposed to other items that are measured by the number of crashes *caused by* or *related to* the involvement of the particular item.

Two entries in Table 1 are important regarding the Occupant Protection Plan. The following defines these two entries:

- Belt Restraint Fault (BRF) – any crash in which one or more of the occupants of any involved vehicle (including drivers) were not properly restrained; and
- Child Restraint Fault (CRF)– any crash in which one or more children, aged five years or under, were not properly restrained, independent of the restraint characteristics of the other occupants.

Clearly BRF is at the top of this list, demonstrating that occupant restraint is one of the most critical issues in traffic safety and fatality reduction. The categories given in Table 1 are not mutually exclusive (e.g., you could have unrestrained passengers in an alcohol/drug crash that involved speeding, and many other combinations). However, they still tend to demonstrate the relative criticality of each of the categories. Because BRF is of the highest level of concern, the State puts considerable emphasis on occupant protection, and extensive analyses have been performed to determine the best approach to increasing restraint use.

Child Restraint Fault (CRF) fatalities are near the bottom of Table 1 with 22 fatalities. This reflects the efforts that have gone into child protection by several agencies throughout the state. Special emphasis is given to children, reflecting the importance of maintaining all the child restraint programs. We would like to see this category at the very bottom of the list with zero fatalities. The enforcement efforts for CRF effectively follows the same pattern as that for BRF.

Table 1 shows clearly that one of the most effective ways of reducing fatalities is to increase restraint use. The next step in the problem identification process is to analyze the data for these crashes and determine all the driver and other demographics related to them (e.g., who, what, where, when, how old, and why of crashes involving non-restrained occupants). The goal is to (1) determine the most effective countermeasures that can be applied, and once these are defined, (2) identify the best tactics to be applied for each.

Evidence-based enforcement (E-BE) has been determined to be one of the most effective methods for increasing restraint use in general. This requires specific locations be identified where there are concentrations of crashes involving unrestrained occupants. Once these hotspots are defined using the Critical Analysis Reporting Environment (CARE) software, the Community Traffic Safety Program/Law Enforcement Liaison (CTSP/LEL) Coordinators across the state are provided detailed hotspot reports specific to their region to assist them in focusing their area‘s efforts. Using the reports and maps developed for each region, the CTSP/LEL Coordinators develop plans, including the time schedule and work assignments, for their respective regions that focuses on the hotspot locations. The goals set on a regional basis are in line with the goals and strategies laid out in this plan.

Restraint Issues Problem Identification

This section contains the result of a problem identification study that was conducted based on data over calendar years 2017-2021. This was the latest data that were available at the time of the analysis, and it is representative of the restraint picture going forward into FY2023.
The goal of this problem identification is to ensure that the restraint enforcement program considered by the state throughout FY2023 is evidence-based, the evidence being derived from past data obtained from crash reports.

For all of the results below, two subsets of data were established and compared: (1) where there was at least one occupant of the vehicle not properly restrained, and (2) where all occupants were properly restrained. Most of the attributes considered involve the causal drivers since they would have the most influence on whether the occupants of their vehicles were restrained at the time of the crash.

When a given attribute is stated to be overrepresented, this attribute had a statistically significantly higher than expected proportion in the unrestrained as opposed to the restrained subset. When the term "expected proportion" is used, this is obtained from the proportion of the attribute that exists in the subset containing all restrained occupants; and so, the same would be expected of the unrestrained occupants if no differences existed.

Please review the definitions of "Belt Restraint Fault" (BRF) given above. The following summarizes the findings of the analysis that compared BRF crashes with those in which all occupants were properly restrained:

Geographical Factors

- Counties with the greatest overrepresentation factors (combined Odds Ratios and Max Gains) for unrestrained occupants (in worst-first order) include Walker, Talladega, Cullman, Jackson, Escambia, Marshall, DeKalb, Monroe, Blount, and Conecuh.
- The number of crashes involving unrestrained occupants is greatly overrepresented in rural areas in comparison to the urban areas. The odds ratio for rural areas is 2.19 times that of what would be expected if rural and urban restraint use were the same.
- The most overrepresented (worst-first) areas for seatbelt non-use are the rural county areas in Mobile, Walker, Tuscaloosa, Talladega, Cullman, Baldwin, Escambia, and Madison Counties.
- The most underrepresented (best-first) areas for occupant seatbelt use are in the urban areas, specifically, the cities of Birmingham, Huntsville, Montgomery, and Mobile.
- Crash incidents deficient in occupant restraints use are greatly overrepresented on county highways, with 2.207 times the expected number of crashes. County and State

were the only roadway classifications that were overrepresented (having more crashes than what would be expected). Federal, Interstate and Municipal roads were significantly underrepresented (having fewer crashes than what would be expected). This is a very definitive result that indicates that seatbelt selective enforcement will be much more productive when performed on County and State roadway classifications.

- In the analysis of locale, crashes involving no restraints are most commonly overrepresented in Open Country areas (close to twice the expected, with an Odds Ratio of 1.842), while Shopping or Business locale is the most significantly underrepresented (with about half, 0.511, its expected proportion)

Time Factors

- Saturday and Sunday are the most overrepresented days of the week for crashes in which some of the occupants did not use restraints. The proportionate difference on Saturday was 30% (1.299 Odds Ratio), and on Sunday it was over 40% (1.420) higher than expected. This correlates highly with impaired driving crashes. All workdays are underrepresented in seatbelt non-use.
- In the evaluation of time of day, hourly overrepresentations peak during the 7 PM to 7 AM time periods (averaging approximately two times the expected proportions of crashes observed from the restraint user motorists). After the 6 AM hour, they taper off, falling back below crashes of the restrained occupants. This also correlates with the times of alcohol and drug use. Additional cross-tabulations performed for crashes involving injury showed fatal crashes to be dramatically overrepresented in the early morning hours (12 midnight to 7 AM).

Analysis of Time of Day by Day of Week.

- Crosstab analyses of time of day by day of the week for crashes in which restraints were not used enables officers to determine target times and days to enforce restraint laws so that severe injury crashes may be prevented. The late night and early morning overrepresentations were most often on the weekends, starting on Friday night and ending on Sunday morning. As opposed to this, concentrations during the week were in the 6AM to 6PM mid-day times.
- The cross-tabulation of time of day by day of the week that was restricted to each of the injury classifications showed a very high resemblance to the same analysis for impaired driving (alcohol and other drugs involvement), especially for fatal crashes. See further information on the effects of alcohol and other drug under Crash Causal Factors below.
- *Crash Causal Factors*
- Primary Contributing Circumstance overrepresented factors indicate several risk-taking behaviors that are associated with crashes in which restraints are not used. These including DUI (5.097 times its expected proportion), over the speed limit (5.758 times),

aggressive operation (3.650 times), fatigue/sleep (2.504 times) and running off the road (2.014 times).

- Crashes attributed to drivers of vehicles with unrestrained occupants are greatly overrepresented in vehicles with model years 1986-2008, which could be attributed to the lack of standard safety restraints in some of these older model vehicles, or perhaps the removal (or wearing out) of these restraints over time. All vehicles newer than 2009 were significantly underrepresented in having occupants who were not restrained.

Severity Factors

- Fatal, incapacitating, and non-incapacitating injuries are all overrepresented in crashes where one or more occupants were not restrained. The Odds Ratio multipliers were extremely high: fatal (18.414), incapacitating injury (7.501), and non-incapacitating injuries (3.067). So, for example, the probability of a crash resulting in at least one fatal injury is close to 20 times (18.414) higher what it would be if all occupants were properly restrained. The probability that a crash would result in no injuries at all was only about half of what was true for the fully restrained occupants.
- The speed at impact for crashes for restraint-deficient crashes is significantly overrepresented (more than twice the expected value) in all of the categories above 45 MPH, indicating that these crashes consistently occur at higher speeds than crashes in which restraints were being used. This is highly correlated with rural driving and other risk-taking behaviors (e.g., Impaired Driving). Extreme risk taking is seen at the highest speed levels, as given in the following table. The Odds Ratio gives the multiplier for the probability that the occupants were not properly restrained.

Speed	**Odds Ratio**
75	3.4
80	5.2
85	7.1
90	9.0
95	16.2
100	9.5
Over 100	14.0

- Analysis of number injured per crash shows that the proportion of two or more injuries (including fatalities) in restraint-deficient crashes is overrepresented by an Odds Ratio

greater than 3 (3.694), and it increases up to 12.845 for 7-injury crashes. Crashes without restraints are not only causing many more severe injuries, but a greater number of injuries and fatalities per crash.

Causal Driver Demographics

- Male drivers account for a majority (about 61.97%) of crashes in which restraints are deficient, and they are significantly overrepresented by an Odds Factor of 1.246 times the proportion than expected as compared to the restrained subset.
- Analysis of individual driver ages indicates that crashes involving restraint deficiencies showed no significant differences for 16-year-old drivers. They become significantly overrepresented in non-use for drivers in the age range of 17-40. Above this age range non-use is about as expected until age 56 and above, where restraint non-use becomes significantly underrepresented. Generally, older drivers are more risk averse, and are thus more apt to buckle up and require such from their passengers. They also generally have newer cars equipped with proper restraints.

Ejection and Back Seat Analysis

- As expected, total ejection of unrestrained occupants is highly overrepresented (36.78 times the expected proportion). Ejection is one major cause for many fatalities in which safety equipment is not properly utilized. There were 2,534 total ejections for the unrestrained occupants over the five years of the data, of which 595 resulted in fatalities. This is a proportion of one fatality in every 4.26 persons ejected. The non-ejected occupant probability of fatality for restrained occupants is one in every 2,650 crashes. Thus, if ejected there is about 538 times the chances of being killed as opposed to being properly restrained and not ejected. Ejections that are not fatal invariably result in extremely severe injury.
- The non-restrained person is over 160 times more likely to be totally ejected than those who are properly restrained. One in 2398 crashes as compared to one in 15 for non-restrained.
- A detailed analysis using 2015-2019 crash reports determined that if all back-seat occupants were properly restrained it would result in an estimated saving of 33 lives per year.
- The results given below for child restraints were obtained by a comparison of occupants aged 5 and under who were (1) properly restrained in approved child safety restraints against (2) those either not restrained or restrained improperly. Ambiguous entries were ignored.

Child Restraint Deficiency

- Children not restrained have a proportion of fatal injury (1.13%) that is 28.25 times higher in proportion than those properly restrained (0.04%). The other three injury classifications, while not increased as much, are greater (by factors of): Incapacitating (Serious) Injury (11.325), Non-Incapacitating (Minor) Injury (4.570) and Non Visible but Complains of Pain (2.284). Overrepresented crash types (Manner of Crash) in which these CRF children were involved with statistically significant odds ratios (children involved over the five years of the study, odds ratio): Single Vehicle Crashes (466, 2.155), Side Impact of 90 degrees (386, 1.238); Head-on Front to Front (88, 1.709); Angle Oncoming Frontal (88, 1.186), and Angle Front to Side, opposite direction (99, 1.139).
- Primary Contributing Circumstances with odds ratios greater than 2.7: DUI, Aggressive Operation, Over Speed Limit, and Ran Off Road. These were for the crashes, and it does not necessarily indicate the vehicles in which the CRF children were occupants when the crash involved multiple vehicle crashes.
- Morning and afternoon rush hours were high if not overrepresented. The afternoon rush hours were each all over 200 crashes as opposed to morning (161 crashes). These are the typical hours when parents would have children in their vehicles – before and after taking the older kids to school.
- County roads were overrepresented with an odds ratio of 1.085 (not statistically significant). Municipal roads were the only other road types that were overrepresented, but their odds ratio was only 1.041, also not large enough to be statistically significant. All other roadway classifications were underrepresented.
- Of those not properly restrained, 55 were totally ejected from the vehicle, of which 11 were killed. This one-in-five probability can be compared to the death probability when properly restrained, which is one-in every 2460 children involved.
- With Child Restraint Fault crashes, the age range of the overrepresented drivers were predominantly very young and older drivers. Those in the 17 to 25 had high Odds Ratios, of which some were close to 2.0. On the other end of the age scale, many drivers 53 and older were also overrepresented. This would seem to be the age group who are transporting grandchildren, and whose vehicles may not be equipped with child restraints.

Countermeasure Strategies in Program Area

Countermeasure Strategy
Child Restraint System Inspection Station(s)
Short-term, High Visibility Seat Belt Law Enforcement

Countermeasure Strategy: Child Restraint System Inspection Station(s)

Program Area: **Occupant Protection (Adult and Child Passenger Safety)**

Project Safety Impacts

Child Restraint Deficiencies (CRD) are near the bottom of an analysis of top fatality causes in Alabama. This reflects the extreme efforts that have gone into child protection by several agencies throughout the state. Special emphasis is given to children, who are quite vulnerable if not properly restrained, and the importance of maintaining all child restraint programs is clear. One of the most effective ways of reducing fatalities is to increase restraint use, and this example will be used to further illustrate the problem identification process that is applied to all potential countermeasures. Inspection events can positively change parents' and caregivers' attitude towards installing child restraints correctly by improving their knowledge.
AOHS will fund the state's Child's Passenger Safety program, which will facilitate and maintain a network of fitting stations and events to cover a majority of the state. The program will also organize training and recertification classes for technicians.

A general outline of this program follows:

- Recruit enough potential technicians throughout the state in order to address areas identified as needed fitting stations or knowledgeable staff available for assistance;
- Training of “first time” technicians;
- Recertification of previously trained technicians;
- Inspection stations will continue to be made available to the public;
- Technicians ensuring that child passenger restraints are installed correctly, and caregivers know how to install them correctly;
- Outreach to underserved communities providing technicians for additional trained CPS professionals in all communities.

The goal for the CPS program is to develop trained CPS professionals in as many communities over the state as possible. The ultimate vision is to create statewide community inspection stations where parents and other caregivers can obtain proper education about restraining

their children for safety, while at the same time providing a supporting public information and education program that informs and motivates the public in proper child restraint use.

Table2 below shows the location of the anticipated classes for FY 2023 as well as an estimation of the number of attendees that will be funded through this program. At this point in the process, the plan to have training in each district twice per year. The specific locations will be dependent upon who ADPH partners with and where demand is the highest. Each training will have a seat check event that will be held with a community partner. Examples of community partners we might use are stores, physician's offices, libraries, police stations, fire departments, hospitals, YMCAs, or schools. We also plan to host event with neighboring states at rest areas and/or other locations. The program is also looking to expand with nontraditional partnerships like tribal communities or nonprofit organizations who could utilize CPS materials or access to trained technicians.

Table 2. Class Location and Attendee Estimate

Class Location	**Estimated Number of Students**
Northern District	15
Northeastern District	15
West Central	15
East Central District	15
Southwestern District	15
Southeastern District	15
Northern District	15
Northeastern District	15
West Central	15
East Central District	15
Southwestern District	15
Southeastern District	15

Inspection Stations

ADPH plans to maintain current inspection stations, as well as establish at least one sanctioned station in every public health district. All these inspections stations will be staffed with nationally certified CPS technicians during posted working hours. Some of the inspection stations will work on an appointment only basis. Table 5 illustrates the proportion of Alabama's population that is covered by inspection stations. The table demonstrates 43% of the population of Alabama is covered by the permanent fitting stations. The list below identifies the location of inspection stations and/or inspection events as well as the populations they serve. The table also affirms that each station and/or event will be staffed by a certified technician. As a requirement of the program, each Public Health Department is required to conduct a seat check event each month.

Table 3. Proportion of Alabama's Population Covered by Inspection Stations

Location	Population served	% of total population
Baldwin County Health Department	231,767	5%
Calhoun County Health Department	116,441	2.32%
Children's Hospital Birmingham- Jefferson County	674,721	13.43%
Clarke County Health Department	23,087	.46%
Etowah County Health Department	103,436	2.06%
Huntsville Hospital, Huntsville Pediatrics	388,153	7.73%
Montgomery SAFE Kids & Baptist East- Montgomery County	228,954	4.56%
Perry County Health Department	8,511	.17%
St. Clair County Health Department	91,103	1.81%
Troy Fire & Police Department	33,039	.66%
Tuscaloosa SafeKids	227,036	4.52%
Washington County Health Department	15,388	.31%
Total	2,141,636	43%

*2020 Census Data, Alabama's total population in the 2020 Federal Census was 5,024,279, used the county population totals where stations are located to determine population served.

Table 4. Station and/or Events and Population Served

Station/Events	Rural	Urban	At-Risk	Certified Tech Present
Baldwin County Health Department	Rural			YES
Calhoun County Health Department	Rural			YES
Children's Hospital Birmingham		Urban	Low Income, Minority	YES
Clarke County Health Department	Rural		Low Income, Minority	YES
Etowah County Health Department		Urban		YES
Huntsville Hospital, Huntsville Police Department & Huntsville Pediatrics		Urban		YES
Montgomery SAFE Kids & Baptist East		Urban	Minority	YES
Perry County Health Department	Rural		Low Income, Minority	YES
St. Clair County Health Department	Rural			YES
Troy Fire & Police Department	Rural			YES
Tuscaloosa SAFE Kids		Urban		YES
Washington County Health Department	Rural		Low Income, Minority	YES

Linkage Between Program Area

As part of the Alabama Office of Highway Safety (AOHS) traffic safety planning effort, special problem identification studies are performed for the various program areas chosen. When any new issues arise, or for all countermeasures for which discretionary funds are expended, special analytical procedures are employed. The process is as follows:

- Analyze results of problem identification to set performance measure targets for the program year.
- Evaluate the potential overall countermeasure strategies at a very high-level in the light of evidence-based information that is generated primarily from crash records with some supplements provided by citation records.
- Select the overall programs that will be implemented from a strategic point of view.
- Use further analytics to fine-tune the countermeasures that will be implemented, e.g., the specific locations for selective enforcement and determine allocation of funds.
- This analytical review includes all the countermeasures that are presented in this plan as well as the particular tactics to be applied in their implementations

After reviewing performance goals, the AOHS then examines and selects countermeasures to help achieve the state's targets. The following outlines the strategies of countermeasures to be applied during each fiscal year:

- Planning and Administration – The Alabama Office of Highway Safety (AOHS) will continue to perform the overall administrative functions for the planned programs and projects.
- Community Traffic Safety Programs/Law Enforcement Liaison (CTSP/LEL) – will provide coordination for the local implementations of the statewide E-BE, and the CTSP/LEL Coordinators and the administrative support for their offices will be maintained.
- The University of Alabama Center for Advanced Public Safety (UA-CAPS) will provide the information required for allocating traffic safety resources in an optimal way, and they will continue to be supported in providing AOHS with Alabama crash and traffic safety data throughout the year.
- Conduct four local Hotspot Evidence-Based Enforcement (E-BE) projects, one within each of the CTSP/LEL regions focusing on hotspot locations.
- Perform statewide E-BE projects in conjunction with the Alabama Law Enforcement Agency (ALEA), also focusing on hotspot locations.
- Continue the Law Enforcement Liaison (LEL) programs statewide. Beginning in FY 2007, this program was absorbed by the regional CTSP/LEL offices and was funded through the Community Traffic Safety Projects. This funding arrangement will continue in FY 2023.
- Participate in national and regional High Visibility Enforcement campaign on the statewide level, paired with a corresponding mass media campaign.

- Continue the Child Passenger Safety Program to maintain the network of restraint inspection stations in Alabama, as well as certify technicians.

Funding allocation is determined by evaluating the threshold of resources that are required to carry out each planned activity for the duration of the project in a calculated and realistic manner.

Rationale

According to *NHTSA Countermeasures that Work,* NHTSA estimates that correctly used child restraints are even more effective than seat belts in reducing fatalities to children. Child restraints reduce fatalities by 71% for infants younger than 1 year old and by 54% for children 1 to 4 years old in passenger cars. In light trucks the fatality reductions are 58% for infants and 59% for children 1 to 4 years old (NCSA, 1996; Kahane, 2015). The proper use of child restraints is not trivial, and most parents are not intuitively aware of all the complexities involved. Improper application of even the correct devices can lead to increased injury or even death. This training project is a key component of the overall child restraint effort.

Planned Activity: Child Passenger Safety Training Program

Planned activity number: **M1PE-23-M1**
Primary Countermeasure Strategy ID: **Child Restraint System Inspection Station(s)**

Planned Activity Description

The Child Passenger Safety program will be housed in the Alabama Department of Public Health (ADPH). It will be staffed by a program coordinator (PC), a training coordinator (TC) housed at ADPH's Central Office, and four district coordinators (DC) located in four of the six public health districts (PHD) (Northeastern, West Central, Southeastern, and Southwestern). The program coordinator will be responsible for the overall operation of the project, including organizing CPS certification sessions, developing program materials, coordinating efforts with other agencies and PHDs, and maintaining the ADPH CPS website. The training coordinator will be responsible for coordinating trainings and events within the state, to include offering continuing education units (CEUs) to certified technicians, expanding the availability of CEUs to nurses and social workers, and offering educational opportunities to schools throughout the state. TC will develop and implement a required ADPH seat check event training for newly certified ADPH CPS technicians to ensure consistency across the state. DCs will coordinate trainings and car seat check events for the public in their PHD.

Currently, the program coordinator is an instructor candidate and two DCs have been accepted as course assistants. The PC will complete instructor training prior to October 1, 2022. Once an instructor, PC will work toward becoming a Lead Instructor (LI). If ADPH needs to supplement its instructor team for specific trainings, ADPH will contract with current LIs and certified CPS instructors with Children's Hospital of Alabama (CHA) and SafeKids Worldwide to conduct trainings to certify ADPH staff, and members of the public interested in becoming technicians. They will also serve as mentors for ADPH instructors as needed, until ADPH staff has the capacity to mentor instructors. Once ADPH has an established team of instructors, it will offer trainings throughout Alabama to certify technicians.

To become a certified CPS instructor, technicians must participate in certification sessions as a course assistant with CPS mentors (current instructors) and participate in CPS car seat check events for at least 6 months. At the end of the 6-month period, potential instructors submit an Instructor Candidacy Application through the SKW website. Upon approval from SKW, the CPS technician officially becomes an instructor candidate. The instructor candidate then works with their mentor to facilitate a CPS certification session. To become an LI, a certified CPS instructor can elect to take the LI Quiz once they feel comfortable with their technical ability and teaching skills. After the staff has participated in the CPS Instructor Certification Program, the ADPH CPS Program will consist of at least two LIs (the PC and TC) and four certified CPS instructors (the DCs) who will be able to conduct trainings across the state in subsequent grant years.

Once DCs have obtained CPS instructor certification, they will submit proper documentation to SKW to become authenticators for recertification. CPS technician certifications must be renewed every 2 years, and the recertification process involves both education and an application. PC sends current CPS technicians recertification reminders quarterly and provide information on recertification requirements. Currently, there are 11 certified CPS instructors in the state who can approve car seat installations, but most of those instructors are in the Birmingham area. Once ADPH DCs are certified as CPS instructors, they will be able to approve seat checks in their PHD, which will provide additional areas of the state where CPS technicians can go to finish their recertification. CPS technicians who recertify though ADPH CPS instructors are eligible to have the recertification fee paid through the program.

PC will also continue to ensure the SKW online listing of technicians is up-to-date and work directly with SKW to correct any issues. This will be accomplished by contacting each CPS technician listed on the SKW website, verifying their status as a certified technician, and inquiring about the use of their certification. PC will create a database with an updated list of CPS technicians and indicate technicians that are willing to participate in CPS car seat check events around the state. Any discrepancies with the CPS technician list on the SKW website will be resolved with the assistance of SKW staff.

A goal of the program will be to identify and establish additional fitting stations across the state with at least one ADPH-sanctioned fitting station in each PHD. The current list of statewide fitting stations on the NHTSA website will be vetted quarterly to ensure each station has current contact information and a certified CPS technician who can conduct car seat checks and install car seats. PC will also inquire about fitting stations when contacting technicians about their certification status and connect technicians who are interested in participating in car seat check events with fitting stations in their area. District coordinators will receive a list of target counties in their area and reach out to fire departments, police stations, or other locations to establish new locations.

PC and TC will coordinate quarterly meetings for Alabama technicians to share resources, upcoming events, and lessons learned. At least one meeting per year will provide an opportunity for certified technicians to earn CEUs towards recertification. This meeting will be coordinated by TC. To help with technician recruitment, ADPH will work with to identify opportunities to establish relationships with non-traditional partners. CPS-certified program staff will collaborate with partners to provide resources needed, including brochures and flyers, seat check events, training, and car seats.

Information about upcoming CPS technician certification sessions, as well as updates to the lists of car seat fitting stations and car seat check events, will be added to the ADPH CPS website. The revamped site will also include downloadable educational materials and information regarding car seat installation tips, Alabama car seat laws, and general seat belt safety information. Brochures and flyers will be created in-house by PC, TC, and Health Media. Digital media ads will also be created by the media company contracted by the state.

Intended Subrecipients

Alabama Department of Public Health

Funding sources

Source Fiscal Year	Funding Source ID	Eligible Use of Funds	Estimated Funding Amount	Match Amount	Local Benefit
2022	BIL 405b OP High	405b High Public Education	$300,000.00	$75,000.00	

Countermeasure Strategy: Short-term, High Visibility Seat Belt Law Enforcement

Program Area: **Occupant Protection (Adult and Child Passenger Safety)**

Project Safety Impacts

The value of Short-term, High Visibility Seat Belt Enforcement, such as Click it or Ticket (CIOT) projects is well documented (see *NHTSA Countermeasures that Work* Page 2-18) High- visibility, short-duration seat belt law enforcement programs were demonstrated in individual communities in the late 1980s. North Carolina's CIOT program took this model statewide beginning in 1993 and raised the use rate above 80%. The CIOT model expanded nationwide in 2003 and seat belt use increased nationwide in almost all states from 2000-2006, in part due to CIOT seat belt enforcement programs. The national seat belt use rate reached 90.1% in 2016. For example, Hedlund et al. (2008) compared 16 States with high seat belt rates and 15 States with low seat belt rates. The single most important difference between the two groups was the level of enforcement, rather than demographic characteristics or the amount spent on media. High-belt- use States issued twice as many citations per capita during their Click It or Ticket campaigns as low-belt-use States. Similarly, Hinch et al. (2014) found that law enforcement in primary belt use law States issued more seat belt citations in the 2012 campaign than did law enforcement in secondary belt use law States.

It is projected Short-Term, High Visibility Seat Belt Enforcement projects in each of the CTSP/LEL and State Trooper Regions conducted during the national "Click It or Ticket" campaign, along with a multi-platform paid media campaign, will achieve the following:

- Reduce of the number and severity of the hotspots found over time.
- Increase of the number of citations by citation type issued over time.
- Increase the seat belt usage rate among the various regions.

Linkage Between Program Area

As part of the Alabama Office of Highway Safety (AOHS) traffic safety planning effort, special problem identification studies are performed for the various program areas chosen. When any new issues arise, or for all countermeasures for which discretionary funds are expended, special analytical procedures are employed. The process is as follows:

- Analyze results of problem identification to set performance measure targets for the program year
- Evaluate the potential overall countermeasure strategies at a very high-level in the light of evidence-based information that is generated primarily from crash records with some supplements provided by citation records.
- Select the overall programs that will be implemented from a strategic point of view.

- Use further analytics to fine-tune the particular countermeasures that will be implemented, e.g., the specific locations for selective enforcement and determine allocation of funds.
- This analytical review includes all the countermeasures that are presented in this plan as well as the particular tactics to be applied in their implementations

After reviewing performance goals, the AOHS then examines and selects countermeasures to help achieve the state's targets. The following outlines the strategies of countermeasures to be applied during FY 2023:

- Planning and Administration – The Alabama Office of Highway Safety (AOHS) will continue to perform the overall administrative functions for the planned programs and projects.
- Community Traffic Safety Programs/Law Enforcement Liaison (CTSP/LEL) – will provide coordination for the local implementations of the statewide occupant protection program, and the CTSP/LEL Coordinators and the administrative support for their offices will be maintained.
- The University of Alabama Center for Advanced Public Safety (UA-CAPS) will provide the information required for allocating traffic safety resources in an optimal way, and they will continue to be supported in providing AOHS with Alabama crash and traffic safety data throughout the year.
- Conduct four local Hotspot Evidence-Based Enforcement (E-BE) projects, one within each of the CTSP/LEL regions focusing on hotspot locations.
- Perform statewide E-BE projects in conjunction with the Alabama Law Enforcement Agency (ALEA), also focusing on hotspot locations.
- Participate in national and regional High Visibility Enforcement campaign on the statewide level, paired with a corresponding mass media campaign.
- Continue the Child Passenger Safety Program to maintain the network of restraint inspection stations in Alabama, as well as certify technicians.

Funding allocation is determined by evaluating the threshold of resources that are required to carry out each planned activity for the duration of the project in a calculated and realistic manner.

Rationale

Alabama continues to steadily improve its seat belt and child restraint use rates that experienced a major improvement upon passing its Primary Seat belt Law in 1999. As part of the cooperative process with NHTSA, an Evidence-Based Enforcement (E-BE) project called "Click It or Ticket" (CIOT) is run on an annual basis in April, May, and June of each year. Alabama's program will consist of a coordinated effort among law enforcement agencies from the municipal to the state level.

Data availability and its analysis is also essential to the effective management of the overall restraint program and its improvement. Data collected is used for problem identification and evaluation that is organized according to the following categories:

- Observational survey of occupant protection and child restraint use. Pre and post surveys for seat belt programs will be conducted using the NHTSA-compliant seat belt survey design. A telephone survey will be used to evaluate the effectiveness of the paid media related to the CIOT campaign.
- Occupant protection and child restraint crash analysis. These are performed to ensure the locations and other demographics are the most advantageous by the problem identification efforts.
- Continued problem identification and evaluation. The efforts exemplified in the Problem Identification will be repeated, extended, and updated as needed to ensure the most effective distribution of resources that can be obtained from evidence-based decisions. In addition, several evaluation studies are described to determine program success and to improve the program in future years.

Planned Activity: Click It or Ticket High Visibility Enforcement Campaign

Planned activity number: **M1HVE-23-FP-PT**

Primary Countermeasure Strategy ID: **Short-term, High Visibility Seat Belt Law Enforcement**

Planned Activity Description

The Alabama Highway Safety Office will conduct a High Visibility Enforcement program for a two week period. The enforcement program will consist of members from the Municipal Law Enforcement Agencies, County Sheriffs and Alabama Law Enforcement Agency.

Intended Subrecipients

Regional CTSP/LEL Offices

Funding sources

Source Fiscal Year	Funding Source ID	Eligible Use of Funds	Estimated Funding Amount	Match Amount	Local Benefit
2021	FAST Act NHTSA 402	Occupant Protection (FAST)	$200,000.00	$50,000.00	$200,000.00

Planned Activity: Click It or Ticket Observational Survey

Planned activity number: **M1OP-23-OP-M1**

Primary Countermeasure Strategy ID: **Short-term, High Visibility Seat Belt Law Enforcement**

Planned Activity Description

Pre- and post- program surveys will be conducted by the University of Alabama Center for Advanced Public Safety (UA-CAPS) as part of the "Click It or Ticket" campaign and extending to all of the various restraint projects, including the determination of child restraint usage rates. The total restraint use program will consist of waves of surveys, enforcement and media blitzes, carefully scheduled to maximize public understanding of restraint use.

Intended Subrecipients

University of Alabama

Funding Sources

Source Fiscal Year	Funding Source ID	Eligible Use of Funds	Estimated Funding Amount	Match Amount	Local Benefit
2021	FAST Act 405b OP High	405b High OP Information System(FAST)	$220,000.00	$55,000.00	

Planned Activity: Click It or Ticket Paid Media Campaign

Planned activity number: **M1PEM-23-OP-M1**

Primary Countermeasure Strategy ID: **Short-term, High Visibility Seat Belt Law Enforcement**

Planned Activity Description

As a part of the nationwide initiative to increase seat belt usage, Alabama will participate in the "Click It or Ticket" High Visibility Paid Media campaign. This campaign will be scheduled in May and conclude on the Memorial Day Holiday. This has been a highly successful program in the past several years. Alabama will continue to lend its full support to the program in the coming year.

The value of Click it or Ticket (CIOT) projects is well documented (see *NHTSA Countermeasures that Work* Page 2-18). High-visibility, short-duration belt law enforcement programs were demonstrated in individual communities in the late 1980s. North Carolina's CIOT program took this model statewide beginning in 1993 and raised the seat belt use rate above 80%. The CIOT model expanded nationwide in 2003 and seat belt use increased nationwide in almost all states from 2000-2006, in part due to CIOT seat belt enforcement programs.

Intended Subrecipients

Auburn University

Funding Sources

Source Fiscal Year	Funding Source ID	Eligible Use of Funds	Estimated Funding Amount	Match Amount	Local Benefit
2021	FAST Act 405b OP High	405b High Paid Advertising (FAST)	$340,000.00	$85,000.00	

Program Area: Pedestrian Safety

Description of Highway Safety Problems

The AOHS conducted a problem identification analysis for Pedestrian Safety in the State of Alabama to pinpoint common factors and assess strategies that could be used to combat the growing issue. Where pedestrian involved crashes occur, along with pedestrian demographics, depend on social and economic conditions.

Pedestrian Injury Severity
Pedestrian crashes are increasing. The severity of injury is typically higher for pedestrians in crashes because of their vulnerability. The highest severity increased the most. Pedestrian fatalities increased 10.6% and serious injuries increased 8.6%. These are noteworthy since overall pedestrian involvement decreased 9.4% during this period.

The AOHS conducted a problem identification analysis for Pedestrian-Involved Crashes (PIC) in the State of Alabama to determine causal factors and evaluate potential countermeasures for this issue that has shown growth in the most recent years.

The first section below is a location analysis to determine where the pedestrian crashes are most often occurring, so that location-specific countermeasures (such as selective enforcement) can concentrate on the most critical areas. Following that is a section devoted to an overview of pedestrian crashes in general, e.g., all pedestrian crashes by severity. The next major section gets into determining what is different about pedestrian crashes from other crash types. It starts with the basic causes (Primary Contributing Circumstances) of Pedestrian Involved Crashes (PICs). After that it gets into characteristics of severity, geography, time, and then driver and pedestrian demographics.

PIC Location Analysis

Top Pedestrian Involved Crash Statewide Locations

FY2023 - Pedestrian	Hotspots
Mileposted Interstate Locations	0
Mileposted State and Federal Routes	24
Intersections	14
Segments	1
TOTAL	39

Problem Identification Analysis Results for Pedestrian Crashes in the State of Alabama

Overall Pedestrian Involved Crashes (PICs) by Year

It is beneficial to get an overall view of how pedestrian crashes have been increasing or decreasing by severity over the years. The following table gives a comparison of total PIC crashes over CY2017-2021 by severity.

Pedestrian Involved Crashes	2017	2018	2019	2020	2021
Fatal Injury	113	106	114	99	125
Serious Injury	197	185	224	197	214
Minor Injury	315	290	287	257	254
Not Visible but Complains of Pain	168	196	188	110	131
E Unknown Injury	27	20	13	9	10
Person was Not a Victim	63	64	78	54	66
TOTAL	883	861	904	726	800

It is clear from considering the high total frequencies of fatal injury pedestrian crashes in 2021, there is a significant increase in the fatality trend over the five years (2017-2021). Fatal pedestrian crashes also had a dramatic increase in 2019, while there has been a regression to the mean in the year that followed (2020), which could also have been caused by the COVID pandemic.

Considering crashes of all severities, the high year was 869 in 2019. While 2020 may have been affected by the COVID pandemic, there is no reason to believe that its effect when into 2021. Thus, 2021 should be considered as a relatively favorable year, with a reduction below the average of the previous three years (ignoring 2021) from the three-year average 837 to 776, which is 61 crashes. This is a significant 7.3% reduction.

Performing a comparable analysis over the Suspected Serious Injury and Suspected Minor Injury severities (combined) results in a total of 1,386 pedestrian injury crashes over the prior 3 years (2017 through 2019), which comes out to 462 severe non-fatal crashes per year. The reduction in 2021 is down to 452 (202=250) for that year, which is not significant. So, while there was a significant reduction in fatal pedestrian crashes, the comparison of non-fatal injury showed very little, if any, reduction.

Pedestrian Involved Crashes (PIC) Comparison Against Non-PIC Crashes for CY 2017-2021

The remaining sections will present the results of comparisons of PIC crash compared to non-PIC crash attributes in the most recent five-year period for which state data are available (CY2017-2021). An over-represented value of an attribute is a situation found where that

attribute has a greater share of PIC crashes than would be expected if it were the same as that attribute for non-PIC crashes. Thus, the non- PIC crashes are serving as a control to which the PIC crashes are being compared. In this way any significant difference about PIC crashes surfaces, and it can be subjected to further analyses. These findings typically do not change from year to year as long as the normal influences on pedestrian crashes remain in effect.

Primary Contributing Circumstances

The following are the highest causes (Primary Contributing Circumstances) of pedestrian crash frequency; the frequency and its percentage of the total over five years are listed:

- Improper Crossing 840, 21.05%
- Unseen Object/Person/Vehicle 694, 17.39%
- Failed to Yield the Right-of-Way 437, 10.95%
- Not Visible 203, 5.09%
- Pedestrian Under the Influence 139, 3.48%
- Lying or Sitting in Roadway 58, 1.45%

The largest potential for pedestrians to reduce their probability of being struck is to make sure that they cross streets in as safe a manner as possible. A second crash reduction benefit will be obtained by making sure that they are walking against traffic, and that they are as visible as possible. It is highly recommended: that they carry a flashlight after dark. The following summarizes pedestrian actions at the time of the crash, giving a slight difference in the pedestrian crash causation: (#1 and #2 combined):

- Improper Crossing 824, 16.99%
- In Roadway (Standing/On Knees/Lying) 427, 7.87%
- Not Visible (Dark Clothing) 318, 3.28%
- Failure to Yield Right-Of-Way 198, 3.08%
- Darting 164, 2.41%

Severity Comparisons

- In a comparison, over the most recent five-years of data, all PIC crashes resulted in 559 fatal crashes, which was 14.01% of all PIC crashes (one crash in every 7.14 crashes was fatal.) This compares to one fatal in every 200 for crashes in general. This works out to be close to a 30 (28,253) times higher probability of death as a result of a pedestrian involved crash.

- Suspected Serious Injury (SSI) and Suspected Minor Injury (SMI) crashes were also highly overrepresented with an Odds Ratio for SSI of 8.4 times its expectation for non-PIC, and the Odds Ratio for SMI being 4.2 times its non-PIC expectation.

Factors Affecting Severity

The following are some of the characteristics that increase the severity (probability of death) in pedestrian involved crashes (PICs):

- Impaired Walking – This is a very significant factor not only in causing the PIC, but in increasing its severity. PIC victims were found to be under the influence of alcohol 5.38 times the proportion of drivers in general that were found to be under the influence of alcohol. They were also 5.51 times the expected proportion of those were determined to be under the influence of non-alcohol drugs. It was also found that those under the influence of alcohol had a one in 3.26 chance of being killed, while those that were sober had less than a one in 8 chance of being killed. The reason attributed to this is the lack of those who are inebriated to take actions to defend themselves when they recognize the inevitability of being hit by a motor vehicle. In many cases there may not even be such a recognition.
- Number Injured (Including Fatalities) – Not only are PIC crashes generally more severe to the victims, but many of these crashes have multiple injuries. The following gives the summary for the last five years:

Number Injured in Crash	Frequency
1	3,847
2	118
3	18
4	4
5	1
7	1
12	1

This might have something to do with the preference of those walking to take some of their friends with them. Generally, this is a good practice to improve safety. However, it is critical that all members of the group not engage in the same unsafe practices.

- Adjusted EMS Arrival Delay – The very shortest arrival times had the highest over-representations, clearly indicating that the problem of PIC crashes being generally of greater severity is not a problem with EMS arrival delay.

Geographical Factors

[Terminology: *expected numbers* (or expectations) for attribute items below are obtained from the proportion for non-PIC crashes.]

- County - Generally, the overrepresented counties are those with large urban areas (big cities). It is reasonable that more pedestrian crashes will occur in areas of both heavy motor and pedestrian traffic. The largest potential for pedestrian crash reductions were in Mobile, Montgomery, and Jefferson counties.

- City Comparisons of PIC crashes to Non-PIC Crash Proportions. There is little surprise in this result, which generally tracks the rural areas in the counties by population. Traffic safety professionals should look for any locations that fall counter to this trend. The cities with the highest potentials for PIC crash reduction generally track the population of the cities: Birmingham, Montgomery, Mobile, Rural Mobile, Huntsville, and Tuscaloosa.
- Rural/Urban PIC Crash Frequency – The more general Rural/Urban analysis confirms the initial county and city findings. The Urban to Rural breakdown is about 80% Urban and 20% rural.
- Severity of PIC Crashes by Rural-Urban – While only about 19.9% of PIC crashes occur in rural areas, 28.21.7% of their fatal crashes occur there. Similar results are found for the highest severity non-fatal crashes (Suspected Serious Injury), where the proportion is 31.36% (as compared with the 19.9% rural). This seems clearly to be the result of higher speeds and accompanying loss of control in the rural areas. Increased speeds might also be the result of less enforcement in the rural areas.
- Highway Classifications – The most dramatic over-representation was found on Private Property, where close to four (3.83) times the expected number of PIC crashes occurred as compared to the non-PIC proportion. Private Property includes parking lots, and that is where most of these crashes are occurring. The only over-represented Highway Classification was Municipal roads, with close to 18% more crashes than expected. All other highway classifications were under-represented. A very alarming statistic was that Interstate highways had 97 fatal pedestrian crashes over the five-year period, which was about three times higher than would be expected compared to Interstate crashes in general. Very few people walk along the Interstates, and we conclude that these fatalities are due largely to disabled motorists. It is important that disabled vehicles be parked as far off the traffic way as possible when such is necessary, and that those forced to walk at night carry a flashlight.
- Locale – Reflecting the more urban over-representations, residential roadways show an over-representation (1.39 Odds Ratio). More troubling is the 2.57 over-representation of the school locale. While this was only 128 PIC crasher (3.21%), the fact that it is over-represented should provide a warning to all school administrators.

Time Factors

- Year – see ***Overall PIC Crashes by Year*** **above.**
- Month – PIC crashes were significantly higher than expected in September, October, and November, reflecting potential issues in school zones as students

who walk to school would be more exposed during these months (see Locale above).

- Day of the Week – The only two days of the week that are over-represented are Saturday and Sunday, probably because of the normally increased pedestrian traffic during these days. This analysis is not only useful for the typical work week, but it also reflects the typical "holiday (virtual) weekend" patterns, which is discussed below.
- "Holiday Weekends" – these can be viewed as a sequence of the weekend-pattern days. For example, the Wednesday before Thanksgiving would follow the Friday pattern assuming most are at work on Wednesday (which has not been typical recently). The Thanksgiving Thursday, Friday and Saturday would follow the Saturday pattern of people being off work. The day at the end of the weekend off period would follow the typical Sunday pattern. This is the reason long holiday events (i.e., several days off) can be more prone to PIC crashes (or for that matter, crashes in general) than the typical weekend.
- Time of Day – The extent to which nighttime hours are overrepresented is quite striking. Optimal times for PIC enforcement would start immediately following any rush hour details and would continue at least through 1:59 AM (odds ratio 2.023 times the expected proportion for non-PICs). Clearly pedestrians are harder to see at night especially if they are not wearing reflective clothing. Problems have also been detected in many of them walking with (as opposed to against) traffic.
- Time of Day by Day of the Week – This cross-tabulation quantifies the extent of the PIC crash concentrations on: (1) Friday nights, (2) Saturday mornings, Saturday nights, and (3) early Sunday mornings. This is a very useful summary for deploying selective enforcement details, especially during weekend hours.

Driver and Pedestrian Demographics

- Pedestrian Age – The following is the pedestrian age distribution for those cases in which ages are available:

4 to 5 Years	18
6 to 8 Years	39
9 to 12 Years	38
13 to 15 Years	47
16 to 20 Years	294
21 to 25 Years	317
26 to 64 Years	1847
65 or Older (senior)	392

Pedestrian Victim Gender

The gender breakdown for pedestrian involved crashes is 1,978 Males (62.46 and 1,189 Females (37.54%).

Causal Driver Age – (for cases where the pedestrian did not cause the crash) – The following is the causal age range distribution of PIC crashes (frequencies, and percentage of all drivers):

- 16 to 20 Years 177 4.44
- 21 to 25 Years 175 4.39
- 26 to 30 Years 142 3.56
- 31 to 35 Years 138 3.46
- 36 to 40 Years 126 3.16
- 41 to 45 Years 108 2.71
- 46 to 50 Years 141 3.53
- 51 to 55 Years 112 2.81
- 56 to 60 Years 109 2.73
- 61 to 65 Years 99 2.48
- 66 to 70 Years 84 2.11
- 71 to 75 Years 66 1.65
- 76 to 80 Years 42 1.05
- 81 to 85 Years 29 0.73
- 86 to 90 Years 14 0.35
- 91 to 95 Years 2 0.05

Rationale

To promote movement toward the AOHS vision while maintaining the ideals given above the following mission statement was developed:
Conduct Evidence-Based Enforcement (E-BE) coupled with Public Information and Education (PI&E) and other supportive countermeasures that will reduce fatalities and injuries by focusing on the locations identified for speed and impaired driving hotspots with additional strong consideration to hotspots where deficiencies in occupant protection and distracted driving are found.

Reducing the number of speed and impaired-driving related crashes while increasing the use of appropriate restraints has been shown in the past to produce the maximum benefit for the resources that are dedicated to traffic safety. These lessons from the past need to be extended in the future because there are still considerable benefits that can be attained by these programs. It is important to recognize that the majority of fatalities are caused by the *choice* to speed, drive impaired, use an electronic device, or not buckle up (quite often combinations of the four). By changing driver and occupant behavior, the number of hotspot locations will be reduced, and overall traffic safety will be improved.

Distracted driving is known to be a growing concern, and efforts will be made during the coming fiscal year to determine the best way to counter crashes from this cause. Recent increases in pedestrian incidents can be attributed to the combination of distracted driving and distracted walking, often involving electronic devices. Fatal pedestrian crashes have been particularly over-represented in drug and alcohol use. This has also been impacted by the significant migration to urban areas in the past few years.

While current laws in Alabama make it difficult to conduct high visibility enforcement efforts targeting Distracted Driving, a communication campaign can educate the general public regarding the dangers of the behavior. This communication countermeasure will be funded with State funds and is meant to affect a reduction in drivers and pedestrians alike, and aid in the reduction of fatalities and significant injuries.

Planned Activity: Traffic Safety Messaging- Paid Media

Planned activity number: **23-TF-ST-001**

Primary Countermeasure Strategy ID: **Communication Campaign**

*Planned Activity Description**

Drivers under the age of twenty are the largest group reported as distracted at the time of fatal crashes. A texting driver is 23 times more likely to be involved in a crash than a non-texting driver. The Auburn MPG will collaborate with ADECA/LETS in the creation of impactful graphic designs that communicate a concise message on the dangers of distracted driving and coordinate the distribution of digital tickets for high school events with Click Media throughout the state. A component of the variable messaging creatives will also contain pedestrian focuses in geolocations targeted for higher than normal occurrences.

Intended Subrecipients

Auburn University

* This Planned Activity was previously mentioned under the Distracted Driving Program Area.

Funding sources

Source Fiscal Year	Funding Source ID	Eligible Use of Funds	Estimated Funding Amount	Match Amount	Local Benefit
2023	Other		$150,000.00		

Program Area: Planning & Administration

Description of Highway Safety Problems

In a coordinated effort over the past four decades, Alabama has been committed to supporting the various NHTSA focus areas. It has done this by meeting the requirements for Section 402 funding since the creation of NHTSA in the late 1960s. AOHS is organized with a central staff and four regional Community Traffic Safety Program (CTSP) Coordinators who report directly to the Governor's Representative. The CTSP Coordinators work closely together with the AOHS central administration to implement all programs that involve local police and county agencies as well as safety advocates.

In order to manage the AOHS's programs, staff are employed at the state level. Planning and Administration (P&A) costs are those direct and indirect expenses that are attributable to the overall management of the State's HSP. Costs include salaries and related personnel benefits for the GRs and for other technical, administrative, and clerical staff in the SHSOs. P&A costs also include office expenses such as travel, equipment, supplies, rent, and utilities necessary to carry out the functions of the SHSO. The level of funding in order to accommodate the state office's needs is evaluated each year, just as in other program areas.

Alabama's HSP has been consistent over the past decade with the following established attributes:

- **Vision:** To create the safest surface transportation system possible, using comparable metrics from other states in the Southeast to assess progress in maintaining continuous recognizable improvement.
- **Primary ideals:** To save the most lives and reduce the most suffering possible.
- **Countermeasure selection approach:** To apply an *evidence-based* approach that draws upon detailed problem identification efforts to quantify and compare alternatives that are given within the NHTSA document *Countermeasures That Work*.
- **Primary focus:** To implement Evidence-Based Enforcement (E-BE), concentrating on enforcement with special emphasis on speed reduction, impaired driving elimination and increasing the use of restraints; using data that are centered around the hotspot analyses performed for each of these countermeasure subject areas.
- **Implementation Approach:** To stress the necessity for a cooperative effort that involves teamwork and diversity, including all organizations and individuals within the state who have traffic safety interests.
- **Participant mission:** To focus crash reduction countermeasures on the locations with the highest potential for severe crash frequency and severity reduction, as identified for speed

and impaired driving, which were the largest two causes of fatal crashes, and for restraint non-use, which is the greatest factor causing increased crash severity.

There are several approaches used in the *evidence-based* approach that are outlined as follows:

- Compare similar results from year to year from the data that is used to drive the countermeasure selections. For example, similar hotspot analyses are performed from year to year to determine the changes in the crash statistics as well as the correlated demographics. This quantifies both improvements and setbacks.
- If the indications are that a program implemented in the previous fiscal year fell short of its intended target, analyses are performed to determine the various causes in terms of continual improvement in the future.
- If it is determined that a specific program was particularly successful, then its characteristics are studied to determine if they can be applied or even reinforced in future efforts.
- For new countermeasures, at the highest level, evaluate alternative overall countermeasure strategies and select the ones that will best solve the problem; this will be illustrated at the highest level with Table 1, found below.
- Once new countermeasures are resolved, use further analytical techniques to fine-tune those that have been selected for implementation. For example, the highest level might resolve that selective enforcement and PI&E are the superior countermeasure types to employ, while the second level would establish the specific locations and media markets to implement these countermeasures.

Planned Activities

Planned Activities in Program Area

Unique Identifier	Planned Activity Name	Primary Countermeasure Strategy ID
PA-23-FP-PA	Planning and Administration	Planning & Administration

Planned Activity: Planning and Administration

Planned activity number: **PA-23-FP-PA**

Primary Countermeasure Strategy ID: **Planning & Administration**

Planned Activity Description

P & A will include both direct and indirect costs for personnel with their associated costs. Personnel in the direct cost category include the Highway Safety Unit Chief who spends 100% of her time with NHTSA programs, as well as the Justice Programs Unit Chief who will spend approximately 25% of his time on highway traffic safety related issues. Personnel in the indirect cost category will use ADECA Indirect Cost Rate, which includes the LETS Division Chief/GR, an Administrative Assistant, the LETS Accounting Unit Manager and one Accounting Staff Member devoted to highway traffic safety. All P & A costs will be split 50% Federal and 50% State.
For additional support, we have a State Highway Safety Program Supervisor as well as an additional Program Manager who will work as a centralized point of contact for regional CTSP/LEL offices and act as liaison to municipal, county, state and federal officials or individuals regarding the administration so that program goals and objectives of the 402 Highway Safety program are accomplished effectively within ADECA and NHTSA guidelines. The Program Supervisor or Manager reviews, monitors and recommends program expenditures, assists in the development of program plans, budgets: reviews and recommends grants, contracts and related budgets, assists in the development and reporting of program policies and procedures as necessary to ensure compliance with appropriate rules, regulations and procedures.

Intended Subrecipients

Alabama Department of Economic and Community Affair

Funding sources

Source Fiscal Year	Funding Source ID	Eligible Use of Funds	Estimated Funding Amount	Match Amount	Local Benefit
2021	FAST Act NHTSA 402	Community Traffic Safety Project (FAST)	$190,000.00	$47,500.00	$0.00
2021	FAST Act NHTSA 402	Planning and Administration (FAST)	$300,000.00	$300,000.00	$0.00

Program Area: Police Traffic Services

Description of Highway Safety Problems

The HSP is completely evidence-based as demonstrated by the results of these problem identification steps that are documented in detail in the plan. AOHS also works with the University of Alabama Center for Advanced Public Safety (UA- CAPS) to assist with the problem identification, and to work with the AOHS staff in assembling a tentative statewide planning document. Using the CARE system, a complete listing and mapping of problem crash locations (or hotspots) throughout the state is developed. In addition to a breakdown by CTSP/LEL region, the results are also subdivided by crash type and roadway classification. This is because different agencies may deal with different roadway classifications, and different tactics may be applied to different types of crashes.

A similar exercise involves the ALEA/State Troopers Division, which is given information on interstates and rural state routes that it is responsible to patrol. Generally, each ALEA region receives a package of information that is formatted just like the statewide results but tailored to their particular region or roadway subset. In addition, all agencies have access to the preliminary statewide plan. By providing both statewide information and information specific to each area, the regional coordinators are able to identify the problems and locations in their region, and they can also determine how these locations relate to the statewide plan.

Once this information is provided to the CTSP/LEL Coordinators, they are instructed to focus their plans for the coming year on the hotspot locations given in the reports for their region. At this point it is a minor adjustment for them to revise the hotspot definition part of their plan. Other issues presented in their tentative plans are reviewed by AOHS staff to ensure integrity and consistency among the regions. The enforcement program is continuously evaluated, and any necessary adjustments are made. The implementation of the Evidence-Based Enforcement Plan is demonstrated below in the following sections by major issue areas:

- Impaired driving and speed related crash hotspots – 402 funds
- Alcohol- and drug-related crashes hotspots – 405d funds
- Restraint-deficient hotspots – 405b funds

These enforcement efforts are supported by media campaigns to the extent possible. The value of such integrated enforcement efforts is demonstrated by studies referenced in NHTSA *Countermeasures that Work,* the URL reference:
Countermeasures That Work: A Highway Safety Countermeasure Guide for Highway Safety Offices Tenth Edition, 2020

Beginning in 2010 it was determined that a tool should be established to enable decision-makers to view the state's traffic safety issues at the highest possible level. This tool was named "Table 1" and it appears below. It was reasoned that, all other things being equal, traffic safety resource allocations should go to address those issues that cause the greatest number of fatalities. While this is a good default position to start from, all other things are rarely equal, and optimal resource allocations must also take into account the cost of the countermeasures being considered and the proportion of the crashes that can reasonably be reduced by any given countermeasure. Thus, an item with a lower number of fatalities could become optimal to address if a lower cost countermeasure would reduce a larger number of its crashes.

The eCrash system that went into effect July 1, 2009 creates data that meets most of the Model Minimum Uniform Crash Criteria (MMUCC). It provides data that are much timelier, since in many cases these reports are available the same day as the crash. Careful work was done to ensure that no variables or codes that could indicate a particular crash category of Table 1 were missed, and that the search criteria captured all of the crashes for each of the particular categories for this evidence-based analysis.

There are no limitations on the various subjects that may be added for consideration in Table 1, and all SHSP participants are encouraged to add any categories that they feel are appropriate. Distracted Driving (DD) was added most recently for the FY 2018 HSP. The category with the highest number of fatal crashes is listed at the top of Table 1, descending to the crash type category with the lowest number of fatal crashes listed last. The number and percent of crashes by severity are listed for each category (see footnote for the exception of "restraint deficient"). This enables an easy comparison between the various crash types. It is important to realize the categories of Table 1 are not mutually exclusive. However, since this is true in all of the categories, these numbers serve to give the relative criticality of the particular categories that most often are the targets for funding or other resource allocations.

Table 1. Top Fatality Causes Alabama CY2021 Data

	Crash Type (Causal Driver)	Fatal Number	Fatal %	Injuries	Injury %	PDO No.	PDO %	Total
1	Belt Restraint Fault*	541	6.24%	4,476	51.62%	3,654	42.14%	8,671
2	Speed Involved	199	2.16%	2,785	30.29%	6,209	67.54%	9,193
3	ID/DUI All Substances	180	3.17%	1,953	34.40%	3,544	62.43%	5,677
4	Hit Roadside Obstacle	126	2.15%	1785	30.46%	3949	67.39%	5,860
5	Pedestrian Involved	126	17.14%	575	78.23%	34	4.63%	735
6	Wrong Way Items	113	3.19%	805	22.73%	2,623	74.08%	3,541
7	Large Truck Involved	112	1.17%	1,701	17.80%	7,741	81.02%	9,554
8	Fail to Yield-Ran (All)	111	0.38%	8,040	27.41%	21,184	72.21%	29,335
9	License Defect Causal	101	1.39%	2,127	29.22%	5,052	69.40%	7,280
10	Youth (16-20) Causal	82	0.38%	4,351	20.08%	17,233	79.54%	21,666
11	Mature (65 or Older)	81	0.61%	2,666	19.94%	10,621	79.45%	13,368
12	Motorcycle Involved	72	4.57%	1,044	66.33%	458	29.10%	1,574
13	Aggressive Operation	70	2.46%	792	27.89%	1,978	69.65%	2,840
14	Distracted Driving	45	0.33%	2,803	20.55%	10,794	79.12%	13,642
15	Drowsy Driving	33	0.97%	1,201	35.22%	2,176	63.81%	3,410
16	Vehicle Defects – All	29	0.64%	923	20.28%	3,600	79.09%	4,552
17	Utility Pole	26	1.03%	799	31.76%	1,691	67.21%	2,516
18	Child Restraint Fault*	22	0.85%	717	27.80%	1,840	71.35%	2,579
19	Work Zone Related	17	0.73%	420	18.07%	1,887	81.20%	2,324
20	Vision Obscured	12	0.97%	289	23.31%	939	75.73%	1,240
21	Bicycle	7	3.15%	174	78.38%	41	18.47%	222
22	Railroad Trains	6	9.84%	18	29.51%	37	60.66%	61
23	Roadway Defects – All	2	1.77%	22	19.47%	89	78.76%	113
24	School Bus Involved	1	0.18%	71	12.96%	476	86.86%	548

* This item is measured in the number of each severity of crash that *resulted* from the failure to use the proper restraint, as opposed to other items that are measured by the number of crashes *caused by* or *related to* the involvement of the particular item.

The comparison of gross fatality and injury counts is merely a first step in the analytical process to find optimal allocations of resources among programs. Obtaining this first-cut perspective is essential for intelligent decision making. Once the high-level decisions are made regarding which of the crash types will be addressed, further analyses must be performed to define countermeasures and improve their implementation. The severity classification in Table 1 also helps in this regard. For example, it might be noticed that the relative severity percentage of pedestrian, bicycle, motorcycle, and railroad crashes are significantly higher than the other categories, as is true for the top three categories as well. This is an important aspect to be considered when the ultimate goal is reducing deaths.

Countermeasure Strategies in Program Area

Countermeasure Strategy
High Visibility Enforcement

Countermeasure Strategy: High Visibility Enforcement

Program Area: **Police Traffic Services**

Project Safety Impacts

To implement the State's Evidence-Based Enforcement Plan, there will be four local Selective Traffic Enforcement Program (STEP) projects during the coming year as well as one statewide STEP project. Each of these STEP projects will focus on Hotspot crashes and the problem locations that have been identified across the state. One STEP project will take place in each of the four CTSP/LEL regions and the statewide STEP project will be conducted in conjunction with the Alabama Law Enforcement Agency (ALEA). By conducting these STEP projects, additional efforts can be focused on the reduction of impaired driving related crashes and speed related crashes. The Law Enforcement activity will be sustained for twelve (12) months. The enforcement effort is evidence-based, with the objective of preventing traffic violations, crashes, and crash fatalities and injuries in locations most at risk. The enforcement program will continuously be evaluated, and the necessary adjustment will be made.

There will also be four local Alcohol High Visibility Enforcement projects during the coming year as well as one statewide Alcohol High Visibility Enforcement project. Each of these projects will focus on alcohol related Hotspot crashes and the problem locations that have been identified across the state. One project will take place in each of the four CTSP/LEL regions and the statewide project will be conducted in conjunction with the Alabama Law Enforcement Agency (ALEA). By conducting these HVE projects, additional evidence-based efforts can be focused on the reduction of impaired driving related crashes. The law enforcement activity will be

sustained for twelve (12) months. However, at least three additional "Drive Sober or Get Pulled Over" mobilizations will take place during holiday periods known for increased travel and a higher potential for impaired motorists to be on the roadways and in conjunction with a paid media campaign. These periods include Christmas and New Year's, St. Patrick's Day, Cinco de May and the Fourth of July. For the eighth year since 2015, this HVE campaign will be accompanied by a comprehensive, multi-platform media campaign throughout the state. The enforcement effort is evidence-based, which will prevent traffic violations, crashes, and crash fatalities and injuries in locations most at risk. The enforcement program will continuously be evaluated, and the necessary adjustments will be made. *NHTSA Countermeasures that Work* reviewed intensive alcohol selective enforcement efforts such as publicized saturation patrol programs. These patrols aim to deter driving after drinking by increasing the perceived risk of arrest.

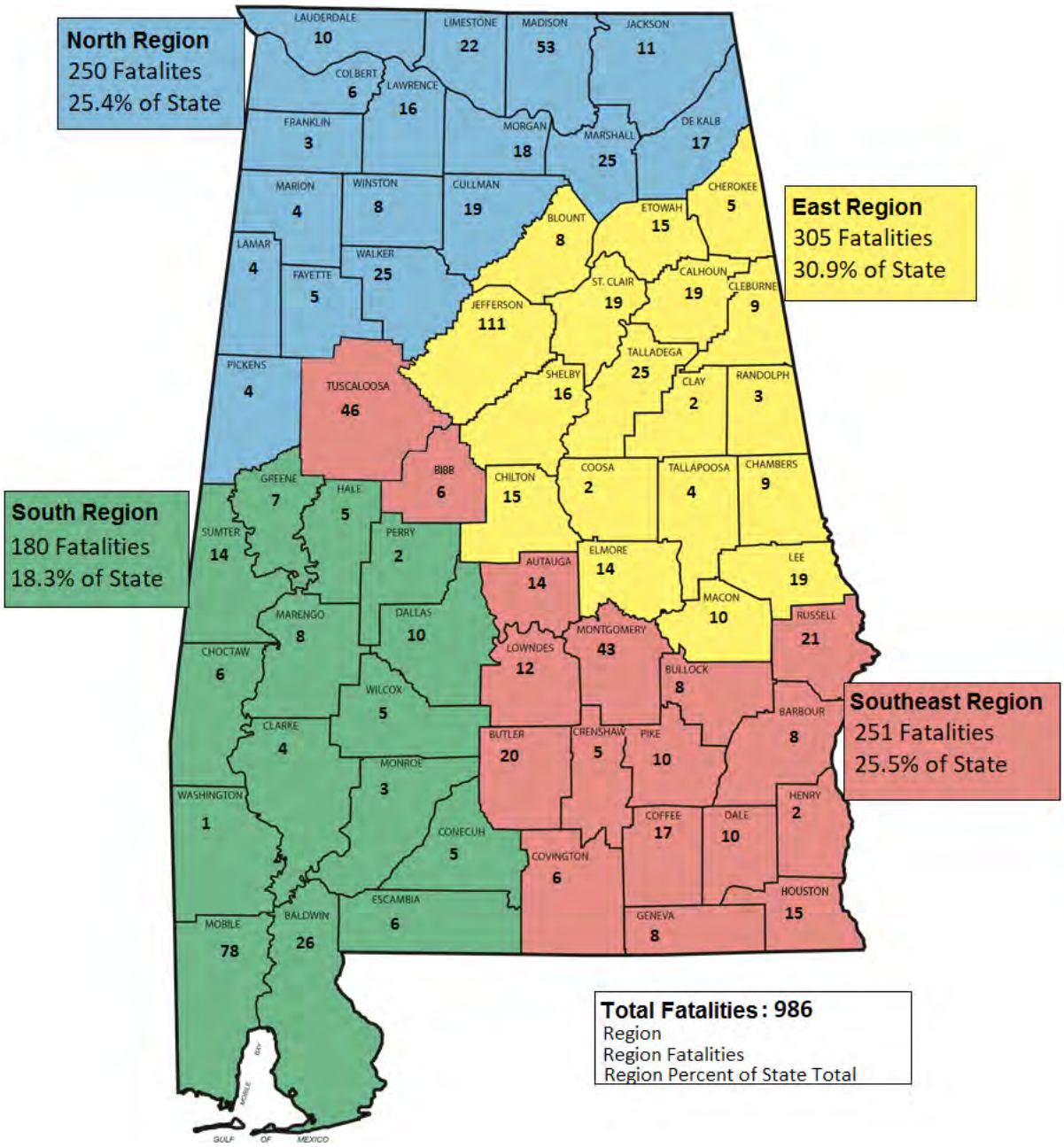
The value of such integrated enforcement efforts is demonstrated by studies referenced in Page 1-35 of *NHTSA Countermeasures that Work.* In one study a three-site evaluation of integrated impaired driving, speed, and seat belt use enforcement indicated that "sites that combined high publicity with increased enforcement reduced crashes likely to involve alcohol (such as single-vehicle nighttime crashes) by 10% to 35%." Another study of comprehensive programs in six communities used integrated enforcement methods where it was reported that these programs reduced fatal crashes involving alcohol by 42%. About half the speeding drivers detected through these enforcement activities had been drinking and about half the impaired drivers were speeding. It is well established that the same risk-taking motivations that seem to compel some drivers to be impaired and speed also leads them to avoid using proper restraints.

They recommend saturation patrols that are publicized extensively and conducted regularly, as well as roving patrols in which individual patrol officers concentrate on detecting and arresting impaired drivers in an area where impaired driving is common or where alcohol-involved crashes have occurred. A demonstration program in Michigan, where sobriety checkpoints are prohibited by State law, revealed that saturation patrols can be effective in reducing alcohol-related fatal crashes when accompanied by intensive publicity.

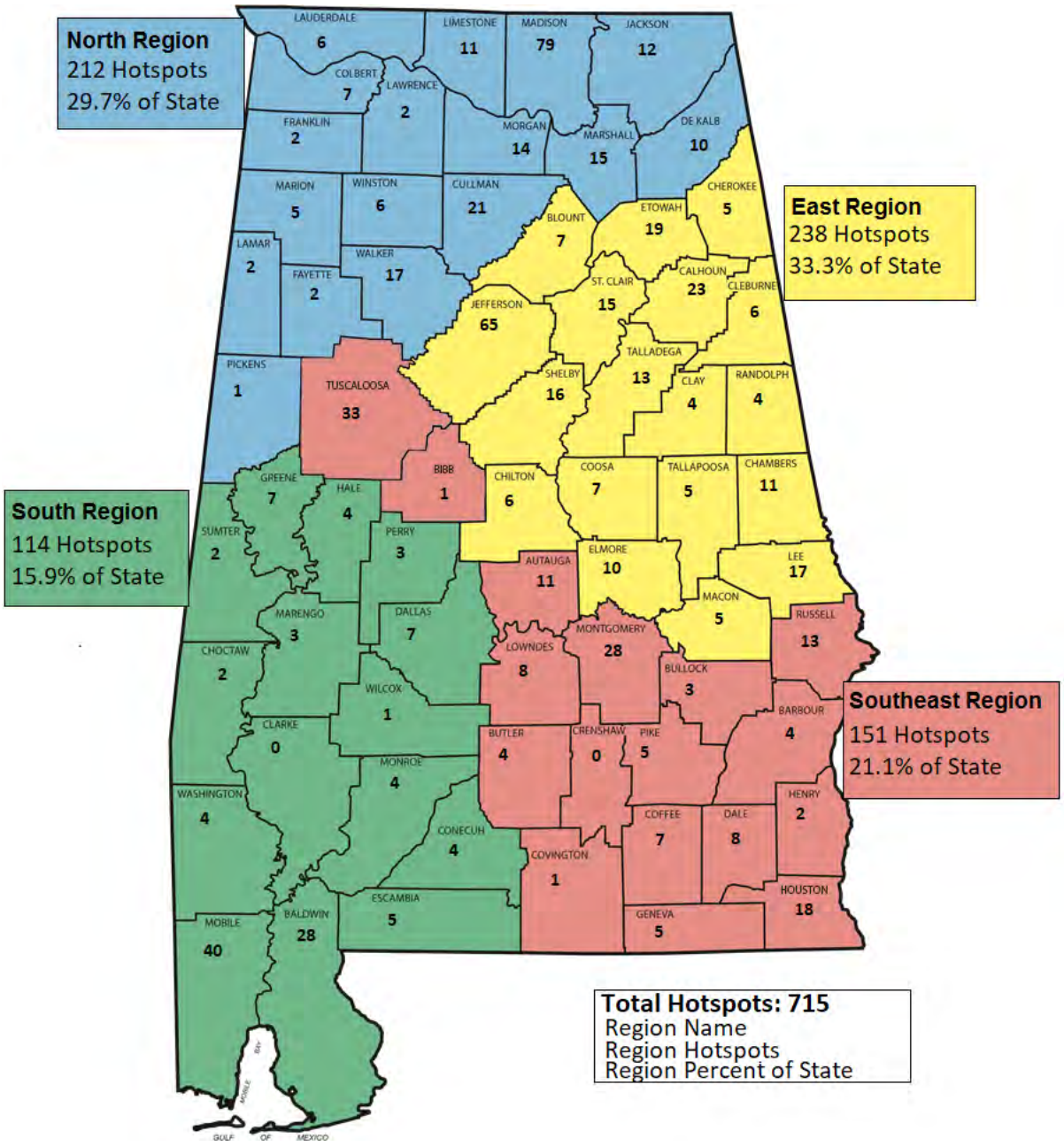
It is projected that High Visibility Enforcement projects in each of the CTSP/LEL and State Trooper Regions conducted year-round and during targeted holiday periods, when tied with a multimedia PI&E campaign will achieve the following:

- Reduce of the number and severity of the hotspots found over time.
- Increase of the number of citations by citation type issued over time. The maps below reflect the fatalities and hot spots in each CTSP area in the state.

State Map with Fatalities by Region



State Map with Hot Spots by Region



Linkage Between Program Area

As part of the Alabama Office of Highway Safety (AOHS) traffic safety planning effort, special problem identification studies are performed for the various program areas chosen. When any new issues arise, or for all countermeasures for which discretionary funds are expended, special analytical procedures are employed. The process is as follows:

- Analyze results of problem identification to set performance measure targets for the program year
- Evaluate the potential overall countermeasure strategies at a very high-level in the light of evidence-based information that is generated primarily from crash records with some supplements provided by citation records.
- Select the overall programs that will be implemented from a strategic point of view.
- Use further analytics to fine-tune the particular countermeasures that will be implemented, e.g., the specific locations for selective enforcement and determine allocation of funds.
- This analytical review includes all the countermeasures that are presented in this plan as well as the particular tactics to be applied in their implementations
- After reviewing performance goals, the AOHS then examines and selects countermeasures to help achieve the state's targets. The following outlines the strategies of countermeasures to be applied during FY 2023:
    - Community Traffic Safety Programs/Law Enforcement Liaison (CTSP/LEL) – will provide coordination for the local implementations of the statewide occupant protection program, and the CTSP/LEL Coordinators and the administrative support for their offices will be maintained.
    - The University of Alabama Center for Advanced Public Safety (UA-CAPS) will provide the information required for allocating traffic safety resources in an optimal way, and they will continue to be supported in providing AOHS with Alabama crash and traffic safety data throughout the year.
    - Conduct four local Hotspot Evidence-Based Enforcement (E-BE) projects, one within each of the CTSP/LEL regions focusing on hotspot locations.
    - Perform statewide E-BE projects in conjunction with the Alabama Law Enforcement Agency (ALEA), also focusing on hotspot locations.
    - Continue the Law Enforcement Liaison (LEL) programs statewide. Beginning in FY 2007, this program was absorbed by the regional CTSP/LEL offices and was funded through the Community Traffic Safety Projects. This funding arrangement will continue in FY 2023.
    - Participate in national and regional High Visibility Enforcement campaigns on the statewide level, paired with a corresponding mass media campaign.
- Funding allocation is determined by evaluating the threshold of resources that are required to carry out each planned activity for the duration of the project in a calculated and realistic manner.

Rationale

AOHS's problem identification process analyzes the data for crashes and determines all the demographics related to them (e.g., the who, what, where, when, how, how old, and the "why" of crashes involving non-restrained occupants). The goal is to (1) determine the most effective countermeasures that can be applied, and once these are defined, (2) identify the best tactics to be applied within each.

This starts by determining those types of crashes that were going to be targeted for occupant protection countermeasure implementation. For example, a recent study determined a very strong correlation between Restraint Deficiencies (RD) and other risky driving characteristics. In particular, DUI (alcohol and other drugs) and speed were correlated with non-use, and younger drivers 16-25 were particularly vulnerable. Young drivers are susceptible to risk taking behaviors due to the fact that the part of their brain that properly assesses risk is not fully developed until age 25. While the average seat belt use rate for all occupants has been measured above 90%, for those involved in fatal crashes the use rate was approximately 45%. (See Fatalities at http://www.safehomealabama.gov/PlansAnalysis/FARSandALFatalities.aspx)

Evidence-based enforcement (E-BE) has been determined to be one of the most effective methods for increasing restraint use in general. This requires that specific locations be identified where there were concentrations of crashes involving unrestrained occupants. Once these hotspots are defined using the Critical Analysis Reporting Environment (CARE) software, the Community Traffic Safety Program/Law Enforcement Liaison (CTSP/LEL) Coordinators across the state are given information on the hotspot locations for the state. They were also provided detailed hotspot reports specific to their region to assist them in focusing their area efforts. Using the reports and maps developed for each region, the CTSP/LEL Coordinators develop plans, including the time schedule and work assignments, for their respective regions that focuses on the hotspot locations.

Planned Activity: Community Traffic Safety Program

Planned activity number: **FP-23-FP-CP**

Primary Countermeasure Strategy ID: **High Visibility Enforcement**

Planned Activity Description

The major focus of the CTSP/LEL efforts is involved with assuring the effective execution of focused evidence-based selective enforcement on alcohol and speed hotspots. This covers three of the four basic strategies recommended in the NHTSA Countermeasures that Work document to reduce alcohol-impaired crashes and drinking and driving: (1) Deterrence: enact, publicize, enforce, and adjudicate laws prohibiting alcohol-impaired driving so that people choose not to drive impaired; (2) Prevention: reduce drinking and keep drinkers from driving; and (3) Communications and outreach: inform the public of the dangers of impaired driving and establish positive social norms that make driving while impaired unacceptable.

Intended Subrecipients

Regional CTSP/LEL Offices

Funding sources

Source Fiscal Year	Funding Source ID	Eligible Use of Funds	Estimated Funding Amount	Match Amount	Local Benefit
2021	FAST Act NHTSA 402	Community Traffic Safety Project (FAST)	$750,000.00	$187,500.00	$750,000.00

Planned Activity: Evidence-Based Traffic Safety Enforcement Program

Planned activity number: **PT-23-FP-PT**

Primary Countermeasure Strategy ID: **High Visibility Enforcement**

Planned Activity Description

To implement the State's Evidence-Based Enforcement Plan, there will be four local Selective Traffic Enforcement Program (STEP) projects during the coming year as well as one statewide STEP project. Each of these STEP projects will focus on Hotspot crashes and the problem locations that have been identified across the state. One STEP project will take place in each of the four CTSP/LEL regions and the statewide STEP project will be conducted in conjunction with the Alabama Law Enforcement Agency (ALEA). By conducting these STEP projects, additional

efforts can be focused on the reduction of impaired driving related crashes and speed related crashes. The Law Enforcement activity will be sustained for twelve (12) months. The enforcement effort is evidence-based, with the objective of preventing traffic violations, crashes, and crash fatalities and injuries in locations most at risk. The enforcement program will continuously be evaluated, and the necessary adjustment will be made.

Intended Subrecipients

The Alabama Law Enforcement Agency and Regional CTSP/LEL offices

Funding sources

Source Fiscal Year	Funding Source ID	Eligible Use of Funds	Estimated Funding Amount	Match Amount	Local Benefit
2021	FAST Act NHTSA 402	Police Traffic Services (FAST)	$4,000,000.00	$1,000,000.00	$3,200,000.00

Program Area: Traffic Records

Description of Highway Safety Problems

The AOHS undergoes a Traffic Records Assessment (TRA) every five years in order to evaluate and improve the performance of the information systems within the state. The following gives a description of the eight traffic records components, taken from the AOHS Traffic Safety Information Systems (TSIS) Strategic Plan (FY2022-FY2026). These are consistent with the seven NHTSA operational components plus an administrative component:

- *General TSIS Administrative Component* was established for the management and administration of the Traffic Records Coordinating Committee (TRCC), and to provide coordination of functions that are common to all other components (such as the administration of Quality Control). It is not intended to usurp the management authority of any of the agencies that are involved in the support or operation of the TSIS in serving its coordinating function.
- *Crash Component* includes the continued implementation, maintenance, and upgrades to eCrash. This encompasses: (1) the further integration of GIS capabilities into eCrash and CARE, (2) the generation of an updated Crash Facts Book, and (3) the development of the Automated Dashboards for Visualization Analysis and Coordinated Enforcement (ADVANCE) to produce a more effective interface to deliver CARE-generated information. A second version of eCrash is currently being developed based on the most recent MMUCC specifications, and it will be completed and released in FY2023. It will also include the availability of automated location systems, feedback as to improvements needed to make the eCrash data entry system more effective, and data quality improvements. Longer term crash data plans call for the development of a component to allow the public to report potential crash incidents, the development of a centralized (enterprise) CARE system, the completion of the advanced collision diagramming system, and the development of software that will enable the generation of hotspots based on GIS coordinates. The upgraded collisions diagramming system is called Formulated Ordering of Crashes at Intersections and Segments (FOCIS). It provides a visual summary of crashes at intersections of various types. This visual tool is valuable in providing engineers with a quick synopsis of the volume and type of crashes at any specified location.
- *Vehicle Component* plans include the development and rollout of an electronically readable vehicle registration card and a statewide distribution network that will make vehicle information immediately available to all consumers of these data in the state, including the LETS system. Other projects call for an online insurance verification system (OVIS), and the development of the data infrastructure to support crash avoidance and ultimately driverless vehicles. are anticipated in the future to address data needs regarding safety issues of autonomous vehicles (AVs). Several additional projects are specified, all of which have the commonality of transforming all of the current systems to a higher level of technology, as follow: (1) Electronic liens and titles (eTitling). The Department of Revenue is in the final

stages of the development of an eTitling system. (2) Electronic Credentialing (eCredential) program. When this project is completed, it will eliminate annual validation decal for vehicle registration. (3) Improved vehicle data system. The plan calls for a general systems analysis to be performed over the entire Vehicle data system. The results will be used to improve the description and contents of the Vehicle data system.

- *Driver Component* calls for more effective driver licensing information (including pictures) to be distributed to the field through the extremely successful Law Enforcement Tactical System (LETS) that was implemented well over a decade ago. This will require a more effective Driver History database, which will be updated automatically by eCrash and eCite, to be available to officers in the field via an upgraded new version of the Mobile Officer's Virtual Environment (MOVE) system, which is the umbrella port system that encompasses all of the mobile applications available to law enforcement. It will also entail PI&E projects that will address drivers transitioning to vehicles with advanced crash prevention systems. Additional proposed projects include: (1) Traffic safety incident (ULTRA) data availability. Comparable to the DUI driver data intake and reporting system discussed above, a system will be developed to enable officers and law enforcement agencies to obtain full access to the ULTRA system. ULTRA is a statewide initiative sponsored by ALEA for recording, summarizing, and reporting incidents before and after they arise to the status of resulting in arrests. (2) Information mining of the ULTRA data. For the maximum amount of information to be extracted from the ULTRA database, routinely updated programs need to be put in place and the resulting datasets made available to all authorized users. (3) Additional LETS upgrades for traffic safety. The Law Enforcement Tactical System (LETS) project has without question been the most successful law enforcement IT project conducted within Alabama in the past two decades. In addition to its general law enforcement functions, LETS has also been quite successfully used at DUI and safety belt enforcement check stops. (4) Additional MOVE upgrades. In addition to those mentioned above, there are several additional components that will be added to MOVE to enable officers to be more efficient in their investigation and reporting activities.
- *Roadway Component* involves a wide diversity of projects in support of the State's Interactive Highway Safety Design Manual (IHSDM), Highway Safety Manual (HSM), and Safety Analyst (SA) initiatives (IHSDM/HSM/SA). The primary focus of plans in this component is to continue to develop and populate a repository of the Model Inventory of Roadway Elements (MIRE) for both state and local routes. The plan is to continue to develop and populate a repository for both state and local routes. Over the course of this plan, the goal is to complete and validate 100% of the elements for all state routes. At the same time, a detailed plan for the population of MIRE data elements will be developed for all public routes. The plan also includes relating the MIRE data to crash data in the CARE system for analysis and consideration of roadway engineering data in the state traffic safety program. Ultimately this database will be used in the integration of roadway features into CARE, and the integration of Crash Modification Factors (CMFs) into the Cost-benefit Optimization for the Reduction of Roadway Environment Caused Tragedies (CORRECT) system using the facilities of the CMF Clearinghouse. To effectively locate crashes on the roadway, the plan is for ALDOT to complete their various GIS projects so that the results can be integrated into eCrash and used by CARE to fully employ its GIS displays capabilities.

- *Citation and Adjudication Component* includes the extension and roll out of the electronic citation to all jurisdictions, a proposed improved virtual DUI defendant intake system, a method for moving digital information directly to the field officers using available cell phones, a statewide Internet-based incident reporting network, and technological advances to make the traffic citation reporting and processing system totally paperless. Consideration and study are also being given to a comprehensive Citation and DUI Tracking System. This system will display information on the status of every citation that has been issued to date. It will be able to respond to queries to determine if any given citation is (a) still in the electronic possession of the officer; (b) submitted but not adjudicated; (c) fully adjudicated or (d) reported to the driver history record. A portal will be created, and training conducted to enable officers in the field and judicial officials to see relevant information on a given defendant so that (among other reasons) a repeat offense in another part of the state is not treated as a first offense. It will also enable law enforcement to know whether a given individual is: (1) still on probation, (2) within the court referral program, or (3) in some other alternative treatment program.
- *EMS-Medical Component* includes continued support for completion of the development of the Recording of Emergency Services Calls and Urgent-Care Environment (RESCUE) system, which will implement the National Emergency Medical Services Information System (NEMSIS) standards. Other planned projects include an ambulance stationing research project, the development of a spinal injury database, and a pilot project to reduce EMS delay time to the scene of crashes with a moving map display. This will be accomplished by the implementation of the Mobile Officers' Virtual Environment (MOVE) in EMS vehicles and the processing of trauma center and EMS run time data through CARE and ADVANCE. In addition, a project to develop the First Responder Solution Technique (FIRST) seeks to provide Law Enforcement agencies with quick, accurate, and location-aware inventory of available emergency medical assistance facilities. Also, consideration is being given to the design of a Model Inventory of Emergency Care Elements. Its goal will be to Develop and populate a repository of the Model Inventory of Emergency Care Elements (MIECE) for the State. The MIECE repository will be used to provide First Responders an inventory of emergency care resources in the occurrence of a mass casualty event.
- *Integration and Information Distribution Component* considers results produced from all the above-planned projects, and thus transcends them with the goal of integrating data and results from the six operational components above. A major effort is proposed to populate the current Safe Home Alabama web portal so that it will integrate the information generated by all agencies and present it in one unified source to the traffic safety community. An example of this is the Safety Portal that is a hub for all traffic safety and related data analytics. Considerations for maintaining and upgrading this Safety Portal are being planned. General innovations of MOVE, and the use of mobile platforms for MOVE and its applications, are also included. Integration is also necessary for the Data-Driven Approaches to Crime and Traffic Safety (DDACTS) that are now being recommended by various federal agencies. Finally, a number of ETLs will be developed that will enable the integration of crash, citation, roadway, EMS/injury and vehicle data so that analytics can be performed on these datasets to generate information that is not currently available. ETL (Extract-Translate-Load) is middleware that sits between the raw data and the information

generator (e.g., CARE) to pre-process the raw data to make it more understandable and useful to the users that are generating information.

In reviewing the above, it is very important to recognize that the plan under consideration is for the next five fiscal years (FY2022 through FY2026 inclusive). Some of the projects are underway, but others might not be started for a few years. The reason for getting them into the plan is to shape the overall strategies of all the development groups that will be involved, many of which have a large proportion of their responsibilities outside of the traffic records arena. Many things can happen over this planning horizon, and we anticipate, for example, that strides that will be made in automated vehicle (AV) development will be quite surprising perhaps eclipsing those of the past five years with exponential growth.

Countermeasure Strategies in Program Area

Countermeasure Strategy
Improves accessibility of a core highway safety database
Improves accuracy of a core highway safety database
Improves completeness of a core highway safety database
Improves timeliness of a core highway safety database
Improves uniformity of a core highway safety database

Countermeasure Strategy: Improves accessibility of a core highway safety database

Program Area: **Traffic Records**

Project Safety Impacts

The countermeasure strategy is to improve accessibility of a core highway safety database. The projects this year will improve accessibility to more than one core highway safety database. Of particular emphasis this year will be accessibility to the crash and the EMS database. The accessibility will be improved by providing this data to users on a statistical and analytics web-based portal.

Improving accessibility of the crash data to all users (including law enforcement, traffic safety professionals and even the general public) and the Emergency Medical Service data to qualified users is of utmost importance because of the usefulness of the information the portal

dashboards produce and the impact it can have on planning, both strategic long-term planning and day-to- day planning. This countermeasure will greatly complement other similar data attribute improvement countermeasures that will be targeted in these traffic records projects. All the countermeasures relate to improvements in some aspect of the data.

Linkage Between Program Area

The State's Traffic Safety Information System (TSIS) is driven by a five-year Strategic Plan, which has the objective of allocating 405c funds to provide information to allocate traffic safety countermeasure resources in the best possible way. Both transactional and analytical data are generated from the various traffic records systems modules, which have been divided functionally by NHTSA into the following modules: (1) Management and Strategic Planning, (2) Crash, (3) Vehicle, (4) Driver, (5) Roadway, (6) Citation-Adjudication, (7) Injury Surveillance and (8) Data Use and Integration. Transactional data are obtained from day-to-day operations, e.g., crash case records, citation records, EMS run records – each of these records are originated by the occurrence of some event (e.g., crash, citation, injury). The basic purpose of transactional data is to keep a record of that occurrence. Analytical data, on the other hand, is usually more concerned with aggregating transactional data to draw conclusions (produce information) that is useful in strategic planning and the operational implementation of tactical factors that improve the effectiveness of the use of available traffic safety resources.

Alabama Office of Highway Safety has recognized for decades the role that Traffic Safety Information Systems (TSIS) plays in identifying optimal countermeasure implementation. This process starts with annual problem identification efforts that have been ongoing for decades. Our objective is to first identify the subset of countermeasures that have the highest potential for crash reduction, and then to select the optimal set of countermeasures out of all proposed alternatives. It is a two-phase process starting with determining the crash types that will be addressed, and then finding the most promising countermeasures that address these crashes.

AOHS has set the following high-level goals regarding its traffic records efforts:

- To ensure that all agencies with responsibility for traffic safety have timely access and complete information needed to identify problems, select optimal countermeasures, and evaluate implemented improvements.
- To ensure that effective data are available that pinpoint and target the exact locations of speed, impaired driving and restraint-deficient hotspots for each region in the state.
- To administer the Section 405c funded projects so that the comprehensive traffic records plan developed to support those efforts is brought to fruition.
- To provide support to innovations in moving toward better use of available technologies, e.g., data entry at the point of incidents, automated uploading, and paperless operations.

- To support all efforts to move Toward Zero Deaths (TZD), including all roadway and vehicle technologies that will eventually lead to safer autonomous vehicle operations.
- The planned activities for this project will have users on a statewide basis therefore meriting the funding that is being allocated to these projects. An expansive and huge impact will result from these projects.

Rationale

The NHTSA Traffic Records Program Assessment Advisory encourages the implementation of information quality best practices and the use of NHTSA's Model Performance Measures for State Traffic Records Systems found in NHTSA document **DOT HS 811 441.** Data accessibility is one of the core performances attributes. Improved accessibility is therefore a worthy countermeasure.

Countermeasure Strategy: Improves accuracy of a core highway safety database

Program Area: **Traffic Records**

Project Safety Impacts

The countermeasure strategy is to improve accuracy of a core highway safety database. One of the projects this year is MapClick software attaining full consistency with the ALDOT linear referencing system. This project will improve accuracy in the crash database.
MapClick dramatically increases the accuracy of location coding and saves officers' time on every crash report since the map can be clicked in the officer's vehicle averting the need to find the location on a paper map. Further innovation of MapClick is essential so that officers can obtain *all* required location data (coordinates, node numbers, link numbers, road names, road codes and mileposts for all public routes) by a single click. It is essential to transition away from the traditional link/node locational system to a statewide ALDOT maintained Linear Reference System (LRS) for all roadways (whether on the state system or not).

Improving accuracy of the location components of the crash data is of extreme importance as it facilitates better analysis of the data. The location variables are some of the most important data that users want to know about the crash data. If the location data is faulty, it skews the hotspot analysis on which Alabama relies to direct enforcement efforts. This countermeasure will greatly complement other similar data attribute improvement countermeasures that will be targeted in these traffic records projects. All the countermeasures relate to improvements in some aspect of the data.

Linkage Between Program Area

The State's Traffic Safety Information System (TSIS) is driven by a five-year Strategic Plan, which has the objective of allocating 405c funds to provide information to allocate traffic safety countermeasure resources in the best possible way. Both transactional and analytical data are generated from the various traffic records systems modules, which have been divided functionally by NHTSA into the following modules: (1) Management and Strategic Planning, (2) Crash, (3) Vehicle, (4) Driver, (5) Roadway, (6) Citation-Adjudication, (7) Injury Surveillance and (8) Data Use and Integration. Transactional data are obtained from day-to-day operations, e.g., crash case records, citation records, EMS run records – each of these records are originated by the occurrence of some event (e.g., crash, citation, injury). The basic purpose of transactional data is to keep a record of that occurrence.

Analytical data, on the other hand, is usually more concerned with aggregating transactional data in order to draw conclusions (produce information) that is useful in strategic planning and the operational implementation of tactical factors that improve the effectiveness of the use of available traffic safety resources. Alabama Office of Highway Safety has recognized for decades the role that Traffic Safety Information Systems (TSIS) plays in identifying optimal countermeasure implementation. This process starts with annual problem identification efforts that have been ongoing for decades. Our objective is to first identify the subset of countermeasures that have the highest potential for maximum gain, and then to select the optimal set of countermeasures out of all proposed alternatives. It is a two-phase process starting with determining the crash types that will be addressed, and then finding the most promising countermeasures that address these crashes.

AOHS has set the following high-level goals regarding its traffic records efforts:

- To ensure that all agencies with responsibility for traffic safety have timely access and complete information needed to identify problems, select optimal countermeasures, and evaluate implemented improvements.
- To ensure that effective data are available that pinpoint and target the exact locations of speed, impaired driving and restraint-deficient hotspots for each region in the state.
- To administer the Section 405c funded projects so that the comprehensive traffic records plan developed to support those efforts is brought to fruition.
- To provide support to innovations in moving toward better use of available technologies, e.g., data entry at the point of incidents, automated uploading, and paperless operations.
- To support all efforts to move Toward Zero Deaths (TZD), including all roadway and vehicle technologies that will eventually lead to safer autonomous vehicle operations.
- The planned activities for this project will have users on a statewide basis therefore justifying the funding that is being allocated to these projects. Not only will law

enforcement users benefit from this project, but all data users will benefit with the improved accuracy of the data.

Rationale

The NHTSA Traffic Records Program Assessment Advisory encourages the implementation of information quality best practices and the use of NHTSA's Model Performance Measures for State Traffic Records Systems found in NHTSA document **DOT HS 811 441.** Data accuracy is one of the core performance attributes. Improved accuracy is therefore a worthy countermeasure.

Countermeasure Strategy: Improves completeness of a core highway safety database

Program Area: **Traffic Records**

Project Safety Impacts

The crash countermeasure strategy of the TSIS is to complete the development and processing of a comprehensive core highway safety database. The projects this year will improve completeness to more than one core highway safety database. A particular emphasis will be on the further development in the crash and the EMS databases. Completeness will be improved as the MMUCC 5 version of eCrash is developed and as more agencies start using the NEMSIS 3.4 compliant RESCUE, which is the electronic patient care report for EMS runs. Improving completeness in the crash and the EMS data is extremely useful and essential as UA-CAPS analyzes the data and provide this information to state agency partners and others so the most accurate possible information is provided to all decision makers.

This countermeasure will greatly complement other similar data attribute improvement countermeasures that will be targeted in these traffic records projects. All the countermeasures relate to improvements in some aspect either the data content or its processing.

Linkage Between Program Area

The State's Traffic Safety Information System (TSIS) is driven by a five-year Strategic Plan, which has the objective of allocating 405c funds to provide information to allocate traffic safety countermeasure resources in the best possible way. Both transactional and analytical data are generated from the various traffic records systems modules, which have been divided functionally by NHTSA into the following modules: (1) Management and Strategic Planning, (2) Crash, (3) Vehicle, (4) Driver, (5) Roadway, (6) Citation-Adjudication, (7) Injury Surveillance and (8) Data Use and Integration. Transactional data are obtained from day-to-day operations, e.g., crash case records, citation records, EMS run records – each of these records are originated by

the occurrence of some event (e.g., crash, citation, injury). The basic purpose of transactional data is to keep a record of that occurrence. Analytical data, on the other hand, is usually more concerned with aggregating transactional data in order to draw conclusions (produce information) that is useful in strategic planning and the operational implementation of tactical factors that improve the effectiveness of the use of available traffic safety resources.

Alabama Office of Highway Safety has recognized for decades the role that Traffic Safety Information Systems (TSIS) plays in identifying optimal countermeasure implementation. This process starts with annual problem identification efforts that have been ongoing for decades. Our objective is to first identify the subset of countermeasures that have the highest potential for crash reduction, and then to select the optimal set of countermeasures out of all proposed alternatives. It is a two-phase process starting with determining the crash types that will be addressed, and then finding the most promising countermeasures that address these crashes.

AOHS has set the following high-level goals regarding its traffic records efforts:

- To ensure that all agencies with responsibility for traffic safety have timely access and complete information needed to identify problems, select optimal countermeasures, and evaluate implemented improvements.
- To ensure that effective data are available that pinpoint and target the exact locations of speed, impaired driving and restraint-deficient hotspots for each region in the state.
- To administer the Section 405c funded projects so that the comprehensive traffic records plan developed to support those efforts is brought to fruition.
- To provide support to innovations in moving toward better use of available technologies, e.g., data entry at the point of incidents, automated uploading, and paperless operations.
- To support all efforts to move Toward Zero Deaths (TZD), including all roadway and vehicle technologies that will eventually lead to safer autonomous vehicle operations.
- The planned activities for this project will have users on a statewide basis therefore meriting the funding that is being allocated to these projects. Since the projects are this extensive, huge impact will result from these projects.

Rationale

The NHTSA Traffic Records Program Assessment Advisory encourages the implementation of information quality best practices and the use of NHTSA's Model Performance Measures for State Traffic Records Systems found in NHTSA document **DOT HS 811 441.** Data completeness is one of the core performance attributes. Improved completeness is therefore a worthy countermeasure.

Countermeasure Strategy: Improves timeliness of a core highway safety database

Program Area: **Traffic Records**

Project Safety Impacts

The countermeasure strategy is to improve timeliness of a core highway safety database. One of the projects this year will improve timeliness to the EMS database. The development of the Recording of Emergency Services Calls and Urgent-Care Environment (RESCUE) data entry system for the Electronic Patient Care Report (ePCR – also known as ambulance run reports) has been quite successful. As Alabama continues to expand the user base through the RESCUE project this year, the timeliness of the state EMS database will improve.

Improving timeliness of the EMS data for Alabama is very helpful as it facilitates better analysis of the data. In addition, the data can be transferred to the federal database in a timelier manner. This countermeasure will greatly complement other similar data attribute improvement countermeasures that will be targeted in these traffic records projects. All the countermeasures relate to improvements in some aspect of the data.

Linkage Between Program Area

The State's Traffic Safety Information System (TSIS) is driven by a five-year Strategic Plan, which has the objective of allocating 405c funds to provide information to allocate traffic safety countermeasure resources in the best possible way. Both transactional and analytical data are generated from the various traffic records systems modules, which have been divided functionally by NHTSA into the following modules: (1) Management and Strategic Planning, (2) Crash, (3) Vehicle, (4) Driver, (5) Roadway, (6) Citation-Adjudication, (7) Injury Surveillance and (8) Data Use and Integration. Transactional data are obtained from day-to-day operations, e.g., crash case records, citation records, EMS run records – each of these records are originated by the occurrence of some event (e.g., crash, citation, injury). The basic purpose of transactional data is to keep a record of that occurrence. Analytical data, on the other hand, is usually more concerned with aggregating transactional data to draw conclusions (produce information) that is useful in strategic planning and the operational implementation of tactical factors that improve the effectiveness of the use of available traffic safety resources.

Alabama Office of Highway Safety has recognized for decades the role that Traffic Safety Information Systems (TSIS) plays in identifying optimal countermeasure implementation. This process starts with annual problem identification efforts. Our objective is to first identify the subset of countermeasures that have the highest potential for maximum gain, and then to select the optimal set of countermeasures out of all proposed alternatives.

AOHS has set the following high-level goals regarding its traffic records efforts:

- To ensure that all agencies with responsibility for traffic safety have timely access and complete information needed to identify problems, select optimal countermeasures, and evaluate implemented improvements.
- To ensure that effective data are available that pinpoint and target the exact locations of speed, impaired driving, and restraint-deficient hotspots for each region in the state.
- To administer the Section 405c funded projects so that the comprehensive traffic records plan developed to support those efforts is brought to fruition.
- To provide support to innovations in moving toward better use of available technologies, e.g., data entry at the point of incidents, automated uploading, and paperless operations.
- To support all efforts to move Toward Zero Deaths (TZD), including all roadway and vehicle technologies that will eventually lead to safer autonomous vehicle operations.
- The planned activities for this project will have users on a statewide basis therefore deserving the funding that is being allocated to this project. Not only will the state of Alabama benefit from this project but the federal reporting agency will benefit with the improved timeliness of the NEMSIS data.

Rationale

The NHTSA Traffic Records Program Assessment Advisory encourages the implementation of information quality best practices and the use of NHTSA's Model Performance Measures for State Traffic Records Systems found in NHTSA document **DOT HS 811 441.** Data timeliness is one of the core performance attributes. Improved timeliness is therefore a worthy countermeasure.

Countermeasure Strategy: Improves uniformity of a core highway safety database

Program Area: **Traffic Records**

Project Safety Impacts

The countermeasure strategy is to improve uniformity of a core highway safety database. The projects this year will improve uniformity to more than one core highway safety database. The uniformity of the crash data will be improved as UA-CAPS works to develop the MMUCC 5 version of eCrash. The uniformity of the location data will be improved as MapClick becomes fully consistent with the ALDOT linear referencing system. This location data will affect both crash and citation database as MapClick is used to populate eCrash and eCite. The uniformity of EMS data will improve as more agencies start using the NEMSIS 3.4 compliant RESCUE, which is the electronic patient care report for EMS runs.

Improving uniformity of the crash, citation and the EMS data is of utmost importance as it facilitates better analysis of the data. Improving uniformity to these two national data standards makes the Alabama data easier to compare to other states to see how we rank nationally and how traffic safety issues are trending. This countermeasure will greatly complement other similar data attribute improvement countermeasures that will be targeted in these traffic records projects. All of the countermeasures relate to improvements in some aspect of the data.

Linkage Between Program Area

The State's Traffic Safety Information System (TSIS) is driven by a five-year Strategic Plan, which has the objective of allocating 405c funds to provide information to allocate traffic safety countermeasure resources in the best possible way. Both transactional and analytical data are generated from the various traffic records systems modules, which have been divided functionally by NHTSA into the following modules: (1) Management and Strategic Planning, (2) Crash, (3) Vehicle, (4) Driver, (5) Roadway, (6) Citation-Adjudication, (7) Injury Surveillance and (8) Data Use and Integration. Transactional data are obtained from day-to-day operations, e.g., crash case records, citation records, EMS run records – each of these records are originated by the occurrence of some event (e.g., crash, citation, injury). The basic purpose of transactional data is to keep a record of that occurrence. Analytical data, on the other hand, is usually more concerned with aggregating transactional data to draw conclusions (produce information) that is useful in strategic planning and the operational implementation of tactical factors that improve the effectiveness of the use of available traffic safety resources.

Alabama Office of Highway Safety has recognized for decades the role that Traffic Safety Information Systems (TSIS) plays in identifying optimal countermeasure implementation. This process starts with annual problem identification efforts. Our objective is to first identify the subset of countermeasures that have the highest potential for maximum gain, and then to select the optimal set of countermeasures out of all proposed alternatives. It is a two-phase process starting with determining the crash types that will be addressed, and then finding the most promising countermeasures that address these crashes.

AOHS has set the following high-level goals regarding its traffic records efforts:

- To ensure that all agencies with responsibility for traffic safety have timely access and complete information needed to identify problems, select optimal countermeasures, and evaluate implemented improvements.
- To ensure that effective data are available that pinpoint and target the exact locations of speed, impaired driving, and restraint-deficient hotspots for each region in the state.
- To administer the Section 405c funded projects so that the comprehensive traffic records plan developed to support those efforts is brought to fruition.
- To provide support to innovations in moving toward better use of available technologies, e.g., data entry at the point of incidents, automated uploading, and paperless operations.
- To support all efforts to move Toward Zero Deaths (TZD), including all roadway and vehicle technologies that will eventually lead to safer autonomous vehicle operations.
  The planned activities for these projects will have users on a statewide basis therefore deserving the funding that is being allocated to these projects. Since these projects are so widespread, immense impact will result from them.

Rationale

The NHTSA Traffic Records Program Assessment Advisory encourages the implementation of information quality best practices and the use of NHTSA's Model Performance Measures for State Traffic Records Systems found in NHTSA document **DOT HS 811 441.** Data uniformity is one of the core performance attributes. Improved uniformity is therefore a worthy countermeasure.

Planned Activity: Traffic Safety Information Systems

Planned activity number: **23-TF-TR-001**

Primary Countermeasure Strategy ID: **Improves completeness of a core highway safety database**

Planned Activity Description

The University of Alabama Center for Advanced Public Safety (CAPS) will continue to improve traffic safety by advancing data and statistical analysis tools. CAPS will continue to support data information requests, assist in the development of the State's Highway Safety Plan, and continue to spread eCite and other CAPS developed software to law enforcement agencies throughout the state, maintain CAPS-developed software systems, coordinate the phone surveys concerning the Drive Sober campaign and the NHTSA survey on driver attitudes and some other traffic safety outreach efforts, maintain the SafeHomeAlabama.gov website with comprehensive traffic safety information, support the OHS with respect to the Traffic Records Coordinating Committee, other committees, the Traffic Records Assessment that is due this year, and reports as needed.

Intended Subrecipients

University of Alabama

Funding sources

Source Fiscal Year	Funding Source ID	Eligible Use of Funds	Estimated Funding Amount	Match Amount	Local Benefit
2023	Other		$1,100,000.00		

Planned Activity: Traffic Safety Records Improvement Program

Planned activity number: **M3DA-23-TR-M3**

Primary Countermeasure Strategy ID: **Improves completeness of a core highway safety database**

Planned Activity Description

The University of Alabama Center for Advanced Public Safety (CAPS) is seeking to continue to improve traffic safety through software development projects using innovative technologies. The technology development projects this year will include testing and preparing to deploy the new MMUCC 5 version of eCrash; continuing RESCUE projects including beginning work on the certification module; upgrading the ADVANCE analytics portal; design planning for a new version of MOVE and eCite and deploying the new full eGIS version of MapClick. These systems improve data quality, timeliness, and completeness. These systems also improve efficiency of officers and EMS personnel.

Intended Subrecipients

University of Alabama

Funding sources

Source Fiscal Year	Funding Source ID	Eligible Use of Funds	Estimated Funding Amount	Match Amount	Local Benefit
2021	FAST Act 405c Data Program	405c Data Program (FAST)	$550,000.00	$137,500.00	
2022	Bipartisan Infrastructure Law	405c Data Program (BIL)	$205,000.00	$51,250.00	

Planned Activity: Electronic Patient Care Reports Program

Planned activity number: **M3DA-23-HC-M3**

Primary Countermeasure Strategy ID: **Improves accuracy of a core highway safety database**

Planned Activity Description

The NHTSA Traffic Records Program Assessment Advisory encourages the implementation of information quality best practices and the use of NHTSA's Model Performance Measures for State Traffic Records Systems found in NHTSA document **DOT HS 811 441.** Data timeliness is one of the core performance attributes. Improved timeliness is therefore a worthy countermeasure

Intended Subrecipients

Alabama Department of Public Health

Funding sources

Source Fiscal Year	Funding Source ID	Eligible Use of Funds	Estimated Funding Amount	Match Amount	Local Benefit
2022	BIL 405c Data Program	405c Data Program	$60,000.00	$15,000.00	

Evidence-based traffic safety enforcement program (TSEP)

Planned activities that collectively constitute an evidence-based traffic safety enforcement program (TSEP):

Unique Identifier	Planned Activity Name
M1HVE-23-OP-M1	Click It or Ticket High Visibility Enforcement Campaign
M1PEM-23-OP-M1	Click It or Ticket Paid Media Campaign
M5HVE-23-DS-M5	Drive Sober or Get Pulled Over High Visibility Enforcement Campaign
PT-23-FP-PT	Evidence-Based Traffic Safety Enforcement Program
M5HVE-23-ID-M5	Impaired Driving - High Visibility Enforcement Campaign
M5PEM-23-ID-M5	Impaired Driving- Paid Media Campaign

Analysis of crashes, crash fatalities, and injuries in areas of highest risk.

Crash Analysis

Beginning in 2010, it was determined that a tool should be established to enable decision-makers to view the state's traffic safety issues at the highest possible level. This tool was named "Table 1" and it appears below. It was reasoned that, all other things being equal, traffic safety resource allocations should go to address those issues that cause the greatest number of fatalities. While this is a good default position to start from, all other things are rarely equal, and optimal resource allocations must also take into account the cost of the countermeasures being considered and the proportion of the crashes that can reasonably be reduced by any given countermeasure. Thus, an item with a lower number of fatalities could become optimal to address if a lower cost countermeasure would reduce a larger number of its crashes.

The eCrash system that went into effect June 1, 2009 creates data that meets most of the Model Minimum Uniform Crash Criteria (MMUCC). It provides data that are much timelier, since in many cases these reports are available the same day as the crash. Careful work was done to ensure that no variables or codes that could indicate a particular crash category of Table 1 were missed, and that the search criteria captured all the crashes for each of the particular categories for this evidence-based analysis.

There are no limitations on the various subjects that may be added for consideration in Table 1, and all SHSP participants are encouraged to add any categories that they feel are appropriate. Distracted Driving (DD) was added most recently for the FY 2018 HSP. The category with the highest number of fatal crashes is listed at the top of Table 1, descending to the crash type

category with the lowest number of fatal crashes listed last. The number and percent of crashes by severity are listed for each category (see footnote for the exception of "restraint deficient"). This enables an easy comparison between the various crash types. It is important to realize that the categories of Table 1 are not mutually exclusive. However, since this is true in all of the categories, these numbers serve to give the relative criticality of the particular categories that most often are the targets for funding or other resource allocations.

Table 1. Top Fatality Causes Alabama CY2021 Data

	Crash Type (Causal Driver)	Fatal Number	Fatal %	Injuries	Injury %	PDO No.	PDO %	Total
1	Belt Restraint Fault*	541	6.24%	4,476	51.62%	3,654	42.14%	8,671
2	Speed Involved	199	2.16%	2,785	30.29%	6,209	67.54%	9,193
3	ID/DUI All Substances	180	3.17%	1,953	34.40%	3,544	62.43%	5,677
4	Hit Roadside Obstacle	126	2.15%	1785	30.46%	3949	67.39%	5,860
5	Pedestrian Involved	126	17.14%	575	78.23%	34	4.63%	735
6	Wrong Way Items	113	3.19%	805	22.73%	2,623	74.08%	3,541
7	Large Truck Involved	112	1.17%	1,701	17.80%	7,741	81.02%	9,554
8	Fail to Yield-Ran (All)	111	0.38%	8,040	27.41%	21,184	72.21%	29,335
9	License Defect Causal	101	1.39%	2,127	29.22%	5,052	69.40%	7,280
10	Youth (16-20) Causal	82	0.38%	4,351	20.08%	17,233	79.54%	21,666
11	Mature (65 or Older)	81	0.61%	2,666	19.94%	10,621	79.45%	13,368
12	Motorcycle Involved	72	4.57%	1,044	66.33%	458	29.10%	1,574
13	Aggressive Operation	70	2.46%	792	27.89%	1,978	69.65%	2,840
14	Distracted Driving	45	0.33%	2,803	20.55%	10,794	79.12%	13,642
15	Drowsy Driving	33	0.97%	1,201	35.22%	2,176	63.81%	3,410
16	Vehicle Defects – All	29	0.64%	923	20.28%	3,600	79.09%	4,552
17	Utility Pole	26	1.03%	799	31.76%	1,691	67.21%	2,516
18	Child Restraint Fault*	22	0.85%	717	27.80%	1,840	71.35%	2,579
19	Work Zone Related	17	0.73%	420	18.07%	1,887	81.20%	2,324
20	Vision Obscured	12	0.97%	289	23.31%	939	75.73%	1,240
21	Bicycle	7	3.15%	174	78.38%	41	18.47%	222
22	Railroad Trains	6	9.84%	18	29.51%	37	60.66%	61
23	Roadway Defects – All	2	1.77%	22	19.47%	89	78.76%	113
24	School Bus Involved	1	0.18%	71	12.96%	476	86.86%	548

The comparison of gross fatality and injury counts is merely a first step in the analytical process to find optimal allocations of resources among programs. Obtaining this first-cut perspective is essential for intelligent decision-making. Once the high-level decisions are made regarding which of the crash types will be addressed, further analyses must be performed to define countermeasures and improve their implementation. The severity classification in Table 1 also helps in this regard. For example, it might be noticed that the relative severity percentage of pedestrian, bicycle, motorcycle, and railroad crashes are significantly higher than the other categories, as is true for the top three categories as well. This is an important aspect to be considered when the goal is reducing deaths.

Deployment of Resources

The effective allocation of resources will lead to an increased reduction in the number of hotspots within the next year on both a statewide level and within each individual region. That is, given that the total number of crashes remains relatively stable, the concentration of efforts at the hotspots will reduce crashes at those locations so that they may no longer be a defined as hotspots in the following year. Ideally, it would be the goal to eliminate hotspots defined by the previous year's criteria altogether. With this goal in mind, funding is determined for each region based on the percentage of hotspots in that region. There is also a consideration of the percentage of alcohol, restraint, and speed crash issues that are present within each region. Federal funds distributed by the AOHS are used to focus completely on the high crash areas within each region.

Law enforcement agencies use saturation patrols, line patrols, checkpoints, and regular patrol in order for the E-BE projects to be effective. The enforcement activities and techniques that are used include:

- Conduct four local hotspot Evidence-Based Enforcement (E-BE) projects, one within each of the CTSP regions.
- Conduct a statewide E-BE project in conjunction with the Alabama Law Enforcement Agency (ALEA).
- Continue to require the CTSP Coordinators to conduct selective enforcement efforts that focus their plans on hotspot locations identified by the data analyses provided for their respective regions.
- Participate in the national "Click It or Ticket" Campaign on the statewide level.
- Conduct a statewide "Drive Sober or Get Pulled Over" Campaign in conjunction with the national campaign.
- Conduct sustained E-BE for impaired driving, speeding, and seat belts throughout the year.

The enforcement efforts are accompanied by a PI&E campaign that incorporate advertising, bonus spots, website links, and support of government agencies, local coalitions and school officials in an effort that will impact restraint usage. This part of the campaign consists of:

- Development of marketing approach based on Nielsen and Arbitron ratings and targeted primarily towards the 18-34 male age group.
- Placement of paid ads on broadcast television, cable television, digital ads, and radio in addition to public service spots. Paid advertising will be placed primarily in the five largest media markets.
- Management of public relations efforts including press releases and special media events to stimulate media coverage and alert the public to the campaign.
- In addition to the paid and free media, the AOHS website will have updated information including ads, articles and other information pertaining to the seat belt campaigns.
- Each CTSP/LEL Coordinator will be responsible for generating sustained earned media in their area of the state throughout the year. The CTSP/LEL Coordinators are also responsible for developing press releases and conducting press events that are specifically targeted to their regions.

Effectiveness Monitoring

AOHS monitors subrecipient activity reports quarterly to determine if adjustments are needed for their plans. When activity reports are received, they are assessed against program goals and expectations. This results in programs being continuously evaluated and the necessary adjustments being made. Follow-up is conducted with agencies to address any lack of performance issues or activities. Adjustments are made to the HSP annually based on the problem identification

High-visibility enforcement (HVE) strategies

Planned HVE strategies to support national mobilizations:

Countermeasure Strategy
High Visibility Enforcement
Short-term, High Visibility Seat Belt Law Enforcement

HVE planned activities that demonstrate the State's support and participation in the National HVE mobilizations to reduce alcohol-impaired or drug impaired operation of motor vehicles and increase use of seat belts by occupants of motor vehicles:

Unique Identifier	Planned Activity Name
M1HVE-23-OP-M1	Click It or Ticket High Visibility Enforcement Campaign
M5HVE-23-DS-M5	Drive Sober or Get Pulled Over High Visibility Enforcement Campaign
M5HVE-23-ID-M5	Impaired Driving - High Visibility Enforcement Campaign
PT-23-FP-PT	Evidence-Based Traffic Safety Enforcement Program

405(b) Occupant Protection Grant

Occupant protection plan

State occupant protection program area plan that identifies the safety problems to be addressed, performance measures and targets, and the countermeasure strategies and planned activities the State will implement to address those problems:

Program Area Name
Occupant Protection (Adult and Child Passenger Safety)

	PERFORMANCE PLAN CHART – 2023 Highway Safety Plan		2016	2017	2018	2019	2020
C-1	Traffic Fatalities	FARS Annual	1083	948	953	930	934
	Cap the increase of total fatalities to 1,000 (2019 - 2023 rolling average) by 2023	5-Year Rolling Avg.	894	911	931	953	970
C-2	Serious Injuries in Traffic Crashes	State Annual	8152	7484	7005	5103	5103
	Reduce serious traffic injuries to 6,500 (2019 – 2023 rolling average) by 2023	5-Year Rolling Avg.	8542	8185	7873	7300	7300
C-3	Fatalities/100M VMT	FARS Annual	1.56	1.34	1.34	1.30	1.38
	Cap the increase of fatalities/100 MVMT to 1.42 (2019 -2023 rolling average) by 2023.	5-Year Rolling Avg.	1.35	1.35	1.35	1.36	1.38
C-4	Unrestrained Passenger Vehicle Occupant Fatalities, All Seat Positions	FARS Annual	423	398	354	352	384
	Reduce unrestrained passenger vehicle occupant fatalities, all seat positions 3.45 percent from 382 (2016-2020 rolling average) to 369 (2019 – 2023 rolling average) by 2023.	5-Year Rolling Avg.	370	379	376	376	382

Participation in Click-it-or-Ticket (CIOT) national mobilization

Agencies planning to participate in CIOT:

ABBEVILLE POLICE DEPT	BALDWIN CO SHERIFFS DEPT	COFFEEVILLE POLICE DEPT	ELBERTA POLICE DEPT	GEORGIANA POLICE DEPT	HEFLIN POLICE DEPT	LAKE VIEW POLICE DEPT	MONTGOMERY CO SHERIFFS DEPT	REPTON POLICE DEPT	ST FLORIAN POLICE DEPT
Alabama Law Enforcement Agency	BAYOU LA BATRE POLICE DEPT	COLUMBIAN A POLICE DEPT	ENTERPRISE POLICE DEPT	GLENCOE POLICE DEPT	HENRY CO SHERIFFS DEPT	LINDEN POLICE DEPT	MONTGOMERY PD COMMUNICATIONS	ROGERSVILLE POLICE DEPT	TARRANT POLICE DEPT
ALEXANDER CITY POLICE DEPT 911	BESSEMER POLICE DEPT	COVINGTON CO SHERIFFS DEPT	ESCAMBIA CO SHERIFFS DEPT	GREENE CO SHERIFFS DEPT	HILLSBORO POLICE DEPT	LITTLEVILLE POLICE DEPT	MORGAN COUNTY SHERIFF OFFICE	RUSSELL CO SHERIFFS DEPT	THOMASVILLE POLICE DEPT
ANDALUSIA POLICE DEPT	BIRMINGHAM POLICE DEPT	CRENSHAW CO SHERIFFS DEPT	EXCEL POLICE DEPT	GROVE HILL POLICE DEPT	HOUSTON CO SHERIFFS DEPT	LUVERNE POLICE DEPT	MOULTON POLICE DEPT	RUSSELLVILLE POLICE DEPT	TOWN CREEK POLICE DEPT
ARDMORE POLICE DEPT	CALERA POLICE DEPT	CULLMAN POLICE DEPT	FALKVILLE POLICE DEPT	GUIN POLICE DEPT	HUEYTOWN POLICE DEPT	MACON CO SHERIFFS DEPT	MUSCLE SHOALS POLICE DEPT	SARALAND POLICE DEPT	TRINITY POLICE DEPT
ASHFORD POLICE DEPT	CAMDEN POLICE DEPT	DALEVILLE POLICE DEPT	FLOMATON POLICE DEPT	GURLEY POLICE DEPT	HUNTSVILLE POLICE DEPT	MADISON CO SHERIFFS DEPT	NORTHPORT POLICE DEPT	SECTION POLICE DEPT	TROY POLICE DEPT
ASHLAND POLICE DEPT	CENTREVILLE POLICE DEPT	DECATUR POLICE DEPT	FLORALA POLICE DEPT	HALEYVILLE POLICE DEPT	JACKSON CO SHERIFFS DEPT	MOBILE CO SHERIFFS DEPT	OPP POLICEDEPT	SLOCOMB POLICE DEPT	TUSCALOOSA CO SHERIFFS DEPT
ASHVILLE POLICE DEPT	CHICKASAW POLICE DEPT	DEMOPOLIS PD (MARENGO CO E911)	FLORENCE POLICE DEPT	HAMILTON POLICE DEPT	JACKSON POLICE DEPT	MOBILE PD	OZARK POLICE DEPT	SOUTHSIDE POLICE DEPT	WALKER CO SHERIFFS DEPT
ATHENS POLICE DEPT	CHILTON CO SHERIFFS DEPT	DOTHAN POLICE DEPT	FOLEY POLICE DEPT	HARTFORD POLICE DEPT	JEMISON POLICE DEPT	MONROE CO SHERIFFS DEPT	PRATTVILLE POLICE DEPT E911	SPRINGVILLE POLICE DEPT	
AUTAUGA CO SHERIFFS OFFICE	COFFEE CO SHERIFFS DEPT	ELBA POLICE DEPT	GENEVA POLICE DEPT	HEADLAND POLICE DEPT	KILLEN POLICE DEPT	MONTEVALLO POLICE DEPT	RAINBOW CITY POLICE DEPT	ST CLAIR COUNTY SHERIFF OFFICE	

ALABAMA - Planned Participation in Click-it-or-Ticket Mobilization

Alabama continues to steadily focus on its seat belt and child restraint use rates after experiencing a major improvement upon passing its Primary Seat Belt Law in 1999. As part of the cooperative process with NHTSA, an Evidence-Based Enforcement (E-BE) project called "Click It or Ticket" (CIOT) is run on an annual basis in April, May, and June of each year (see schedule below). As part of the nationwide initiative coordinated by NHTSA to increase seat belt usage, the State will conduct an aggressive "Click It or Ticket" (CIOT) campaign.

In addition to and complementary with a paid media campaign, a statewide CIOT High Visibility Enforcement campaign will be conducted for a two-week period. The enforcement program will involve members from the Municipal Law Enforcement Agencies, County Sheriffs and State Highway Patrol (Alabama Law Enforcement Agency). Further upkeep of the CIOT effort will be supported by conducting surveys, performing analyses, and verifying certification. As part of this effort:

- The University of Alabama Center for Advanced Public Safety (UA-CAPS) will conduct pre and post surveys for seat belt programs and evaluate several types of survey data regarding seat belt and child restraint usage rates as part of the CIOT campaign.
- The program will consist of waves of surveys, enforcement, and media blitzes, carefully scheduled to maximize public understanding of restraint use.
- UA-CAPS' role will be to: (1) receive and scientifically analyze data obtained (2) collect reports on the other components of the project (3) obtain signed certification page and (4) produce a comprehensive final report covering all aspects of the campaign.
- The evidence-based enforcement part of the CIOT program will involve multiple agencies and organizations that will participate under the leadership of AOHS.
- Waves of public education and enforcement will be conducted, working toward the single goal of increasing proper restraint use for both children and adults to improve highway safety.

Dates and Activities

· Weeks 1-2: (April 24-May 8) (Baseline)*	Statewide Observational Survey
· Weeks 3-8:(May 8-June 15)	Earned Media for CIOT
· Weeks 4-6 (May 15- June 4)	Paid media for CIOT
· Weeks 5-6 (May 22-June 4)	Enforcement for CIOT
· Weeks 3-8 (May 8- June 16) Telephone Surveys*	Statewide Observational and

*Activities that involve data collection and analysis

Media Plan for CIOT

The "Click it or Ticket" statewide multimedia campaign will be aimed at increasing seat belt usage on Alabama's highways in the most effective ways. The campaign will incorporate advertising, bonus spots, website links, and support of government agencies, local coalitions and school officials in an effort that will impact restraint usage.

The campaign will consist of:

- Development of the "Click It or Ticket" marketing approach based on Nielsen and Arbitron ratings and targeted primarily towards the 18-34 male age group.
- Placement of paid "Click It or Ticket" ads on broadcast television, cable television, and radio in addition to public service spots. Paid advertising will be placed primarily in the five largest media markets.
- Management of public relations efforts including press releases and special media events to stimulate media coverage and alert the public to the "Click It or Ticket" campaign.
- In addition to the paid and free media, the Office of Highway Safety website will have updated information including ads, articles and other information pertaining to the seat belt campaigns.
- Each CTSP/LEL Coordinator will be responsible for generating sustained earned media in their area of the state throughout the year. The CTSP/LEL Coordinators are also responsible for developing press releases and conducting press events that are specifically targeted to their regions.

The CIOT Media Campaign will include placement of approved, paid CIOT programming on broadcast and cable TV, and radio spots during the appropriate time frame, and negotiations will be conducted to maximize the earned (free) media as well. These media efforts, including commercials, will supplement law enforcement agencies statewide as they conduct a zero-tolerance enforcement of seat belt laws. Further, electronic billboards, digital music streaming websites and other platforms will be employed to reach the target audiences aimed at yielding increases in seat belt and child restraint use. The following summarizes the anticipated paid media campaign that will be performed:

- Broadcast Television -The broadcast television buys will focus on programming in prime times: early morning (M-F, 7A-9A) and evenings (M-F, 5P-Midnight). Selected weekend day parts, especially sporting events, will also be approved if the media programming would appeal to the target group.
- Cable Television- The large number of cable networks in Alabama can be effective in building frequency for the male 18-34 target market. The buys will focus on the following day parts: early morning (M-F, 7A-9A) and evenings (M-F, 5P-Midnight) with selected weekend day parts, especially sporting events. Paid scheduling will be placed for networks

that cater to males in our target, such as CNBC, ESPN, Fox News and Fox Sports, CNN, etc. Radio The campaign will target that same key at-risk group, 18–34-year-olds, particularly males. The buy will focus on the following day parts: morning drive (M-F, 7A- 9A), midday (M-F, 11A-1P), afternoon (M-F, 4P-7P), evenings (M-F, 7P-Midnight). Selected weekend day parts will be considered as well.

- Out of Home- Electronic billboards will be leased in major markets where space is available. Several designs will be tagged for Alabama's use to correspond to and reinforce the video commercial. Lamar, Link and Beam electronic billboards were designed and placed in the twenty-six (26) major media market sites providing coverage in Birmingham, Mobile, Montgomery/Wetumpka, Huntsville, and Auburn/Opelika. Digital Media:
- Digital media is a rapidly evolving platform in media consumption. For the CIOT campaign, ads will be placed in a variety of digital sites such as Facebook, YouTube, and Bleacher Report; ads are also planned for placement on streaming services such as Pandora and Spotify.

CIOT Evaluation

This project will be conducted using methods and procedures approved by NHTSA. The Alabama Observational Survey Plan for Occupant Restraint Use is now based on fatality rates rather than population as was done previously. The Alabama Transportation Institute (ATI) at The University of Alabama will manage the process for the observational surveys, phone survey evaluation of the media campaign, and be involved in evaluation and report generation portions of the project. The Uniform Criteria 1340.12 requires states to re-select their observation sites no less than once every five years. ATI will also be responsible for completing the observational site reselection process for the sites to be used in 2023.

Coordination between the involved agencies and consultants participating in the project will be the responsibility of ATI. While data observation, collection, and processing will be in accordance with NHTSA-approved techniques, there are still many operational decisions that will require ATI involvement under the oversight of AOHS. ATI will:

- stay in close contact during the design of data collection forms and procedures,
- help ensure timely and accurate data collection, and
- help ensure that data are received, and preliminary analyses are performed in a timely manner.

Basic phone and observational surveys will be used to gather data for the in-depth evaluation. The target will be the measurement of shoulder belt use by drivers and front seat outboard passengers in passenger motor vehicles. There will be two surveys, one pre and one post of the media and enforcement components of the campaign. There will also be a separate observational survey of child restraint usage. The phone surveys will be conducted throughout

the state. The observation surveys will be conducted at a total of 350 assigned sites in 40 Alabama counties: Jefferson, Mobile, Madison, Tuscaloosa, Baldwin, Montgomery, Marshall, Lee, Walker, Calhoun, Shelby, Elmore, Cullman, Talladega, Limestone, St. Clair, Russell, Etowah, Morgan, Jackson, Houston, Lauderdale, Lawrence, Escambia, Blount, Chilton, Dallas, Pike, Autauga, Dekalb, Dale, Coffee, Monroe, Chambers, Tallapoosa, Franklin, Winston, Colbert, Conecuh, and Covington.

List of Tasks for Participants & Organizations

ATI at The University of Alabama will:

- Contract a highly qualified vendor to conduct the three observational surveys
- Assign observation locations and dates to the Surveyors
- Work with the survey vendor on any issues that arise from any of the observational sites
- Collect and process the raw data produced by the Surveyors including evaluating, analyzing, and computing the seat belt usage rate.
- Contract with an experienced company to conduct the telephone surveys
- Collect results from all the various involved parties for their activities, and
- Compile the project report for "Click It or Ticket" 2023.

In conducting the surveys and evaluation, ATI will require the assistance of other agencies and organizations, as follows:

A highly qualified company will be contracted by ATI to perform the observational surveys. Their tasks will involve:

- Employ and train the observational surveyor team
- Program tablets for the data collection with all required data fields
- Develop the surveyor routes in an efficient manner for each surveyor
- Conduct the three observational surveys described within this document
- Proof, tabulate and compile the data from each of the surveys in a timely manner
- Transfer the data to ATI for evaluating, analyzing, and computing the seat belt usage rate.

A highly qualified company will be contracted by ATI to perform the phone survey to evaluate the media effectiveness of the "Click It or Ticket" program. Their tasks will involve:

- Design and prepare the telephone questionnaire instrument (with guidance from LETS and ATI).
- Conduct a post survey;
- Encode and analyze the data, and

- Deliver the data and a preliminary analysis of the data to ATI in a timely manner.

The Auburn University Media Group will:

- Implement the media portion of the campaign;
- Contract with another professional group to produce and/or place ads if that is found to be most expedient;
- Determine where and when the ads are run; this will include the avenues of TV, cable, radio, internet, and electronic billboards;
- Possibly produce educational brochures for the project;
- Submit reports to ADECA/LETS; and
- Submit reports to ATI for inclusion in the overall final report for the project.

ADECA/LETS will:

- Provide funding for the project,
- Serve as the host agency for the effort, providing guidance as needed,
- Coordinate the enforcement campaign and provide summary reports to ATI for inclusion in final report,
- Assist ATI, if needed, in obtaining data from Surveyor observations, consultant phone polls, and consultant questionnaires.

To summarize, restraint use will be evaluated in two primary ways: (1) by direct observation of vehicles, based upon a carefully designed sampling technique, and (2) through a telephone survey. Before and after seat belt usage rates will be recorded by direct observation, and afterwards this data will be analyzed, and rates will be calculated from these observations. The self-reported usage rate will be obtained through the telephone surveys. A final report will be produced by ATI that will describe the results of the current year evaluation efforts and summarize past year's evaluation efforts to hopefully show continual improvements being made by participating in the campaigns.

Child restraint inspection stations

Countermeasure strategies demonstrating an active network of child passenger safety inspection stations and/or inspection events:

Countermeasure Strategy
Child Restraint System Inspection Station(s)

Planned activities demonstrating an active network of child passenger safety inspection stations and/or inspection events:

Unique Identifier	Planned Activity Name
M1PE-23-M1	Child Passenger Safety Training Program

Total number of planned inspection stations and/or events in the State.

Planned inspection stations and/or events: **12**

Total number of planned inspection stations and/or events in the State serving each of the following population categories: urban, rural, and at-risk:

Populations served - urban: **5**

Populations served - rural: **12**

Populations served - at risk: **5**

CERTIFICATION: The inspection stations/events are staffed with at least one current nationally Certified Child Passenger Safety Technician.

Child passenger safety technicians

Countermeasure strategies for recruiting, training, and maintaining enough child passenger safety technicians:

Countermeasure Strategy
Child Restraint System Inspection Station(s)

Planned activities for recruiting, training, and maintaining a sufficient number of child passenger safety technicians:

Unique Identifier	Planned Activity Name
M1PE-23-M1	Child Passenger Safety Training Program

Estimate of the total number of classes and the estimated total number of technicians to be trained in the upcoming fiscal year to ensure coverage of child passenger safety inspection stations and inspection events by nationally Certified Child Passenger Safety Technicians.

Estimated total number of classes: 12

Estimated total number of technicians: 180

405c State Traffic Safety Information System Improvements

Traffic records coordinating committee (TRCC)

Meeting dates of the TRCC during the 12 months immediately preceding the application due date:

Meeting Date
01/19/2022
04/13/2022
06/08/2022

Name and title of the State's Traffic Records Coordinator:
Name of State's Traffic Records Coordinator: **Mr. Terry Henderson**
Title of State's Traffic Records Coordinator: **Director of East Central Highway Safety Office**

TRCC members by name, title, home organization and the core safety database represented:

NAME	AGENCY	TITLE	FUNCTION
Mr. Terry Henderson	East Central Alabama Highway Safety Office	Director/ TRCC Coordinator	Highway Safety Professional
Mr. Bill Babington	Law Enforcement/Traffic Safety Division Alabama Dept. of Economic and Community Affairs	Division Chief/ Governor's Highway Safety Representative	Highway Safety Professional
Mr. John-Michael Walker	Alabama Department of Transportation	State Safety Operations Engineer	Highway Safety and Infrastructure Core System: Roadway
Captain Michael McBrayer	Alabama Law Enforcement Agency	Chief of Highway Patrol	Law Enforcement Core System: Crash
Captain Jon Archer	Alabama Law Enforcement Agency	Driver License Division	Driver Licensing Core System: Driver Licensing
Dr. Scott Harris	Alabama Department of Public Health	State Health Officer	Core System; Emergency medical services/injury surveillance system
Dr. Allen Parrish	Alabama Transportation Institute (ATI) Center for Advanced Public Safety (CAPS) The University of Alabama	Executive Director – ATI Interim Director - CAPS	Collectors and Users of Traffic Records
Mr. Jonathan Lawrence	Department of Revenue	Assistant Director, Motor Vehicle Division	Motor Vehicle Registration Core System: Vehicle
Mr. Fred Lilly	Administrative Office of Courts	Chief Technology Officer	Citation and Adjudication Core System: Citation and Adjudication
Mr. Jamie Gray, BS, AAS, NRP	Alabama Department of Public Health	State EMS Director	Core System: Emergency medical services/injury surveillance system
Invited Guests that regularly attend			
Ms. Amanda Jackson	NHTSA	Regional Program Manager	Highway Safety Professional
Mr. Bill Whatley	Law Enforcement/Traffic Safety Division Alabama Dept. of Economic and Community Affairs	Justice Programs Unit Chief	Highway Safety Professional
Ms. Lynne Wilman	Law Enforcement/Traffic Safety Division Alabama Dept. of Economic and Community Affairs	Highway Safety Unit Chief	Highway Safety Professional
Sam Meriwether	Law Enforcement/Traffic Safety Division Alabama Dept. of Economic and Community Affairs	Highway Safety Program Supervisor	Highway Safety Professional
Doni Obi	Law Enforcement/Traffic Safety Alabama Dept. of Economic and Community Affairs	Highway Traffic Safety Program Manager	Highway Safety Professional
Aaron Tripi	Highway Patrol Division Alabama Law Enforcement Agency	Information Technology Chief	Law Enforcement IT Systems

Eric Marable	Alabama Department of Transportation	Design Bureau, Traffic Eng. Division, Safety Section	ighway Safety and Infrastructure
Linda Guin	Federal Highway Administration	Safety Engineer	Highway Infrastructure
Ms. Lian Li	Federal Highway Administration	Community Planner	Highway Infrastructure
Ms. Keisha Thomas	Administrative Office of Courts	Assistant Director, IT	Citation and Adjudication
Ms. Shonna Harris	Administrative Office of Courts		Citation and Adjudication
Mr. Clinton Seymour	FMCSA	Interim Division Administrator	Motor Carrier Core System: Vehicle (Commercial)
Mr. Jake Davis	FMCSA	Program Specialist	Motor Carrier Core System: Vehicle (Commercial)
Dr. David Brown	Center for Advanced Public Safety (CAPS) The University of Alabama	Research Affiliate	ectors and Users of Traffic Records
Rhonda Stricklin	ama Transportation Institute (ATI) The University of Alabama	ation Management Director	ectors and Users of Traffic Records
Dr. Randy Smith	The University of Alabama Director of Center for Transportation Operations, Planning and Safety (CTOPS)	Associate Professor	ectors and Users of Traffic Records
Dr. Jeremy Pate	Alabama Transportation Institute (ATI) The University of Alabama	Director of Digital Innovation	ors and Users of Traffic Records
Mr. Jesse Norris	Center for Advanced Public Safety (CAPS) The University of Alabama	Senior Research Analyst	ors and Users of Traffic Records
Mr. Todd Tilley	Center for Advanced Public Safety (CAPS) The University of Alabama	Director and Project Manager	ors and Users of Traffic Records
Mr. Maury Mitchell	Alabama Law Enforcement Agency	Crime Information Director	Law Enforcement IT Systems
Mr. Tim Pullin	Alabama Law Enforcement Agency	Grant Administrator	Law Enforcement

Membership annually votes and approves the membership roster of the TRCC, the TRCC coordinator, any change to the State's multi-year Strategic Plan required, and performance measures to be used to demonstrate quantitative progress in the accuracy, completeness, timeliness, uniformity, accessibility, or integration of a core highway safety database.

Traffic Records System Assessment

Traffic Records Assessment Recommendations

5.0 Crash Recommendations

Recommendation: *Improve the applicable guidelines for the Crash data system to reflect best practices identified in the Traffic Records Program Assessment Advisory.*

Recommendation: *Improve the data dictionary for the Crash data system to reflect best practices identified in the Traffic Records Program Assessment Advisory.*

Recommendation: *Improve the procedures/process flows for the Crash data system to reflect best practices identified in the Traffic Records Program Assessment Advisory.*

5.1 Vehicle Recommendations

Recommendation: *Improve the data quality control program for the Vehicle data system to reflect best practices identified in the Traffic Records Program Assessment Advisory*.

Recommendation: *Improve the description and contents of the Vehicle data system to reflect best practices identified in the Traffic Records Program Assessment Advisory*.

5.2 Driver Recommendations

Recommendation: *Improve the data quality control program for the Driver data system to reflect best practices identified in the Traffic Records Program Assessment Advisory.*

5.3 Roadway Recommendations

Recommendation: *Improve the data dictionary for the Roadway data system to reflect best practices identified in the Traffic Records Program Assessment Advisory.*

Recommendation: *Improve the data quality control program for the Roadway data system to reflect best practices identified in the Traffic Records Program Assessment Advisory.*

Recommendation: *Improve the procedures/ process flows for the Roadway data system to reflect best practices identified in the Traffic Records Program Assessment Advisory.*

5.4 Citation/Adjudication Recommendations

Recommendation: *Improve the data quality control program for the Citation and Adjudication systems to reflect best practices identified in the Traffic Records Program Assessment Advisory.*

5.5 EMS / Injury Surveillance Recommendations

Recommendation: *Improve the data quality control program for the Injury Surveillance systems to reflect best practices identified in the Traffic Records Program Assessment Advisory.*

Recommendation: *Improve the interfaces with the Injury Surveillance systems to reflect best practices identified in the Traffic Records Program Assessment Advisory.*

Traffic Records for Measurable Progress

Traffic Records Assessment (TRA) Responses that will be addressed in FY2023

These responses were not intended to repeat the content of the Traffic Records Information Systems (TSIS) Strategic Plan (SP). For this reason, a brief response is given here for each recommendation that in all cases refers the reader to the SP. The NHTSA *Traffic Records Program Assessment Advisory* will be referenced in the responses below as *the Advisory*. In each case the recommendation from the TRA will be followed by the State's response.

6.1 Crash Recommendations

Recommendation: *Improve the applicable guidelines for the Crash data system to reflect best practices identified in the Traffic Records Program Assessment Advisory.*

Strategic Plan Response: See Section 4.3.2, Project 16 for details. The crash component manager will set up a taskforce to develop and implement improved guidelines for the Crash data system to reflect best practices of the advisory

Recommendation: *Improve the data quality control program for the Crash data system to reflect best practices identified in the Traffic Records Program Assessment Advisory*.

Strategic Plan Response: See Section 4.3.1, Project 1 for details. This is a comprehensive project that covers all of the TSIS components. Each component coordinator will appoint a quality control manager to evaluate the quality of all data being received, generated, and distributed by that component. In the absence of such an appointment, the component coordinator will assume the responsibilities.

Recommendation: *Improve the procedures/process flows for the Crash data system to reflect best practices identified in the Traffic Records Program Assessment Advisory.*

Strategic Plan Response: See Section 4.3.2, Project 18 for details. A comprehensive systems analysis will be performed for the Crash data system that will consider all procedures and process flows within this component using the guidelines and data dictionary developments of projects 16 and 17. These will be compared against the recommendations given in the Advisory and remedial action will be taken to correct any deficiencies.

6.2 Vehicle Recommendations

Recommendation: *Improve the data quality control program for the Vehicle data system to reflect best practices identified in the Traffic Records Program Assessment Advisory*.

Strategic Plan Response: See Section 4.3.1, Project 1 for details. This is a comprehensive project that covers all of the TSIS components. Each component coordinator will appoint a quality control manager to evaluate the quality of all data being received, generated, and distributed by that component. In the absence of such an appointment, the component coordinator will assume the responsibilities.

6.3 Driver Recommendation Actions

Recommendation: *Improve the data quality control program for the Driver data system to reflect best practices identified in the Traffic Records Program Assessment Advisory.*

Strategic Plan Response: See Section 4.3.1, Project 1 for details. This is a comprehensive project that covers all of the TSIS components. Each component coordinator will appoint a quality control manager to evaluate the quality of all data being received, generated, and distributed by that component. In the absence of such an appointment, the component coordinator will assume the responsibilities.

6.4 Roadway Recommendation Actions

Recommendation: *Improve the data dictionary for the Roadway data system to reflect best practices identified in the Traffic Records Program Assessment Advisory.*

Strategic Plan Response: See Section 4.3.5, Projects 6 and 7 for details. Currently no formal data dictionary exists for the raw roadway data elements. This project calls for the development of a comprehensive data dictionary for these data, including but not limited to the MIRE data elements.

Recommendation: *Improve the data quality control program for the Roadway data system to reflect best practices identified in the Traffic Records Program Assessment Advisory.*

Strategic Plan Response: See Section 4.3.1, Project 1 for details. This is a comprehensive project that covers all of the TSIS components. Each component coordinator will appoint a quality control manager to evaluate the quality of all data being received, generated, and distributed by that component. In the absence of such an appointment, the component coordinator will assume the responsibilities.

Recommendation: *Improve the procedures/process flows for the Roadway data system to reflect best practices identified in the Traffic Records Program Assessment Advisory.*

Strategic Plan Response: See Section 4.3.5, Project 8 for details. A comprehensive systems analysis will be performed for the Roadway data system that will consider all procedures and process flows within this component using the guidelines and the recommendations given in the Advisory, and remedial action will be taken to correct any deficiencies.

6.5 Citation/Adjudication Recommendation Actions

Recommendation: *Improve the data quality control program for the Citation and Adjudication systems to reflect best practices identified in the Traffic Records Program Assessment Advisory.*

Strategic Plan Response: See Section 4.3.1, Project 1 for details. This is a comprehensive project that covers all of the TSIS components. Each component coordinator will appoint a quality control manager to evaluate the quality of all data being received, generated, and distributed by that component. In the absence of such an appointment, the component coordinator will assume the responsibilities.

6.6 EMS / Injury Surveillance Recommendation Actions

Recommendation: *Improve the data quality control program for the Citation and Adjudication systems to reflect best practices identified in the Traffic Records Program Assessment Advisory.*

Strategic Plan Response: See Section 4.3.1, Project 1 for details. This is a comprehensive project that covers all of the TSIS components. Each component coordinator will appoint a quality control manager to evaluate the quality of all data being received, generated and distributed by that component. In the absence of such an appointment, the component coordinator will assume the responsibilities.

Recommendation: *Improve the interfaces with the Injury Surveillance systems to reflect best practices identified in the Traffic Records Program Assessment Advisory.*

Strategic Plan Response: See Section 4.3.7, Project 8 for details. A task force will be appointed by the manager of this component with the charge of reviewing the systems interfaces in conjunction with the Advisory. Recommendations will be expected to include the prioritization of the large number of potential interfaces that might exist, with the goal of creating those interfaces that are most productive from a management and research perspective.

6.7 Data Use and Integration Recommendation Actions

No recommendations.

Reason for not implementing the TRA Quality Control Recommendations for All Modules

In reviewing the resources available to the state, the Traffic Records Coordinating Committee has determined that resources are not currently available for implementing the formal quality control recommendations made in the Traffic Records Assessment report for each module. Efforts currently exist to maintain quality by all the agencies involved in traffic records. These efforts have been ongoing for many years, and the quality of the products produced attest to their effectiveness. However, the Traffic Records Assessment recommendations required that specific personnel be assigned to these functions and that documentation be produced to demonstrate these formal efforts. Efforts will be made during FY2023 to plan for the best methods to address these recommendations, but the TRCC did not feel that resources on any current efforts should be sacrificed to this end.

Traffic Records for Model Performance Measures

A summary of the TSIS project goals in terms of measurable performance indicators is given below for each of the TSIS components. Each of the projects is listed under the TSIS component to which they relate (e.g., crash, vehicle, driver, etc.). In most cases IT projects only return their benefits when fully completed and deployed (e.g., a half-completed software development project generally does not produce any tangible benefits). There are some exceptions in data development projects, but in most cases the goals established would be effective once the envisioned project to satisfy it was totally completed.

The state would have to perform studies that cost well beyond the total Section 405c allocation to the state to establish the benchmarks and performance metrics to any degree of reliability. For this reason, the best estimates were used in many cases. In some cases, the ongoing and proposed projects have the objective of establishing data or systems that currently do not exist, and therefore the current benchmark is zero. In other cases, the benefits of the systems being developed will not be realized until these systems are deployed, and in these cases the metric is a degree of completion as opposed to some impact on the TSIS itself. Thus, to the extent possible the metrics that are recommended in NHTSA document DOT HS 811 441 entitled "Model Performance Measures for State Traffic Records Systems" were used as the basis for the performance metrics given below. In addition, the annual required Interim report that the State submits to NHTSA uses the metrics that are specified in the DOT HS 811 411 document.

4.4.1 Management Component Project Metrics

4.4.1.1 Quality Control Management Metrics

- Assignment of a quality control coordinator to each operational component.

- Within each component:
    - Selection of items in need of qualify improvement.
    - Documentation of improvements made.

4.4.2 Crash Component Project Metrics

4.4.2.1 ADVANCE Upgrade

- Functioning ADVANCE portal with new technology upgrades in place.
- Stakeholder satisfaction measured by survey above 95%.

4.4.2.2 MapClick project.

- Increase the accuracy and completeness of the crash location entry for on-system (mileposted) locations from its current level of about 85% to at least 98%.
- For off-system segment locations, increase the accuracy from 0% to at least 98%. (This can be measured by the number of cases that contain a 99999 in the node field, indicating that the node entered was either invalid or unknown.)
- Reduce the invalid or unknown cases from its current value of approximately 20% of cases to less than 2% of cases.

4.4.2.3 eCrash upgrades and training

- Modify the eCrash data entry screens so that the data collected is over 90% MMUCC compliant.
- Reduce time to enter locations from an average of 15 minutes to less than one minute with consistent accuracy as described in Item 4.3.2.2.

4.4.2.4 CARE modifications and upgrades

- Give users greater intuitive access to crash data and the information in the crash database thereby increasing the number of queries that they can perform without assistance from its current estimate of 60% to over 80%.
- Increase the number of queries that users will make from an average of 20 queries per user to well over 50 queries per user per year.

4.4.2.5 CARE scripting and dashboard capabilities.

- Provide greater productivity in enabling users to save complex queries and reuse them, resulting in a 20% increase in the number of reports generated.
- Increase the accuracy of query responses by 30% since they will not have to be re-created periodically.

4.4.2.6 Upgrade CARE dashboard user interface

- Significant recognized improvements in the interface making it easier for users to get available information from the available datasets.
- Results of user survey of stakeholders.

4.4.2.7 Upgrade to the Crash Facts document.

- Increase in the consistency of information presented from year to year (with the introduction of eCrash data this consistency dropped to about 90%).
- Increase consistency to 100%, providing users the capability to compare figures from year to year.

4.4.2.8 Final mandate for use of eCrash.

- MMUCC compliance increase from 85% to over 95%.
- Increased consistency among all data elements through a systematic series of cross-tabulation checks; reduction of inconsistent data elements by 90%.
- Timeliness improvement from an average of about six weeks for current paper forms to be entered for the remaining paper forms to the eCrash delay of an average of less than 18 hours.

4.4.2.9 Special location type exception reports.

- Since the information being produced from these reports does not currently exist, there will be a 100% increase in information content from each type of exception report that will be created.

4.4.2.10 Unreported crash incident reporting.

- This project will create new data that do not currently exist since these data will generate information that cannot be derived from any current data source.
- At least 100 reports in the first prototype year.

4.4.2.11 Centralized (Enterprise) CARE

- Functioning CARE system that uses a central server to store all executables and all datasets.

4.4.2.12 Upgrade of the FOCIS system

- Demonstration of a functional advanced collision-diagram generation system that is more advanced that any currently in existence.

4.4.2.13 Coordinate-based hotspot capability

- Demonstration of a hotspot capability that is based totally on GIS coordinates and ON road code, independent of any linear reference system.
- Tested and verified system working as good if not better than the LRS hotspot systems.

4.4.2.14 Database Systems Management (DBSM)

- Progress in developing the DBSM will be evident from the ease of generating new reports once it is operational.
- It is not possible to specify other metrics at this point to measure its effectiveness in time savings and eliminating problems when it comes to changing the structure of variables that are used elsewhere in the system.

4.4.2.15 TZD research and education

- Assessment of the effectiveness is best measured by before and after surveys for the educational effort.
- Research is needed to design the PI&E efforts that will be most effective in preparing the general public for the major benefits expected from connected and autonomous vehicles, and to recognize that their flaws are temporary as the technology moves forward.

4.4.2.16 Guideline Improvement

- List of Advisory best practices as they relate to crash records.
- Documented cost and an expected benefit related to the implementation of each of the recommended best practices.
- Implementation and work plan for those projects that will be necessary to implement the most cost-beneficial items.
- Recommendations to the TSIS SP for review and approval by the TRCC.

4.4.2.17 Data Dictionary

- Comprehensive data dictionary for raw crash data that is consistent with industry standards for data dictionaries.
- Documented methods for tracking all datasets produced from the crash data, including those that are integrated with data from other modules.

4.4.2.18 Crash Module Systems Analysis

- Documentation of a complete systems analysis of the current crash module including both internal procedures and process flows as well as the integration with other modules.
- Preliminary list of anticipated current crash module deficiencies.
- Recommended remedial action to correct any deficiencies.
- List of potential projects that can be compared on a cost-benefit basis to recommend updates to the TRCC SP.

4.4.2.19 FARS Data Automation

- Upgraded FARS data entry to include all required FARS data elements.

- Addition of the following to enable ALDOT to meet federal requirements: (1) MPO boundary area, (2) RPO boundary area boundary, (3) FARS Highway Functional Classification, and (4) FARS National Highway System Classification.
- Updated CARE FARS system to process data from the most recent FARS updates.

4.4.3 Vehicle *Projects*

4.4.3.1 Registration file content and access update.

- Current systems upgraded to include the new data being made available by upgrades in the vehicle registration process.

4.4.3.2 ETAPS upgrade to ALTS.

- Conversion of ETAPS to ALTS completed, and the system is working totally under ALTS.
- Implementation verified to be 100% by all designated agents in all counties.

4.4.3.3 Integration of ALEA driver license and state identification databases

- Testing is completed to assure that there is full integration of the two databases such that anything in one is accessible to the other and vice versa, given that the same person exists in both databases.
- Prototype tested to verify the ability to scan the barcode to obtain the vehicle owner's information via a link to the driver's license number and the registration record.

4.4.3.4 Implementation of OVIS

- Full implementation of OVIS measured by the number of agencies using it.
- FY2019 progress included working with ALEA to provide access to the DOR online insurance verification system in order to administer the newly created law that allows ALEA to issue assessments to uninsured motorists who are involved in crashes.

4.4.3.5 Modernized IRP/IFTA systems

- Significantly improved user satisfaction with the interface.
- Ability for users to upload documents and to utilize the applications on a variety of modern electronic devices.
- Progress of this project in FY2019 included the implementation of: (1) a new commercial vehicle licensing system for IRP and IFTA licenses and taxes, and (2) a new commercial vehicle information exchange window (CVIEW) for use by DOR, ALEA, APSC and ALDOT.

4.4.3.6 Update and implementation of MVTRIP

- Upgrading of the MVTRIP system without loss of utility, to include a new upgraded dashboard that displays and performs analytics on the MVTRIP data.
- Compatibility with the most common technologies that are being applied in the field.

4.4.3.7 Print on demand registration receipt

- Final testing completed and complete print on demand registration receipt system fully operational.
- The print on demand process for registration receipts and validation decals is now being implemented; 100% implementation by the end of FY2019.
- Progress during FY2019 included the implementation of the print on demand process for Alabama special distinctive license plates.

4.4.3.8 Electronic vehicle registration receipts

- Final testing of the system that meets all requirements for producing and transmitting an electronic receipt to registrants' electronic wallets.

4.4.3.9 Vehicle registration cards

- Improved accuracy of person and vehicle validation from its current value of approximately 90% to 98%.
- Successful prototype of barcodes on registration cards in several target beta test areas.
- Implement barcodes on registration cards statewide.

4.4.3.10 Vehicle data LETS integration

- Decrease the average time that it takes an officer in the field to obtain vehicle and insurance verification from the current average to less than five seconds.

4.4.3.11 Online Insurance Verification System (OVIS) updates

- Detect at least five areas where improvements can be made and develop them during the first year after project initiation.
- Regression tested improvements.

4.4.3.12 Effective TZD infrastructure.

- Documented interaction with TZD researchers resulting in the use of CARE and other tools and data to support TZD efforts.

4.4.3.13 Addition of the DL validation to populate the vehicle owner data in the title record.

- Fully functional Driver License (DL) number as required part of the title record.
- Ability to retrieve the registration record from the vehicle owner's driver's license number.
- Ability to pre-populate the title record with all available information on the drivers' license (e.g., name and address and all other vehicle owner information).

4.4.3.14 More frequent county uploads of title records

- Design and development of a virtual real-time system for updating LETS.
- Information is available to officers in the field at the point (no more than five minutes after) when the transaction occurs.

4.4.3.15 Electronic liens and titles (ELT)

- Completed requirements gathering phase for the production of current lien and title information electronically.
- Functioning lien and title information system.

4.4.3.16 Automated License Plate Readers (ALPR)

- Completed requirements gathering for system to support civil enforcement of registration violations through the use of automated license plate readers (ALPRs).
- Completed preliminary and detailed design.
- Functioning software to use ALPRs for enforcement of registration laws.

4.4.3.17 Electronic Credentialing (eCredential) program

- Completed requirements gathering for system to support electronic credentialing.
- Completed preliminary and detailed design.
- Functioning software to perform the electronic credentialing functions.

4.4.3.18 Improve Vehicle Data System

- Assign responsibility to agency
- Establish project team for analysis
- Publish project team report

4.4.4. Driver Component Projects

4.4.4.1 DUI driver data intake and reporting system

- Law enforcement identification and apprehension of at least ten additional DUI offenders (per month) with outstanding warrants or court obligations.

4.4.4.2 MIDAS offender completion validation

- (Currently this capability does not exist.)
- The ability to identify for any defendant where s/he stands with regard to completing their sentence.
- The identification within the database of an increase of 30% additional existing offenders who have not completed their time of suspension or satisfied their alternative or traditional sanctions.

4.4.4.3 Traffic safety incident (ULTRA) data availability

- This system and thus the information that it would generate does not currently exist. This will result in the availability to law enforcement of selected incidents that relate to traffic safety (e.g., habitual drug use). The first prototype should support 50-100 queries per day.
- Documentation of the systems analysis necessary to create additional data requirements.

4.4.4.4 Information mining of the ULTRA data

- Functioning ETL for ULTRA.
- ULTRA datasets being processed by CARE.
- Resulting CARE outputs.

4.4.4.5 LETS upgrades for traffic safety

- (This capability does not currently exist.)
- The capability to detect hundreds of serial traffic violators per month based on an expected 50-100 queries per day

4.4.4.6 Mobile Officer Virtual Environment (MOVE) Upgrades

- Most of the additional capabilities that enable officers to complete forms in their vehicles will require upgrades to the current MOVE system. Since this is a supportive role, it can only be measured in terms of the other systems that it supports.

4.4.5 Roadway Data Systems Projects

4.4.5.1 Improved data gathering/connectivity through eGIS

- Centerlines developed for all state roads completed by end of FY2017.
- Centerlines developed for at least 80% of county roads and city streets by the end of FY 2021.
- ALDOT-maintained location system (for all public roads) route network incorporated into crash locating tools for at least 95% of crash reports;
- ALDOT's "all public roads" route network expanded to 80% of all non-State maintained routes.
- Infrastructure and tools provided to 90% of local authorities (e.g., City, County, MPO, RPO).

4.4.5.2 Statewide roadway data inventory

- Accessibility: currently these data are widely distributed and not easily accessible for IHSDM/HSM implementation.

- Add data elements to an IHSDM/HSM warehouse to make 20% of these data elements accessible per year so that at the end of the five-year planning horizon 100% of the required data elements will be accessible.

4.4.5.3 IHSDM/HSM implementation project

- Improve the accuracy and the consistency of roadway modification benefit estimates by at least 50% over the planning horizon (e.g., if the accuracy is currently 80%, then a success would be in raising this accuracy to 90%, eliminating 50% of the deficiency).

4.4.5.4 Roadway Issue Dispatch (RID) project

- The addition of ten RID reports per month routed to either ALDOT or the appropriate county or city engineer.

4.4.5.5 Roadway Improvement Safety Evaluation (RISE)

- Beta test at least five maintenance project corridors during the second year after project initiation.

4.4.5.6 MIRE creation for state routes

- Ongoing progress of 20% of the data elements functional per year after initiation of the project.
- Comparable progress to incorporate the relevant state-collected MIRE data elements into the crash database and Crash reports.
- MIRE data elements collected for 80% public routes not on the State maintained network.
- Ongoing implemented training on MIRE data collection and reporting tools to local authorities (e.g., City, County, MPO, RPO).

4.4.5.7 Design and develop data dictionary for roadway data elements.

- Comprehensive data dictionary for raw roadway data elements that is consistent with industry standards for data dictionaries as well as federal requirements.
- Documented methods for tracking all datasets produced from the roadway data, including those that are integrated with data from other modules.

4.4.5.8 Systems analysis of roadway data elements.

- Documentation of complete systems analysis of the current roadway module, including both internal procedures and process flows.
- Documentation of the integration with other modules as well as the data elements developed in Project 7 above.
- Recommendations for all remedial actions to correct any deficiencies resulting from a comparison of existing procedures against the recommendations given in the Advisory.

- List of potential projects that can then be compared on a cost-benefit basis to recommend updates to the TRCC SP.

4.4.6 Citations and Adjudication Projects

4.4.6.1 Upgrades to eCite

- Reduce the average time of getting citation information into the database from several days to an average of less than one day.
- Increase the proportion of agencies on by at least 2% per year.

4.4.6.2 ALEA Motor Carrier Integration – FMCSA compliance

- From less than 50% current compliance to 100% compliance with Federal standards.

4.4.6.3 Citation adjudication technology

- For all eCite agencies, eliminate the need for paper tickets and officer swearing to the ticket in person at the courthouse.
- Reduce the time spent in printing to a few seconds

4.4.6.4 Municipal electronic disposition system

- Five beta test municipalities after the first year of the start of development.
- At least 20 municipalities using the system after the second year.

4.4.6.5 Completing of the eCite roll-out

- At least 95% of municipalities using eCite by the end of FY2023.

4.4.6.6 Citation and DUI Tracking System

- Number and percentage of defendants for which data are available; functional portal under MOVE enabling officers to make queries on particular individuals; administrative capability to check the status of citation and defendants.

4.4.6.7 Taskforce to develop and implement improved guidelines

- Documentation of an internal assessment as to which components are in compliance with the provisions of the Advisory and which are most in need of remediation.
- Documentation of a complete systems study of all current components within the citation/adjudication component, i.e., all systems that relate to either transactional or analytical systems and impact traffic safety.
- Documentation of an in-depth analytical study of the most critical modules and the recommendations for additional development of supporting projects to bring the system into closer conformance with the Advisory.

- Recommends to the TRCC any new projects that are required to this effect so that they can be integrated into the SP once approved.

4.4.7. EMS-Medical Surveillance

4.4.7.1 Complete and implement RESCUE – completed.

- Beta test of the RESCUE system completed by the end of the second year from project initiation. This objective has been accomplished.

4.4.7.2 Supporting software for RESCUE.

- Deployed operational support software; number of vendors who are using the supporting software and the support it is providing to RESCUE for effective operation.

4.4.7.3 Develop EMS version of MOVE

- This project has been cancelled due to deciding to go web-based with RESCUE.

4.4.7.4 Continued development of the First Responder Solution Technique (FIRST)

- All MOVE components developed and deployed in beta tests.
- Reduced transport time for beta areas.
- Reduced number of patients who need to be forwarded to more appropriate facilities in beta test areas.

4.4.7.5 EMS-Trauma data integration through CARE

- ETL developed and pilot datasets generated that contain integrated EMS and Trauma data that support all CARE analytical capabilities.

4.4.7.6 Medical database access/integration

- Documentation of the systems analysis study that contains recommendations as to the initial databases that can be integrated.

4.4.7.7 Model Inventory of Emergency Care Elements (MIECE) Repository

- Beta test of the MIECE data entry system completed by the end of the first year of project initiation.

4.4.7.8 Interface research task force (coordinated closely with item 4.3.8.3 below)

- Existence of an ongoing taskforce.
- Documented review of the systems interfaces in comparison with the Advisory.
- Recommendations for all interfaces that are not in accord with the Advisory.

- Prioritization of the large number of potential interfaces that exist, with the goal of creating or improving those interfaces that are most productive from a management and research perspective.

4.4.8. Integration Projects

4.4.8.1 TSIS/TRCC Coordination

- The presence of a coordinator and staff to perform all necessary coordination functions.

4.4.8.2 Development of DELTA

- Documented design of DELTA to take in the practical aspects of a multi-agency approach toward data lifecycle coordination.
- Functioning prototype system for a select subset of the total TSIS in order to initiate its full evolution.

4.4.8.3 Crash-Injury Data Integration (coordinated closely with item 4.3.7.8 above)

- Definition and establishment of two (or more) additional databases needed to prove the concept, e.g., eCrash and RESCUE data.
- Functioning CARE dataset that proves the concept of multiple database information generation using the ETL approach for integration.
- Functional linkage between the Electronic Patient Care Report (ePCR), currently produced by RESCUE, and the crash report, currently produced by eCrash.
- Established use of this integration demonstrated by (for example):
    - Establishing correlations between officer opinion of crash severity and actual EMS severity assessment and medical care given;
    - Roundtrip time of EMS dispatch to delivery to medical facility.
    - Comparison of officer reported medical dispatch and arrival times to EMS-provided dispatch and arrival times;
    - Delayed fatalities to the delay time of receiving medical attention; and
    - Delayed fatalities to type of medical facility initially receiving the patient.

4.4.8.4 Citation-Adjudication Portal

- Functioning web-based portal that satisfies current needs of all stakeholders.
- Specification of improvements for anticipated needs in the future.

4.4.8.5 Mobile Officers' Virtual Environment (MOVE) upgrades to support integration.

- New version of MOVE.

4.4.8.6 Mobile device technology.

- Research feasibility.

4.4.8.7 Data-Driver Approaches to Crime and Traffic Safety (DDACTS)

- Creation of at least one implemented DDACTS system; e.g., the integration of crash, incident and citation data to determine optimal placement of law enforcement assets.

4.4.8.8 CARE multiple database ETL development.

- One application functional every fiscal year of the following: (1) crash-roadway; (2) crash-citation; (3) crash-EMS/injury; (4) crash-vehicle.

4.4.8.9 Tighter eGIS integration

- Documentation of a systems study to determine which component database combinations will produce the most benefit from being integrated by location.
- Prioritized plan for the integration by location.
- Prototype functional integrated map-based information generation.

4.4.8.10 Safety Portal full implementation

- The functioning portal with two major CARE/ADVANCE datasets added per year over the planning horizon.

4.4.8.11 Countermeasure evaluations

- Result of an analysis to determine and prioritize those countermeasures that are most in need of evaluation from the viewpoint of feasibility and the flexibility to make modifications to improve the programs under consideration.
- Intermediate and final evaluation documentation.

4.4.8.12 SafeHomeAlabama.gov

- Add 10 pages to SHA and assure that information received is posted out on the web site within one hour of receipt by the end of FY 2023.
- Increase the Twitter account that announces all significant updates to SHA to 100 followers.

State Traffic Records Strategic Plan

Strategic Plan, approved by the TRCC, that— (i) Describes specific, quantifiable and measurable improvements that are anticipated in the State's core safety databases (ii) Includes a list of all recommendations from its most recent highway safety data and traffic records system assessment; (iii) Identifies which recommendations the State intends to address in the fiscal year, the countermeasure strategies and planned activities that implement each recommendation, and the performance measures to be used to demonstrate quantifiable and measurable progress; and (iv) Identifies which recommendations the State does not intend to address in the fiscal year and explains the reason for not implementing the recommendations:

Planned activities that implement recommendations:

Unique Identifier	Planned Activity Name
M3DA-23-HC-M3	Electronic Patient Care Reports Program
23-TF-TR-001	Traffic Safety Information Systems
M3DA-23-TR-M3	Traffic Safety Records Improvement Program

Quantitative and Measurable Improvement

Supporting documentation covering a contiguous 12-month performance period starting no earlier than April 1 of the calendar year prior to the application due date, that demonstrates quantitative improvement when compared to the comparable 12-month baseline period.

State Highway Safety Data and Traffic Records System Assessment

Date of the assessment of the State's highway safety data and traffic records system that was conducted or updated within the five-years prior to the application due date:

Date of Assessment: **January 30, 2020**

405(d) Impaired Driving Countermeasures Grant

Impaired driving qualification: **Mid-Range State**

ASSURANCE: The State shall use the funds awarded under 23 U.S.C. 405(d)(1) only for the implementation and enforcement of programs authorized in 23 C.F.R. 1300.23(j).

Authority to operate

Direct copy of the section of the statewide impaired driving plan that describes the authority and basis for the operation of the statewide impaired driving task force, including the process used to develop and approve the plan and date of approval.

Authority and Basis of Operation

The authority and basis for the operation of the Alabama Statewide impaired driving task force, as well as the process used to develop and approve the plan can be in the Charter of the Alabama Impaired Driving Prevention Council (AIDPC), as seen below.

Charter of the Alabama Impaired Driving Prevention Council (AIDPC)
Founded July 2013
PREAMBLE
The impact that impaired driving has on the families of Alabama and its citizens are both devastating and preventable. It is the preventable nature of impaired driving cases that is at the core of the Alabama Impaired Driving Prevention Council. It is the Council's ambition that its formulation will serve to demonstrate that Alabama is resolute about attacking this issue and achieving the goal of zero fatalities at the hand of impaired drivers.
ARTICLE ONE: PURPOSE
The Alabama Impaired Driving Prevention Council (AIDPC) serves as a Driving Under the Influence (DUI) workgroup. It provides leadership and guidance for citizens seeking to significantly reduce the number of collisions, injuries, and deaths caused by impaired drivers. It provides qualitative input and assistance to the legislature, state agencies, and other organizations combating impaired driving and its consequences.
ARTICLE TWO: MEMBERSHIP
2.1 MEMBERS: The AIDPC shall be comprised of agencies, offices, and organizations from public and private sectors of state leadership, each of whom possess a demonstrated interest in impaired driving prevention. The following agencies, offices, and organizations are members:
• Alabama Department of Economic and Community Affairs/Law Enforcement & Traffic Safety Division (ADECA/LETS)
• Alabama Beverage Control Board (ABC)

- Alabama District Attorneys Association (ADAA)
- Board of Pardons and Paroles
- Court Referral Program
- Department of Forensic Sciences
- Department of Public Safety
- Member(s) of the Alabama Legislature
- Mothers Against Drunk Driving (MADD)
- State Coordinator for the Drug Recognition Expert (DRE) Program
- Students Against Destructive Decisions (SADD)
- Traffic Safety Resource Prosecutor (TSRP)
- At least one of the following:
    - o Assistant District Attorney
    - o Certified DRE
    - o District Court Judge
    - o Municipal Court Judge
- The chairperson may appoint additional members on an as-needed basis. Any additional member(s) shall be confirmed by a two-thirds committee vote.

2.2 TERM: Each member will serve a term of two calendar years and may be reappointed.

2.3 VOTING: Each member will have one vote. For a vote to take place, representatives of at least eleven members must be physically present.

2.4 RESIGNATION: Any member shall have the right to resign his or her position on the AIDPC. Any resignation should be provided to the Chairman with 30 days' notice. The Chairman may request that another designee be appointed to replace a member for poor attendance.

2.5 DESIGNEES: Designees are permitted and shall have full voting power, except that there will be no designees for the two immediate past chairmen and vice chairmen.

ARTICLE THREE: MEETINGS

3.1 REGULAR MEETINGS: The AIDPC shall meet semi-annually at a time and location specified by the chairman.

3.2 SPECIAL MEETINGS: In addition to semi-annual meetings, special meetings for a stated purpose may be called by the chairman.

3.3 NOTICE: Notice of each meeting will be given at least seven calendar days in advance, by mail and/or email.

3.4 LOCATION: Meetings shall be held at a location place chosen by the chairman, with due consideration given to the convenience of all members and staff suitable for the occasions.

3.5 PROCEDURE: AIDPC shall follow parliamentary procedure as set forth in Robert's Rules of Order, newly revised, except when they conflict with this charter.

3.6 MINUTES: AIDPC shall take and maintain meeting minutes, including a record of the members present.
3.7 PLANNING: The Office of Prosecution Services will serve as a resource and provide logistical support for meeting location, preparations, notice, and minutes.
3.8 ATTENDANCE: Member organizations are allowed to have multiple representatives attend meetings. On such occasions the member organization must designate one person as the voting member.
3.9 APPROVAL: Members will develop and approve the Impaired Driving Strategic Plan.
ARTICLE FOUR: OFFICERS
4.1 CHAIRMAN AND VICE CHAIRMAN: There shall be a chairman and vice chairman. The chairman and vice chairman shall serve for a period of two years and may be reelected.
4.2 SECRETARY: The duties of the Secretary shall serve for a period of two years and may be reelected.
4.3 VACANCIES: Should a chairman resign prior to the expiration of his or her term, the vice chairman shall automatically become chairman and shall serve until the predecessor's term would have expired. Should a vice chairman resign prior to the expiration of his or her term, the chairman shall appoint an interim vice chairman to serve until the next regular meeting, at which time the members shall elect a vice chairman to serve until the predecessor's term would have expired.
ARTICLE FIVE: COMMITTEES
5.1 COMMITTEES: The following committees should be organized, chaired, and populated as necessary to accomplish the goals of the AIDPC:
• Education/Prevention
• Enforcement/Prosecution/Adjudication
• Legislation
• Treatment/Rehabilitation/Diversion
5.2 SPECIAL COMMITTEES: The chairman shall appoint or disband such special committees as necessary for the efficient operation of the AIDPC.
5.3 EXECUTIVE COMMITTEE: There shall be an Executive Committee, comprised of the following persons, to accomplish the goals of the AIDPC.
• Chairman
• Vice Chairman
• Immediate past chairman
• Immediate past vice chairman
• Four committee chairmen or designees
5.4 COMMITTEE VOTING: Member organizations may be represented on multiple committees and may have designees attend committee meetings. Each member organization will have one vote per committee.
ARTICLE SIX: AMENDMENTS
6.1 This charter may be altered, amended, or repealed and a new charter may be

adopted by a two-thirds vote of the membership representing a quorum thereof at any regular meeting of the AIDPC when a proposed amendment has been distributed with notice of such meeting.
6.2 For purposes of this Article, one-third of the membership plus one member constitute a quorum.

Further information can be found in section 2.1 of the Strategic Plan, as follows:

2.1 Alabama Impaired Driving Prevention Council (AIDPC)

The Alabama Impaired Driving Prevention Council (AIDPC) was assembled to develop and approve this plan and to ensure that all aspects of the impaired driving problem were considered and that as many alternative countermeasures as possible could be evaluated. To create a strategic plan that would focus on the problem areas with the greatest opportunity for improvement, and establish a successfully functioning Council, it was essential to have representation from agencies and organizations with a working knowledge and deep understanding of the various parts of Alabama's impaired driving prevention system and how the parts interrelate. The individuals who participated in the AIDPC meetings and assisted in drafting the Impaired Driving Strategic Plan (IDSP) are identified below. AIDPC organizers are deeply grateful for the time and effort members devoted to development of the strategic plan and for the counsel, advice, and expertise they brought to the plan, and that they continue to bring toward implementing it.

The major charge given by the AIDPC in its commission was to foster leadership, commitment, and coordination among all parties interested in impaired driving issues. Further, they were charged with the responsibility to attend regular meetings as established by the Chair, and to generally manage and provide overall control to the program as described in the ID Strategic Plan.

The IDSP is data driven. In drafting the IDSP, members of the AIDPC relied on data on impaired driving-related crashes, arrests, suspensions, and convictions data; also used were state-specific studies on youth and adult behavior and attitudes toward alcohol consumption/drug use specifically as they relate to impaired driving.

Key Stakeholders

NAME	AGENCY	TITLE	FUNCTION
Argo, Dean	Alabama Beverage Control	Director of Field Service	Communication/Law Enforcement
Anthony, Terry	Pardon & Parole	Director of Field	Probation
Babington, Bill	Alabama Department of Economic and Community Affairs	Division Chief	SHSO
Bailey, Daryl	ADAA	President	Prosecution
Booth, Joy	Judiciary	District Court Judge	Adjudication
Brown, Dr. David	University of Alabama	Professor – CAPS	Data/Traffic Records
Bertaut, Denise	Alabama Department of Public Health	Child Passenger Safety State Coordinator	Public Health
Christen, Cpl. Brandon	ALEA	Motor Carrier Unit	Communication/Law Enforcement
Harper, Dr. Curt	Alabama Department of Forensic Science	Toxicology Discipline Chief	Drug Toxicology
Williams, Effell	Alabama Office of Courts	Court Referral Program Specialist	Treatment & Rehabilitation
Simpson, Matt	Legislator	State Representative	Communication
King, Bettye	Municipal Clerk's Association	Municipal Clerk Birmingham	Communication
Lindsey, Bill	Office of Prosecution Services	TSRP	Prosecution/Communication
Adams, Erin & Moore, Jasmine	MADD	State Victim Services Coordinator	Communication
Fredrick, Sgt. Buck	Alabama Law Enforcement Agency	State DRE and SFST Coordinator	Law Enforcement
Sparks, Hon. Andra	Judiciary	Municipal Judge – Birmingham	Adjudication
Turner, Dr. Greg	Alabama Department of Forensic Science	Technical Director, Implied Consent Unit	Breath testing/Ignition Interlock
Naramore, Samantha	Alabama Law Enforcement Agency	Driver Licensing	Prosecution/Communication

Date that the Statewide impaired driving plan was approved by the State's task force.

Date impaired driving plan approved by task force: **March 5, 2020**

Strategic Plan Details

State will use a previously submitted Statewide impaired driving plan that was developed and approved within three years prior to the application due date.
Continue to use previously submitted plan: **Yes**

ASSURANCE: The State continues to use the previously submitted Statewide impaired driving plan.

Appendix A to Part 1300 – Certifications and Assurances for Fiscal Year 2022 Highway Safety Grants (23 U.S.C. Chapter 4; Sec. 1906, Pub. L. 109-59, As Amended By Sec. 4011, Pub. L. 114-94)

[*Each fiscal year, the Governor's Representative for Highway Safety must sign these Certifications and Assurances affirming that the State complies with all requirements, including applicable Federal statutes and regulations, that are in effect during the grant period. Requirements that also apply to subrecipients are noted under the applicable caption.*]

State: Alabama Fiscal Year: 2023

By submitting an application for Federal grant funds under 23 U.S.C. Chapter 4 or Section 1906, the State Highway Safety Office acknowledges and agrees to the following conditions and requirements. In my capacity as the Governor's Representative for Highway Safety, I hereby provide the following Certifications and Assurances:

GENERAL REQUIREMENTS

The State will comply with applicable statutes and regulations, including but not limited to:

- 23 U.S.C. Chapter 4 – Highway Safety Act of 1966, as amended
- Sec. 1906, Pub. L. 109-59, as amended by Sec. 4011, Pub. L. 114-94
- 23 CFR part 1300 – Uniform Procedures for State Highway Safety Grant Programs
- 2 CFR part 200 – Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards
- 2 CFR part 1201 – Department of Transportation, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards

INTERGOVERNMENTAL REVIEW OF FEDERAL PROGRAMS

The State has submitted appropriate documentation for review to the single point of contact designated by the Governor to review Federal programs, as required by Executive Order 12372 (Intergovernmental Review of Federal Programs).

FEDERAL FUNDING ACCOUNTABILITY AND TRANSPARENCY ACT (FFATA)

The State will comply with FFATA guidance, OMB Guidance on FFATA Subward and Executive Compensation Reporting, August 27, 2010, (https://www.fsrs.gov/documents/OMB_Guidance_on_FFATA_Subaward_and_Executive_Compensation_Reporting_08272010.pdf) by reporting to FSRS.gov for each sub-grant awarded:

- Name of the entity receiving the award;
- Amount of the award;

- Information on the award including transaction type, funding agency, the North American Industry Classification System code or Catalog of Federal Domestic Assistance number (where applicable), program source;
- Location of the entity receiving the award and the primary location of performance under the award, including the city, State, congressional district, and country; and an award title descriptive of the purpose of each funding action;
- A Unique Entity identifier;
- The names and total compensation of the five most highly compensated officers of the entity if:
  (i) the entity in the preceding fiscal year received—
    (I) 80 percent or more of its annual gross revenues in Federal awards;
    (II)$25,000,000 or more in annual gross revenues from Federal awards; and
  (ii) the public does not have access to information about the compensation of the senior executives of the entity through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m(a), 78o(d)) or section 6104 of the Internal Revenue Code of 1986;
- Other relevant information specified by OMB guidance.

NONDISCRIMINATION
(applies to subrecipients as well as States)

The State highway safety agency will comply with all Federal statutes and implementing regulations relating to nondiscrimination ("Federal Nondiscrimination Authorities"). These include but are not limited to:

- **Title VI of the Civil Rights Act of 1964** (42 U.S.C. 2000d *et seq.,* 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin) and 49 CFR part 21;
- **The Uniform Relocation Assistance and Real Property Acquisition Policies** Act of 1970, (42 U.S.C. 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- **Federal-Aid Highway Act of 1973**, (23 U.S.C. 324 *et seq.),* **and Title IX of the Education Amendments of 1972**, as amended (20 U.S.C. 1681-1683 and 1685-1686) (prohibit discrimination on the basis of sex);
- **Section 504 of the Rehabilitation Act of 1973**, (29 U.S.C. 794 *et seq.),* as amended, (prohibits discrimination on the basis of disability) and 49 CFR part 27;
- **The Age Discrimination Act of 1975**, as amended, (42 U.S.C. 6101 *et seq.),* (prohibits discrimination on the basis of age);
- **The Civil Rights Restoration Act of 1987**, (Pub. L. 100-209), (broadens scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal aid recipients, subrecipients and contractors, whether such programs or activities are Federally-funded or not);
- **Titles II and III of the Americans with Disabilities Act** (42 U.S.C. 12131-12189) (prohibits discrimination on the basis of disability in the operation of public entities,

public and private transportation systems, places of public accommodation, and certain testing) and 49 CFR parts 37 and 38;

- **Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations** (prevents discrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations); and
- **Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency** (guards against Title VI national origin discrimination/discrimination because of limited English proficiency (LEP) by ensuring that funding recipients take reasonable steps to ensure that LEP persons have meaningful access to programs (70 FR 74087-74100).

The State highway safety agency—

- Will take all measures necessary to ensure that no person in the United States shall, on the grounds of race, color, national origin, disability, sex, age, limited English proficiency, or membership in any other class protected by Federal Nondiscrimination Authorities, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any of its programs or activities, so long as any portion of the program is Federally-assisted;

- Will administer the program in a manner that reasonably ensures that any of its subrecipients, contractors, subcontractors, and consultants receiving Federal financial assistance under this program will comply with all requirements of the Non-Discrimination Authorities identified in this Assurance;

- Agrees to comply (and require its subrecipients, contractors, subcontractors, and consultants to comply) with all applicable provisions of law or regulation governing US DOT's or NHTSA's access to records, accounts, documents, information, facilities, and staff, and to cooperate and comply with any program or compliance reviews, and/or complaint investigations conducted by US DOT or NHTSA under any Federal Nondiscrimination Authority;

- Acknowledges that the United States has a right to seek judicial enforcement with regard to any matter arising under these Non-Discrimination Authorities and this Assurance;

- Agrees to insert in all contracts and funding agreements with other State or private entities the following clause:

  "During the performance of this contract/funding agreement, the contractor/funding recipient agrees—

  a. To comply with all Federal nondiscrimination laws and regulations, as may be amended from time to time;

b. Not to participate directly or indirectly in the discrimination prohibited by any Federal non-discrimination law or regulation, as set forth in appendix B of 49 CFR part 21 and herein;

c. To permit access to its books, records, accounts, other sources of information, and its facilities as required by the State highway safety office, US DOT or NHTSA;

d. That, in event a contractor/funding recipient fails to comply with any nondiscrimination provisions in this contract/funding agreement, the State highway safety agency will have the right to impose such contract/agreement sanctions as it or NHTSA determine are appropriate, including but not limited to withholding payments to the contractor/funding recipient under the contract/agreement until the contractor/funding recipient complies; and/or cancelling, terminating, or suspending a contract or funding agreement, in whole or in part; and

e. To insert this clause, including paragraphs (a) through (e), in every subcontract and subagreement and in every solicitation for a subcontract or sub-agreement, that receives Federal funds under this program.

THE DRUG-FREE WORKPLACE ACT OF 1988 (41 U.S.C. 8103)

The State will provide a drug-free workplace by:

a. Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession or use of a controlled substance is prohibited in the grantee's workplace and specifying the actions that will be taken against employees for violation of such prohibition;

b. Establishing a drug-free awareness program to inform employees about:
   1. The dangers of drug abuse in the workplace;
   2. The grantee's policy of maintaining a drug-free workplace;
   3. Any available drug counseling, rehabilitation, and employee assistance programs;
   4. The penalties that may be imposed upon employees for drug violations occurring in the workplace;
   5. Making it a requirement that each employee engaged in the performance of the grant be given a copy of the statement required by paragraph (a);

c. Notifying the employee in the statement required by paragraph (a) that, as a condition of employment under the grant, the employee will –
   1. Abide by the terms of the statement;
   2. Notify the employer of any criminal drug statute conviction for a violation occurring in the workplace no later than five days after such conviction;

d. Notifying the agency within ten days after receiving notice under subparagraph (c)(2) from an employee or otherwise receiving actual notice of such conviction;

e. Taking one of the following actions, within 30 days of receiving notice under subparagraph (c)(2), with respect to any employee who is so convicted –
    1. Taking appropriate personnel action against such an employee, up to and including termination;
    2. Requiring such employee to participate satisfactorily in a drug abuse assistance or rehabilitation program approved for such purposes by a Federal, State, or local health, law enforcement, or other appropriate agency;

f. Making a good faith effort to continue to maintain a drug-free workplace through implementation of all of the paragraphs above.

POLITICAL ACTIVITY (HATCH ACT)
(applies to subrecipients as well as States)

The State will comply with provisions of the Hatch Act (5 U.S.C. 1501-1508), which limits the political activities of employees whose principal employment activities are funded in whole or in part with Federal funds.

CERTIFICATION REGARDING FEDERAL LOBBYING
(applies to subrecipients as well as States)

Certification for Contracts, Grants, Loans, and Cooperative Agreements

The undersigned certifies, to the best of his or her knowledge and belief, that:

1. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement;

2. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions;

3. The undersigned shall require that the language of this certification be included in the award documents for all sub-award at all tiers (including subcontracts, subgrants, and contracts under grant, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

RESTRICTION ON STATE LOBBYING
(applies to subrecipients as well as States)

None of the funds under this program will be used for any activity specifically designed to urge or influence a State or local legislator to favor or oppose the adoption of any specific legislative proposal pending before any State or local legislative body. Such activities include both direct and indirect (e.g., "grassroots") lobbying activities, with one exception. This does not preclude a State official whose salary is supported with NHTSA funds from engaging in direct communications with State or local legislative officials, in accordance with customary State practice, even if such communications urge legislative officials to favor or oppose the adoption of a specific pending legislative proposal.

CERTIFICATION REGARDING DEBARMENT AND SUSPENSION
(applies to subrecipients as well as States)

Instructions for Primary Tier Participant Certification (States)

1. By signing and submitting this proposal, the prospective primary tier participant is providing the certification set out below and agrees to comply with the requirements of 2 CFR parts 180 and 1200.

2. The inability of a person to provide the certification required below will not necessarily result in denial of participation in this covered transaction. The prospective primary tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective primary tier participant to furnish a certification or an explanation shall disqualify such person from participation in this transaction.

3. The certification in this clause is a material representation of fact upon which reliance was placed when the department or agency determined to enter into this transaction. If it is later determined that the prospective primary tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default or may pursue suspension or debarment.

4. The prospective primary tier participant shall provide immediate written notice to the department or agency to which this proposal is submitted if at any time the prospective primary tier participant learns its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

5. The terms *covered transaction, civil judgment, debarment, suspension, ineligible, participant, person, principal, and voluntarily excluded*, as used in this clause, are defined in 2 CFR parts 180 and 1200. You may contact the department or agency to which this proposal is being submitted for assistance in obtaining a copy of those regulations.

6. The prospective primary tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is proposed for debarment under 48 CFR part 9, subpart 9.4, debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

7. The prospective primary tier participant further agrees by submitting this proposal that it will include the clause titled "Instructions for Lower Tier Participant Certification" including the "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion—Lower Tier Covered Transaction," provided by the department or agency entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions and will require lower tier participants to comply with 2 CFR parts 180 and 1200.

8. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that it is not proposed for debarment under 48 CFR part 9, subpart 9.4, debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any prospective lower tier participants, each participant may, but is not required to, check the System for Award Management Exclusions website (https://www.sam.gov/).

9. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

10. Except for transactions authorized under paragraph 6 of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is proposed for debarment under 48 CFR part 9, subpart 9.4, suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal government, the department or agency may terminate the transaction for cause or default.

Certification Regarding Debarment, Suspension, and Other Responsibility Matters-Primary Tier Covered Transactions

(1) The prospective primary tier participant certifies to the best of its knowledge and belief, that it and its principals:

(a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;

(b) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(c) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or Local) with commission of any of the offenses enumerated in paragraph (1)(b) of this certification; and

(d) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State, or local) terminated for cause or default.

(2) Where the prospective primary tier participant is unable to certify to any of the Statements in this certification, such prospective participant shall attach an explanation to this proposal.

Instructions for Lower Tier Participant Certification

1. By signing and submitting this proposal, the prospective lower tier participant is providing the certification set out below and agrees to comply with the requirements of 2 CFR parts 180 and 1200.

2. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal government, the department or agency with which this transaction originated may pursue available remedies, including suspension or debarment.

3. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

4. The terms *covered transaction, civil judgment, debarment, suspension, ineligible, participant, person, principal, and voluntarily excluded,* as used in this clause, are defined in 2 CFR parts 180 and 1200. You may contact the person to whom this proposal is submitted for assistance in obtaining a copy of those regulations.

5. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is proposed for debarment under 48 CFR part 9, subpart 9.4, debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

6. The prospective lower tier participant further agrees by submitting this proposal that it will include the clause titled "Instructions for Lower Tier Participant Certification" including the "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions and will require lower tier participants to comply with 2 CFR parts 180 and 1200.

7. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that it is not proposed for debarment under 48 CFR part 9, subpart 9.4, debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any prospective lower tier participants, each participant may, but is not required to, check the System for Award Management Exclusions website (https://www.sam.gov/).

8. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

9. Except for transactions authorized under paragraph 5 of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is proposed for debarment under 48 CFR part 9, subpart 9.4, suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal government, the department or agency with which this transaction originated may pursue available remedies, including suspension or debarment.

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion -- Lower Tier Covered Transactions:

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

BUY AMERICA ACT
(applies to subrecipients as well as States)

The State and each subrecipient will comply with the Buy America requirement (23 U.S.C. 313) when purchasing items using Federal funds. Buy America requires a State, or subrecipient, to purchase with Federal funds only steel, iron and manufactured products produced in the United States, unless the Secretary of Transportation determines that such domestically produced items would be inconsistent with the public interest, that such materials are not reasonably available and of a satisfactory quality, or that inclusion of domestic materials will increase the cost of the overall project contract by more than 25 percent. In order to use Federal funds to purchase foreign produced items, the State must submit a waiver request that provides an adequate basis and justification for approval by the Secretary of Transportation.

PROHIBITION ON USING GRANT FUNDS TO CHECK FOR HELMET USAGE
(applies to subrecipients as well as States)

The State and each subrecipient will not use 23 U.S.C. Chapter 4 grant funds for programs to check helmet usage or to create checkpoints that specifically target motorcyclists.

POLICY ON SEAT BELT USE

In accordance with Executive Order 13043, Increasing Seat Belt Use in the United States, dated April 16, 1997, the Grantee is encouraged to adopt and enforce on-the-job seat belt use policies and programs for its employees when operating company-owned, rented, or personally-owned vehicles. The National Highway Traffic Safety Administration (NHTSA) is responsible for providing leadership and guidance in support of this Presidential initiative. For information and resources on traffic safety programs and policies for employers, please contact the Network of Employers for Traffic Safety (NETS), a public-private partnership dedicated to improving the traffic safety practices of employers and employees. You can download information on seat belt programs, costs of motor vehicle crashes to employers, and other traffic safety initiatives at www.trafficsafety.org. The NHTSA website (www.nhtsa.gov) also provides information on statistics, campaigns, and program evaluations and references.

POLICY ON BANNING TEXT MESSAGING WHILE DRIVING

In accordance with Executive Order 13513, Federal Leadership On Reducing Text Messaging While Driving, and DOT Order 3902.10, Text Messaging While Driving, States are encouraged to adopt and enforce workplace safety policies to decrease crashes caused by distracted driving, including policies to ban text messaging while driving company-owned or rented vehicles, Government-owned, leased or rented vehicles, or privately-owned vehicles when on official Government business or when performing any work on or behalf of the Government. States are also encouraged to conduct workplace safety initiatives in a manner commensurate with the size of the business, such as establishment of new rules and programs or re-evaluation of existing programs to prohibit text messaging while driving, and education, awareness, and other outreach to employees about the safety risks associated with texting while driving.

SECTION 402 REQUIREMENTS

1. To the best of my personal knowledge, the information submitted in the Highway Safety Plan in support of the State's application for a grant under 23 U.S.C. 402 is accurate and complete.

2. The Governor is the responsible official for the administration of the State highway safety program, by appointing a Governor's Representative for Highway Safety who shall be responsible for a State highway safety agency that has adequate powers and is suitably equipped and organized (as evidenced by appropriate oversight procedures governing such areas as procurement, financial administration, and the use, management, and disposition of equipment) to carry out the program. (23 U.S.C. 402(b)(1)(A))

3. The political subdivisions of this State are authorized, as part of the State highway safety program, to carry out within their jurisdictions local highway safety programs which have been approved by the Governor and are in accordance with the uniform guidelines promulgated by the Secretary of Transportation. (23 U.S.C. 402(b)(1)(B))

4. At least 40 percent of all Federal funds apportioned to this State under 23 U.S.C. 402 for this fiscal year will be expended by or for the benefit of political subdivisions of the State in carrying out local highway safety programs (23 U.S.C. 402(b)(1)(C)) or 95 percent by and for the benefit of Indian tribes (23 U.S.C. 402(h)(2)), unless this requirement is waived in writing. (This provision is not applicable to the District of Columbia, Puerto Rico, the U.S. Virgin Islands, Guam, American Samoa, and the Commonwealth of the Northern Mariana Islands.)

5. The State's highway safety program provides adequate and reasonable access for the safe and convenient movement of physically handicapped persons, including those in wheelchairs, across curbs constructed or replaced on or after July 1, 1976, at all pedestrian crosswalks. (23 U.S.C. 402(b)(1)(D))

6. The State will provide for an evidenced-based traffic safety enforcement program to prevent traffic violations, crashes, and crash fatalities and injuries in areas most at risk for such incidents. (23 U.S.C. 402(b)(1)(E))

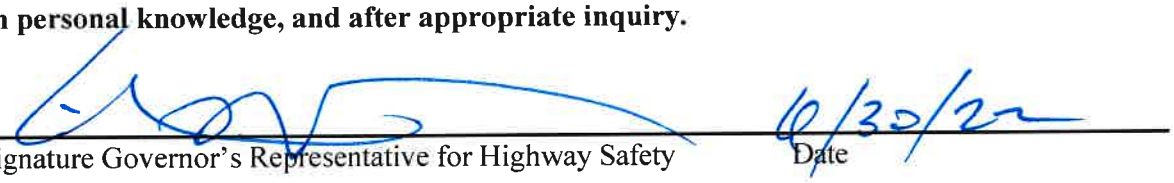
7. The State will implement activities in support of national highway safety goals to reduce motor vehicle related fatalities that also reflect the primary data-related crash factors within the State, as identified by the State highway safety planning process, including:
    - Participation in the National high-visibility law enforcement mobilizations as identified annually in the NHTSA Communications Calendar, including not less than 3 mobilization campaigns in each fiscal year to –
        - Reduce alcohol-impaired or drug-impaired operation of motor vehicles; and
        - Increase use of seat belts by occupants of motor vehicles;
    - Sustained enforcement of statutes addressing impaired driving, occupant protection, and driving in excess of posted speed limits;

- An annual Statewide seat belt use survey in accordance with 23 CFR part 1340 for the measurement of State seat belt use rates, except for the Secretary of Interior on behalf of Indian tribes;
- Development of Statewide data systems to provide timely and effective data analysis to support allocation of highway safety resources;
- Coordination of Highway Safety Plan, data collection, and information systems with the State strategic highway safety plan, as defined in 23 U.S.C. 148(a). (23 U.S.C. 402(b)(1)(F))

8. The State will actively encourage all relevant law enforcement agencies in the State to follow the guidelines established for vehicular pursuits issued by the International Association of Chiefs of Police that are currently in effect. (23 U.S.C. 402(j))

9. The State will not expend Section 402 funds to carry out a program to purchase, operate, or maintain an automated traffic enforcement system. (23 U.S.C. 402(c)(4))

I understand that my statements in support of the State's application for Federal grant funds are statements upon which the Federal Government will rely in determining qualification for grant funds, and that knowing misstatements may be subject to civil or criminal penalties under 18 U.S.C. 1001. I sign these Certifications and Assurances based on personal knowledge, and after appropriate inquiry.



Signature Governor's Representative for Highway Safety Date

William M. Babington

Printed name of Governor's Representative for Highway Safety

State of Alabama

Traffic Safety Information System (TSIS)

Strategic Plan FY2023-2027

June 8, 2022

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STATE OF ALABAMA
TRAFFIC SAFETY INFORMATION SYSTEMS (TSIS)
STRATEGIC PLAN FY2023-2027

Executive Summary

This document presents the Alabama Traffic Safety Information Systems (TSIS) Strategic Plan for the FY2023-2027 planning horizon. This five-year plan was approved at the virtual Traffic Records Coordinating Committee meeting that took place on June 8, 2022.

The plan begins by providing context in terms of the overall background and history of the planning process over the past decades. Alabama's Traffic Safety Information System (TSIS) components include all of the hardware, software and data needed to generate information that impacts either the frequency or the severity of traffic crashes. Just the definition of these various files and systems is an enormous project, and the problems involved in coordinating the inter-agency activities to support safety decision-making creates serious issues in every state. The large number of agencies involved at both the state and local levels include a wide range of activities throughout the traffic safety community, including collection, editing, forwarding, data entry, processing to generate information, and the distribution of the information that is generated.

Any effective planning process must begin with a *vision* that, in turn, defines the goals that its implementation will attempt to accomplish over the next five years. Because the TSIS itself is quite diverse, the vision of its planned accomplishments are also quite diverse. The vision is *a combination of advancing all TSIS components with the most advanced technology that is anticipated to become available and feasible to implement over the next five years.* It strives not only to advance the technology base being applied to each of the components, but to integrate these components into a cohesive system that can serve the data generation, data storage, case management, and analytics required to serve both the operational and the planning/research information needs well into the future.

Critical to this planning process is support and participation by the various TSIS stakeholders within the state, which include the Alabama Department of Economic and Community Affairs (ADECA); the Alabama Administrative Office of Courts (AOC); the Alabama Law Enforcement Agency (ALEA); the Alabama Department of Transportation (ALDOT); the Alabama Department of Public Health (ADPH); the Alabama Department of Revenue (ADOR); The University of Alabama including the Center for Advanced Public Safety (CAPS); the Center for Transportation Operations, Planning and Safety (CTOPS); and the Alabama Transportation Institute (ATI); and local law enforcement, departments of transportation, hospitals and emergency services. Federal stakeholders include the National Highway Traffic Safety Administration (NHTSA); the Federal Highway Administration (FHWA); and the Federal Motor Carriers Safety Administration (FMCSA). As members of the Traffic Records Coordinating Committee (TRCC), all of these stakeholders provide input to the plan as well as engaging in discussions for its improvement and final approval. Details on these stakeholders are given in Section 3.

The following gives a summary of the plan according to the administrative (management) component and the seven operational components into which they were organized:

- *General TSIS Management Component* was established for the management and administration of the Traffic Records Coordinating Committee (TRCC), and to provide for administration functions that are common to all other components (such as the development of the TSIS Strategic Plan). Its function is one of communication, and as such, it is not intended to usurp the management authority of any of the agencies that are involved in the support or operation of the TSIS in serving its coordinating purpose.
- *Crash Component* includes such projects as the total 100% roll-out and subsequent upgrades to eCrash, further integration of GIS capabilities into eCrash and CARE, the generation of an updated Crash Facts Book, and the development of the Automated Dashboards for Visualization Analysis and Coordinated Enforcement (ADVANCE), and other projects to produce a more effective interface to deliver CARE-generated information. This anticipates subsequent versions of eCrash to be developed based on the most recent MMUCC specifications, data requirements of Advanced Driver Assistance Systems (ADAS), the availability of automated location systems, and feedback as to improvements needed to make the eCrash data entry system itself more effective. Examples of longer term plans that have not yet been initiated call for a system to allow the public to report potential crash incidents, the development of a centralized (enterprise) CARE system, and the development of software that will enable the generation of hotspots based on GIS coordinates.
- *Vehicle Component* plans include the development and roll-out of an electronically readable vehicle registration card and a statewide distribution network that will make vehicle information immediately available to all agencies authorized to access these data in the state, e.g., via the extremely successful Law Enforcement Tactical System (LETS) system. Other projects call for an online insurance verification system (OVIS), and the development of the data infrastructure to support crash avoidance and ultimately driverless vehicles. A number of projects are specified, all of which have the commonality of transforming the current systems to a higher level of technology. Future projects are anticipated to address data needs regarding safety issues of autonomous vehicles (AVs).
- *Driver Component* calls for more effective driver licensing information (including pictures) to be distributed to the field through LETS. This will require a more effective Driver History database, which will be updated automatically by eCrash and eCite, to be available to officers in the field via an upgraded new version of the Mobile Officer's Virtual Environment (MOVE) system, which is the umbrella portal system that encompasses all of the mobile applications available to law enforcement in the field. It will also entail the information support of PI&E projects that will assist drivers transitioning to vehicles with Advanced Driver Assistance Systems (ADAS).
- *Roadway Component* involves a wide diversity of projects in support of the State's Interactive Highway Safety Design Manual (IHSDM), Highway Safety Manual (HSM), and Safety Analyst (SA) initiatives (IHSDM/HSM/SA). A primary focus of plans in this component is to continue to develop and populate a repository of the Model Inventory of Roadway Elements (MIRE) for both state and local routes. Ultimately this database will be used in the

integration of roadway features into CARE, and the integration of Crash Modification Factors (CMFs) into the Cost-benefit Optimization for the Reduction of Roadway Environment Caused Tragedies (CORRECT) system using the facilities of the CMF Clearinghouse. To effectively locate crashes on the roadway, the plan is for ALDOT to complete their various GIS projects so that the results can be integrated into all relevant systems and used by CARE to fully employ its GIS display capabilities.

- *Citation and Adjudication Component* includes the extension and roll out of the electronic citation to all jurisdictions, a proposed improved virtual DUI defendant intake system, methods for moving digital information directly to field officers using available cell phones, a statewide Internet-based incident-reporting network, and technological advances to make the traffic citation reporting and processing system totally paperless.
- *EMS-Medical Component* includes continued support for the Recording of Emergency Services Calls and Urgent-Care Environment (RESCUE) system, which implements the National Emergency Medical Services Information System (NEMSIS) standards. Other planned projects include an ambulance-stationing research project, and a pilot project to reduce EMS delay time to the scene of crashes with a moving map display. This will be accomplished by the implementation of the Mobile Officers' Virtual Environment (MOVE) in EMS vehicles and the processing of trauma center and EMS run time data through CARE and ADVANCE. Also, a project to develop the First Responder Solution Technique (FIRST) seeks to provide Law Enforcement agencies with quick, accurate, and location-aware inventory of available emergency medical assistance facilities.
- *Integration and Information Distribution Component* considers results produced from all of the projects discussed above, and thus, it transcends them with the goal of integrating their data and results, producing information from these integrations, and distributing this information. A major effort is proposed to populate the current Safe Home Alabama and SAFETY web portals so that they will integrate all of the information generated by all agencies and present it in one unified source to the traffic safety community. The SAFETY Portal is a hub for traffic safety and related data analytics. Considerations for maintaining and upgrading this portal are planned. General innovations of MOVE and the use of mobile platforms for MOVE and its applications are also included. Integration is also necessary for the Data-Driven Approaches to Crime and Traffic Safety (DDACTS) that are now being recommended by various federal agencies. Finally, a number of ETLs will be developed to enable the integration of crash, citation, roadway, EMS/injury and vehicle data so that analytics can be performed on these datasets to generate information that is not currently available. ETLs (Extract-Translate-Load) are middleware that sits between the raw data and the information generator (e.g., CARE or SAFETY) to pre-process the raw data to make it much more understandable and useful to the users who are generating information.

In reviewing the above, it is very important to recognize that the plan under consideration is for the next five fiscal years (FY2023 through FY2027 inclusive). Some of the projects are underway, but others might not be started for a few years. The reason for getting them into the plan is to shape the overall development strategies of all of the development groups that will be involved, many of which have a large proportion of their responsibilities outside of the traffic records arena. Many things can happen over this planning horizon, and we anticipate, for example, that the strides that

will be made in automated vehicle (AV) development will be quite surprising perhaps eclipsing those of the past five years with exponential growth.

This document will continue with a Background and History section to provide context for the plan. This will be followed by the TSIS vision that enables the various projects to be seen as components in a much larger system of a traffic safety system that is striving for the total elimination of traffic fatalities (Toward Zero Deaths, or TZD). The TSIS stakeholders are given in Section 3 along with some details of their participation. The essence of the plan is given in the Project Specification Section (Section 4) of this document, which is the heart of the five-year plan in that it gives a high-level view of the planned projects in each of the TSIS components. The 4.3 subsection in Section 4 contains the TSIS measurable performance indicators for each of the projects given in the project specification, subsection 4.2. Finally, the state's response to its most recent Traffic Records Assessment (TRA) is given in the last three sections, as follow:

- Section 5, Traffic Records Assessment Recommendations,
- Section 6, Traffic Records Assessment (TRA) Responses that will be addressed in FY2023, and
- Section 7, Traffic Records Assessment (TRA) Responses to recommendations that will not be addressed in FY2023.

1.0 Background and History

Alabama's Traffic Safety Information System (TSIS) components include all of the hardware, software and data needed to generate information that impacts either the frequency or the severity of traffic crashes. Documenting the definition of these various files, databases and systems alone is an enormous project, and the problems involved in coordinating the inter-agency activities to support traffic safety transactions and decision-making create serious issues within every state. The large number of agencies involved at both the state and local levels include a wide range of activities throughout the traffic safety community, including collection, editing, forwarding, data entry, processing and the distribution of generated information. More recently data entry systems have come into the purview of the state's TSIS in addition to the analytics of crash cases. One example of a case management system is the state's electronic citation (eCite), which begins with the issuance of an electronic citation and proceeds electronically through the court system to ultimately impact the driver history record.

Coordination of these types of projects was initiated in Alabama when the National Highway Traffic Safety Administration (NHTSA) awarded Alabama a contract in July 1994 to coordinate and facilitate the creation of a strategic plan for traffic information systems within the state. The first step in this process was for NHTSA to perform a Traffic Records Assessment (TRA) for the state of Alabama. The major result of that TRA was a set of over 50 recommendations for improving the traffic information system, which became the basis for the state's Strategic Plan. Four subsequent TRAs have been conducted for the state, the most recent was completed in January 2020. Subsequent strategic plans have responded to recommendations from these assessments.

The following are the key events that have driven the planning process over the past decade:

- The Alabama Traffic Information Systems Council (ATISC) was created in 1994 as a prerequisite to obtaining funding from the National Highway Traffic Safety Administration (NHTSA) for the original Strategic Planning project.
- The Alabama Traffic Records and Safety Committee (ATRSC) was formed and had its first meeting on May 3, 2000. It commissioned the update to the Traffic Records Assessment and the Strategic Plan.
- The Alabama Traffic Records Coordinating Committee (TRCC) was organized with a membership to include policy level representatives of the key safety data systems within the state. The TRCC essentially subsumed ATISC and ATRSC into a single entity. Membership includes the data managers, data collectors, and major data users for each of the following system components: Crash, Vehicle, Driver, Roadway, Citation/Adjudication, EMS/Injury Control, and System Integration. The State TRCC, which had its first meeting on March 28, 2006, as prescribed by Section 405c (then Section 402), assumed responsibility for overseeing the planning and improvement of the key safety data systems within the state. The State TRCC must approve the Traffic Safety Information System (TSIS) strategic plan on an annual basis.

- A Traffic Safety Information System (TSIS) five-year plan was developed in 2006 and has been updated with changes every year thereafter. This planning document has provided guidance over the past decade on all TSIS efforts. The plan has been extremely forward looking, and it has served quite well in bringing into existence several new and revolutionary systems, including CARE ADVANCE (dashboard interfaces), RESCUE, eCite and eCrash.
- The five-year plan was updated considerably after the February 2011 Traffic Records Assessment conducted by NHTSA. It reflected their recommendations but went on to specify definitive actions that not only addressed the issues cited but built upon the many commendations that were made in that document**.**
- The five-year plan was updated to the 2014-2018 planning horizon in response to the MAP-21 format for qualification for the 405c funding cycles in 2013. The strategic plan was approved at that time by NHTSA, and it has been updated each year to respond to progress and the promise of newer technologies. The most recent one is in file named 405c-TSIS-2023-2027 Strategic Plan vxx, where xx is the most recent version number.
- The most recent Traffic Records Assessment was completed by NHTSA and state representatives of the TRCC in January 2021. The state has responded to that assessment and has addressed all of the recommendations made. This current document is the resulting plan for the FY2023-2027 planning horizon.

1.1 Highest Level Optimization (Table 1)

Table 1 is the name given to a critical tool in the Alabama traffic safety decision-making process. It is aptly named in that it is recommended to be the first thing that traffic safety professionals consider when they are allocating budgets at the highest levels. On one page, Table 1 presents a comparison of select types of crashes, which have been chosen by traffic safety professionals in Alabama specifically for the purpose of countermeasure comparisons. Recent modifications demonstrate that Table 1 is not a fixed entity but is one that changes annually as new issues emerge.

The information on each line within Table 1 is labeled as *crash categories*. It is important to recognize that these categories are *not mutually exclusive* – in fact, it would be difficult to find a crash that fell into only one of these categories, while it is easy to imagine crashes that fall into five or more, simultaneously. The categories were originally set up by a group of traffic safety professionals about two decades ago in an attempt to be as comprehensive as possible. These categories have been augmented and combined (some eliminated) over the years to better satisfy the goals of accuracy and optimization.

A document entitled *Table 1, The Highest Level View of Traffic Safety Issues in Alabama* was created to provide an understandable working definition of the crash categories of Table 1, and this document is highly recommended to accomplish this purpose. This report is available on the SafeHomeAlabama.gov Special Studies page: http://www.safehomealabama.gov/caps-special-studies/

Table 1. Top AL Fatality Causes CY2021 Data

	Crash Type (Causal Driver)	Fatal Number	Fatal %	Injuries	Injury %	PDO No.	PDO %	Total
1	Belt Restraint Fault*	541	6.24%	4,476	51.62%	3,654	42.14%	8,671
2	Speed Involved	199	2.16%	2,785	30.29%	6,209	67.54%	9,193
3	ID/DUI All Substances	180	3.17%	1,953	34.40%	3,544	62.43%	5,677
4	Hit Roadside Obstacle	126	2.15%	1785	30.46%	3949	67.39%	5,860
5	Pedestrian Involved	126	17.14%	575	78.23%	34	4.63%	735
6	Wrong Way Items	113	3.19%	805	22.73%	2,623	74.08%	3,541
7	Large Truck Involved	112	1.17%	1,701	17.80%	7,741	81.02%	9,554
8	Fail to Yield-Ran (All)	111	0.38%	8,040	27.41%	21,184	72.21%	29,335
9	License Defect Causal	101	1.39%	2,127	29.22%	5,052	69.40%	7,280
10	Youth (16-20) Causal	82	0.38%	4,351	20.08%	17,233	79.54%	21,666
11	Mature (65 or Older)	81	0.61%	2,666	19.94%	10,621	79.45%	13,368
12	Motorcycle Involved	72	4.57%	1,044	66.33%	458	29.10%	1,574
13	Aggressive Operation	70	2.46%	792	27.89%	1,978	69.65%	2,840
14	Distracted Driving	45	0.33%	2,803	20.55%	10,794	79.12%	13,642
15	Drowsy Driving	33	0.97%	1,201	35.22%	2,176	63.81%	3,410
16	Vehicle Defects – All	29	0.64%	923	20.28%	3,600	79.09%	4,552
17	Utility Pole	26	1.03%	799	31.76%	1,691	67.21%	2,516
18	Child Restraint Fault*	22	0.85%	717	27.80%	1,840	71.35%	2,579
19	Work Zone Related	17	0.73%	420	18.07%	1,887	81.20%	2,324
20	Vision Obscured	12	0.97%	289	23.31%	939	75.73%	1,240
21	Bicycle	7	3.15%	174	78.38%	41	18.47%	222
22	Railroad Trains	6	9.84%	18	29.51%	37	60.66%	61
23	Roadway Defects – All	2	1.77%	22	19.47%	89	78.76%	113
24	School Bus Involved	1	0.18%	71	12.96%	476	86.86%	548

* This item is measured in the number of each severity of crash that *resulted* from the failure to use the proper restraint, as opposed to other items that are measured by the number of crashes *caused by* or *related to* the involvement of the particular item.

2.0 Traffic Safety Information System (TSIS) Plan Vision

As indicated above, TSIS coordination activities are required in several areas that impact crash records, driver history, vehicle licensing, roadway characteristics (construction, maintenance, traffic volumes, etc.), citation/adjudication, emergency response/medical, and component integration and other demographic data. The coordination of this planning process is a microcosm of the overall ongoing coordination that is required to move the state ahead effectively in applying information technology to the safety facet of its transportation systems. Through a series of TRCC meetings, individual efforts, and contacts, information has been submitted and synthesized into this plan.

2.1 General 25 Year Backdrop Vision

It is difficult to summarize such a comprehensive planning process in a nutshell. However, any effective planning process must begin with a *vision*. This vision will define the goals that the implementation of this plan will attempt to accomplish over the next five years. However, in its effort to move Toward Zero Deaths (TZD), which has been adopted in both the ADECA/NHTSA Highway Safety Plan (HSP) and the ALDOT/FHWA Strategic Highway Safety Plan (SHSP), the TRCC determined that this five-year vision must fit into a more futuristic view of traffic safety over the next 25 years. In this regard the goal set consistent with TZD was a reduction of traffic fatalities to no more than 50% of its current value from the start date of 2015.

In this regard, the following vision items are looking forward to the year 2040 and the evolution of traffic records that will take place over the next 25 years:

- TRCC members will be the primary movers of the effort to move toward a surface transportation system that will be fully integrated in its automated communications both among vehicles and with the highway system and non-motorized participants (e.g., pedestrians and bicycles).
- Driverless vehicles will become the norm, and those that are not driverless will be heavily automated with safety devices and communications in an attempt to either avoid or prevent traffic collisions.
- A relative minority of vehicles on the road will be owned by the driver. The vehicles will be charged out monthly on a cost per mile basis and such things as speed control and use of restraints will be closely controlled to eliminate fatalities if not crashes in general.
- As self-driving vehicles become ubiquitous, more and more vehicles will be assigned to dedicated routes (e.g., routine commuting, hotel to entertainment, etc.), and these routine routes will inspire confidence in the use of autonomous vehicles (AVs) for more generalized travel.
- It is expected that the driverless transition will be advanced by platooning of participating vehicles that have the minimal technology to support these functions, which will draw upon the necessary roadway data systems innovations.

- The TRCC will work much closer with the auto industry especially from the sociological point of view of leading the traffic safety community in this direction. The feasibility of TZD will be recognized as fatalities are dramatically reduced. Presentations have been made at National meetings to this effect, although at this point there has been no measurable reduction of fatalities, and none is expected as long the driver is the major safety component in the system.
- With this leadership of the TRCC and the traffic safety community in general, the innovations required will be accepted by the general public as part of an accepted and inevitable evolution to TZD along with the recognition that no system will ever be perfect.
- This evolution has already begun in some of the higher-level vehicles, and it is evidenced by their advertising of crash prevention systems, computer controlled braking systems, visualization systems, lane-departure and forward collision warning systems, obstacle detection systems, adaptive cruise control, and electronic stability control.
- Current innovations can be subdivided into: (1) *in-vehicle crash avoidance systems* that provide: (a) warnings to the driver and/or (b) limited automated control of the vehicle; and (2) connected communication technologies, which include: (a) *vehicle-to-vehicle* (V2V), and (b) *vehicle-to-infrastructure* (V2I). Examples of the original AV prototypes include the Google car and Volvo platoons, but at this point it seems that all manufacturers are entering into these areas. We see competition to achieve greater safety to be an assurance that these trends will continue.
- V2I/I2V communications are probably the least developed of the communication systems. Examples of their applications will be to inform drivers and control autonomous vehicle operations in the following devices or conditions: traffic signals, weather conditions, traffic congestion, potential hazards (e.g., potholes), work zones, and many others that will become apparent as these communications mature.
- Data from V2I and V2V systems will provide traffic management centers with detailed, real-time information on traffic flow, speeds, and other vehicle conditions, enabling the anticipation of traffic incidents and improved responses.
- The major commercial airlines have gone through entire years without a single fatality, and the reason quite clearly is technology, and the infrastructure for that is data and analytics. We need to continue this theme: "*TZD success is only possible if we get the driver completely out of the loop.*"
- This cannot be attained without the general acceptance of the driving public. It would seem that a simple way to introduce AVs in a gradual evolutionary way would be to continue to put driver controls in all AVs and give the driver the option to switch to manual control in emergency situations or in local situations where AV operation is not yet supported. *Platooning*, discussed below, could also be a major step toward AV acceptance.
- The next step is using current technology to get vehicles to automatically communicate with each other (without human intervention) and the use of platooning lanes (or entire highways) where these platoons can travel at extremely high speeds and total safety (or something at least comparable to the airline industry where a crash becomes a major news event).
- Safety and increased traffic flow will both be accomplished by these innovations since platooned vehicles can theoretically travel as a unit (like a train) only a few feet apart but at

very high speeds. While the ultimate goal might be automated platooning (perhaps transparent to the occupants of any given vehicle), the immediate use of automated communication will be to promote safety and traffic flow in a subset of the vehicles on the road (perhaps only a few to start with). There has been considerable interest in platooning shown by the trucking industry.

- The increased speed and safety will provide incentives for people to purchase "platoon-ready" vehicles that qualify to use these highways and lanes – much like current HOV lanes. This could provide major acceleration to the evolution because it is really a fairly small step to go from platooning with a designated special lead vehicle to platooning with a volunteer lead vehicle, and then ultimately, no lead vehicle at all. This will evolve as the technology is developed.
- One reason that the sociological aspects of this evolution are so important is that costs will be nominal with economies of scale, much as airbags are not considered a major cost in vehicles today.
- Some recent surveys indicated considerable skepticism about autonomous vehicles on the part of the general public. As traffic records and traffic safety professionals, promotion is the role we must play. We should be able to see both the feasibility of it and its ultimate value. Recent issues with distracted driving have been a major setback to moving things forward safety wise – as have marijuana and recreational drug laws. The general public must be able to perceive that getting the driver out of the critical role of controlling the vehicle is the only hope for TZD.
- This evolution will sneak up on us if we do not see that this is going to cause a major shift in our data efforts. Crash data are going to become less important as the technology produces fewer and fewer crashes, and the emphasis will shift from improving the driver to improving the vehicle technology, with the goal of eliminating the driver altogether.
- We must take preemptive steps to minimize the emergence of an anti-technology culture, since those who do not adapt will have their jobs (and status) threatened. So, we cannot assume that everyone is on board with these innovations, and in fact, we wonder if this entire line of reasoning is being questioned by traffic safety professionals because it would seem that it really has very little to do with traditional traffic records as we know them.
- Other emerging issues, such as the capabilities to hack vehicle computer systems, must be dealt with proactively. This is considered to be one of the major concerns of the general public and the unknown is always quite fearful.
- Population over the next 25 years will increase up to an additional 40 million placing a corresponding increase demand on the roadway system. To some extent this effect will be moderated by a growing demand of millennials to avoid commutes by living in large metropolitan areas, by a dramatic increase in tele-commuting, and by a continued exponential increase in on-line shopping. All of these changes must be anticipated at least five years before they become significant if adequate transitions to them are to be developed.
- The modes of transportation will change with pedestrian and bicycle travel increasing dramatically, and ride-sharing and bicycle sharing becoming much more accepted, as well as

new and innovative transit options. For example, specialized autonomous vehicles are already beginning to replace taxis for high demand shuttle routes. Non-docking bicycle sharing is already available in many large cities.

- The longer life expectancy and the aging of the population will result in a further increased demand for AVs.
- Law enforcement will use drones, advanced GPS, satellite imagery and other advanced technologies as an integral part of their operations to supplement their efforts.
- Some of the major changes in the Traffic Records community to be expected over the next 25 years:
    - A dramatic de-emphasis on crash records since ideally, as TZD is realized, crash records will become rare or non-existent.
    - An increase the more intensive multi-disciplinary crash investigations (MCDI) will become more predominant emulating the aviation establishment. Considerable efforts will be required to make data from such investigations useful, in stark contrast to the MDCIs of the past in which each case tended to be an end in itself. MCDI data elements should be designed to reveal patterns among crashes and not to just reveal what happened in a single or a few closely related crashes.
    - A corresponding de-emphasis on driver behavior will take place as the driver is eliminated from the picture; the emphasis will turn to technological defects in the integrated vehicle-roadway systems.
    - Because of fewer crashes there will have to be increased data sharing throughout the country in order to get a sufficient sample sizes within subsets of the data to do effective analytics. Data analytics will move away from the historical (e.g., crash and citation) approach toward methods that are more predictive in nature (e.g., fault tree analysis), and more proactively addressing emerging safety risks.
    - Technology will be directed toward the vehicle, and so state traffic records specialists will need to form alliances with companies or trade associations within their regions to support the efforts to compare alternative technologies to assure that the evolution away from the driver is being controlled in an optimal manner.
    - Emphasis will dramatically increase to efficient and effective roadway innovations that will be needed to support the driverless effort. As examples, rail-vehicle crashes should become virtually impossible, as should intersection crashes. Few vehicles should ever have to stop at red lights except where the traffic volume is high. Where traffic is fairly sparse, sensors should determine where gaps clearly enable safe cross traffic and direct vehicles accordingly. Vehicles can be directed (perhaps automatically) to slow down while such a gap is being detected so that they will not be required to stop. This will preserve momentum and dramatically improve vehicle fuel mileage.
    - Intelligent roadways will complement and supplement the driverless vehicle, and because roadways have traditionally been managed by government (as opposed to private industry management of vehicle manufacture), there will be a demand for government IT personnel to transition to this growing need. One transition might be from crash records analysis to the analysis of real time data being accumulated from V2V and V2I communications systems.

- The need for additional cyber security will challenge IT personnel to acquire the expertise involved to assure that the hardware and software that they deploy is able to dynamically adapt to these aggressively innovative threats. Redundant back-up systems will make ransomware attacks obsolete.
- Backup redundancy is also essential to the reliability of GPS-dependent systems that can currently be disrupted by weather events, demand overload, jamming and spoofing by hackers, and excess system demand. This could be one of the greatest technological challenges in moving the autonomous vehicle capabilities forward, in that it will require a holistic approach requiring the involvement of expertise across the spectrum of the transportation enterprise.
- Violation types will dramatically change with the driver out of the picture; there will need to be a transitioning of enforcement personnel to testing the various aspects of the technology within the vehicles. Thus, vehicle manufacturers will receive citations as opposed to drivers.
- Similarly, EMS/medical efforts and resources currently consumed on traffic crashes will be allocated to providing the technology to enable EMS to get to other types of emergencies in reduced time through automated routing that dynamically adjusts in real time to changing conditions.
- Integrated traffic safety and land use planning will demand a broader range of expertise on the part of systems analysts and software designers.
- Additional IT resources will be required to support the current emphasis on traffic safety metrics that will continue and will be extremely useful in guiding traffic safety decisions. Quantifiable results will enable traffic safety resources to be allocated to obtain the maximum benefit in saved lives and reduced injury. Enhanced data and analytics will be required on the location and conditions of infrastructure as well as the location and characteristics of crash and near-crash incidents.
- The ubiquitous nature of personal computerized cell phone devices by law enforcement officers and the general public will lead to hundreds of apps that have not yet been conceived. For example, we can see a seamless multi-modal plan dynamically guiding long distance travelers. Law enforcement capabilities will include automated continuous dynamic updating of weather and other potentially disastrous events, complete integration with first responder and recovery enterprises, and most importantly, effective communication linkages with each other and with the general public.
- As the proportion of connected and automated vehicle-roadway systems continue to increase, a major change in the traffic records community will be essential to address the evolving policy requirements, to manage evolving data, and to mitigate privacy and liability concerns. Ideally, these systems will be able to identify, diagnose, and anticipate breakdowns in all aspects of the resulting complex technological systems.
- Finally, adequate resources must be made available for developing preemptive countermeasures that will protect these systems from malicious attacks and the resulting tragedies that would result. Automated systems that detect the attack as well as the attacker, and preemptively disable the attacker's capabilities in anticipate of subsequent follow-up litigation is seen as a possibility.

Some of the above concepts were obtained from: www.dot.gov/beyondtraffic.

2.2 Five-Year Vision and Areas of Risk

2.2.1. Vision

Not all of the above factors will be reflected in the five-year plan, since many are in the out years. The above is intended to provide the *backdrop view* that will follow well after the proposed five-year plan is implemented. However, it is important to have the longer-term view when considering the activities planned in the immediate (1-2 years) and intermediate future (3-5 years). The following is the *five-year* vision that was adopted by the TRCC that provides the high-level guidance to the planning process; this summarizes what is expected at the end of the five year planning horizon:

- All police and EMS vehicles (both state and local) will be equipped with laptops or other equipment that will enable the direct entry and retrieval of all relevant records (e.g., including crashes, citation, criminal and EMS records). A common virtual environment within all of these vehicles will facilitate data entry and use as well as communications of imagery, GIS coordinates and other information to provide complete coordination and interoperability among first responders and subsequent rescue units to address events as traffic, weather and terrorist emergencies.
- Global Positioning System (GPS) and Geographical Information Systems (GIS) technologies will enable officers to automatically enter accurate locations directly into their respective crash, citation, and all other records that require location specification. By clicking the location on automated maps (MapClick) all of the necessary data will be accurately added to the records making unnecessary any further map or table lookup or other data entry (e.g., the route number or road name). This capability will be available to all law enforcement statewide to be used in any of their systems requiring location specification.
- Systems will be available in each unit to optimally map out quickest routes and alternative routes to emergencies dynamically around congestion. The system will contain artificial intelligence capabilities that will modify alternative routes based on past approved experiences as well as shortest distance/quickest time.
- Digital data and imagery will be pushed to both the central dispatch and local command cells where they are most needed to deal with emergencies such as weather events or hazardous materials catastrophes. Field inputs will be designed to enable officers to provide these data elements in a minimal time and effort on their part. Data will be piped back to them from all involved officers so that both the central and distributed commands can have not only situational awareness, but a full perception of resource availability so that resources can respond to emergency situations in the most effective way possible.
- All citizens above the age of 15 will have STAR ID with a capability of adding data to their identification cards to meet a variety of traffic safety and other social and economic needs, including identification, authentication, and system/facility access.

- Dashboards will be developed for mobile systems such that they can be set to default to the most useful information that is needed by the field officer on a daily/hourly basis. In addition, they will provide the interface to more detailed alternative information that is currently not available on web-based dashboard systems (e.g., IMPACT analyses).
- A centralized index of all available databases will exist that will enable users of these data to understand the availability and content of these databases and to access the data needed for both planning and operational purposes.
- A system will exist to integrate the various disparate databases. For example, GIS will enable the roadway characteristics data to be merged with crash data to provide the basis for surfacing those roadway characteristics that have the maximum potential for crash frequency and severity reduction. Databases will have the ability to be integrated by any common key.
- Case number cross references will enable the merging of crash and medical/EMS data to enable optimal deployment of EMS resources and the development of new countermeasures. In the interim, key data elements in the EMSIS and Trauma data systems will be used to merge these data. Crash, EMS (ambulance run), and trauma data will have an integration capability that is both deterministic and probabilistic, depending on the data availability.
- The FHWA Highway Safety Manual (HSM) and Interactive Highway Safety Design Manual (IHSDM), along with the AASHTO Safety Analyst (SA) systems, will be implemented to the extent that they are seen to improve both (1) the safety of overall roadway designs, and (2) the ability of the current Cost-benefit Optimization for the Reduction of Roadway Caused Tragedies (CORRECT) to produce roadway improvements that result in maximum safety benefits. This will necessitate that roadway characteristics are made available to roadway designers and high crash location investigation teams as required by the systems and manuals listed above.
- A system will be developed and deployed by ALDOT that will totally integrate the maintenance and safety roadway improvement projects so that when assets are deployed for roadway maintenance they can be leveraged to produce roadway improvements over the entire segment being maintained; this has been found to reduce the cost of otherwise pure safety project to the extent that the benefit-cost ratios for such roadway improvements are at least doubled.
- A unified approach to court records will exist such that the violation, court referral, alternative sentencing and criminal histories will be available to all courts and other authorized officials throughout the state in real time.
- An improvement in demographics data will be made available to all uses of technology in the State via *SafeHomeAlabama.gov* to enable them to formulate countermeasure approaches using crash rates by severity in addition to raw frequencies.
- There will be a major effort throughout the traffic safety community led by the Traffic Records Coordinating Committee and other Information Technology specialists to recognize the feasibility of ultimately removing the driver from the critical role of vehicle control. The shift of emphasis toward recognizing that the Toward Zero Deaths (TZD) goal can only be achieved by these developing technologies is itself a major challenge that must be faced by technology specialists.

While this scenario might seem futuristic, *all of the technology needed to implement it is currently available*. What is not available are unlimited resources for immediate implementation, and for that reason it is essential that the planning process concentrate on the *most important projects* first for optimal resource allocation. This plan will enable advanced technology to be rolled out throughout Alabama in a systematic way, while taking advantage of the successful pilots in Alabama and throughout the country.

2.2.2. Areas of Risk

In addition to the above vision, it is important to recognize the risk that Alabama is currently under because of the age of many of the existing critical software systems. Our core enforcement and crash data collection suite (eCrash, eCite, MOVE, MapClick and related applications) are nearly 20 years old. These systems are implemented using old technology, and with security protocols that are outdated and insufficient to manage the information security risk associated with the sensitive data associated with large scale public engagement that is required with traffic enforcement.

These systems are utilized daily by all police agencies in Alabama, as well as all courts that adjudicate traffic offenses. This reflects a dependency of thousands of people on the operational reliability of these systems, all of which also have a substantial impact on the public as individuals engage with these agencies in the context of moving violations and motor vehicle crashes.

While the five-year plan provided here is a list of enhancements that are driven by an evolving traffic safety landscape, our priority over the next five years is to mitigate this risk by replacing the core enforcement and crash data collection software suite. The plan below first identifies an approach to address and remediate the risk associated with the state's substantial operational dependency on eCrash, eCite, MOVE, MapClick and related applications.

3.0 TSIS Stakeholders

The TSIS Strategic Plan is a mechanism to attain the coordination that is essential to the goal of optimal traffic safety resource allocation. It is a *working document* that can and should be continuously updated and adapted to system development needs as they come into better focus. Its immediate objective is to document a plan for developing those technological advances that can be implemented within Alabama to best advance the cause of traffic safety.

With such a large complex system involving literally hundreds of data sources and thousands of data elements administered by dozens (but involving hundreds of different) agencies, one might ask if coordination is even possible. The answer depends entirely upon the willingness of each of the involved individuals to put aside departmental interests in order to attain the goal of maximizing the total safety interests of the state's roadway users. To this end, the Alabama Traffic Records Coordinating Committee (TRCC) has the responsibility to coordinate the many interdepartmental development efforts that are expected to be forthcoming from this plan.

The following agencies participate in TRCC and share coordination responsibilities for traffic safety and their corresponding information systems:

- Alabama Department of Economic and Community Affairs (ADECA), specifically the Law Enforcement Traffic Safety (LETS) Division which houses the Office of Highway Safety (OHS) led by the Governor's Representative for Traffic Safety is charged with the overall planning responsibilities for traffic safety in general, including various plans (e.g., Impaired Driving, Seatbelts, Selective Enforcement, etc.) including this TSIS strategic plan.
- Alabama Law Enforcement Agency (ALEA). This agency became operational in 2014 as an umbrella agency subsuming all of the state law enforcement functions that were previously being performed throughout many state agencies. Two agencies that were commonly referenced individually in previous TRCC five-year plans will now be reference collectively as ALEA; these are:
    - (1) personnel formerly of the Alabama Criminal Justice Information Center (ACJIC) will continue to be a major contributors to TSIS systems within the ALEA Information Technology Division; in the past these contributions include taking the primary role in developing the Mobile Officer's Virtual Environment (MOVE), the Uniform Crime Reporting (UCR) Local Template for Reporting and Analysis (ULTRA), the Law Enforcement Tactical System (LETS), and the Centralized Agency Management System (CAMS) all of which have been documented in detail in previous TSIS strategic plans; and
    - (2) personnel formerly of the Alabama Department of Public Safety (DPS) will continue to be responsible for the collection of violation and crash data, and will continue to be the custodian of the Crash reports, and several safety-related databases in this regard (henceforth referenced as State Trooper Division of ALEA or "State Troopers;"
- Alabama Administrative Office of Courts has coordination responsibilities for all of the courts, which involves violation, adjudication, and criminal (including driver) histories;
- Alabama Department of Transportation, which is responsible for building and maintaining safe roadways, and has also recently assumed responsible by federal legislation for a wide variety of countermeasures that are not directly roadway related;
- Alabama Department of Public Health, which has jurisdiction over all Emergency Medical Services, hospital, and trauma registry data;
- Alabama Department of Revenue, which is responsible for vehicle title and registration data;
- The University of Alabama including the Center for Advanced Public Safety (CAPS); the Center for Transportation Operations, Planning and Safety; and the Alabama Transportation Institute which are all collectors and users of the traffic records data. These University of Alabama agencies work with all the other agencies on the TRCC providing software development, data hosting and data analysis, and thus, are involved in coordination for much of the traffic records data;
- Local police, departments of transportation, hospitals and emergency services;

- National Highway Traffic Safety Administration (NHTSA), which has had general responsibility for driver and vehicle countermeasures;
- Federal Highway Administration (FHWA), which is mainly focused on roadway engineering countermeasures; and
- Federal Motor Carrier Safety Administration (FMCSA), which has interests in commercial vehicle and driver safety.

The purpose of listing these agencies is to demonstrate the immense problem involved in coordinating the development of an effective statewide traffic safety information system. Coordination is quite difficult even within many of the larger of these state departments. Prior to the creation of the Traffic Records Coordinating Committee (TRCC), there were very few formal inter-departmental procedures established to organize and operate the data systems. Most of the essential interactions between agencies have been handled with informal relationships between individuals within the departments who had common traffic safety information interests.

4.0 Planned Projects

4.1 Overview and Organization

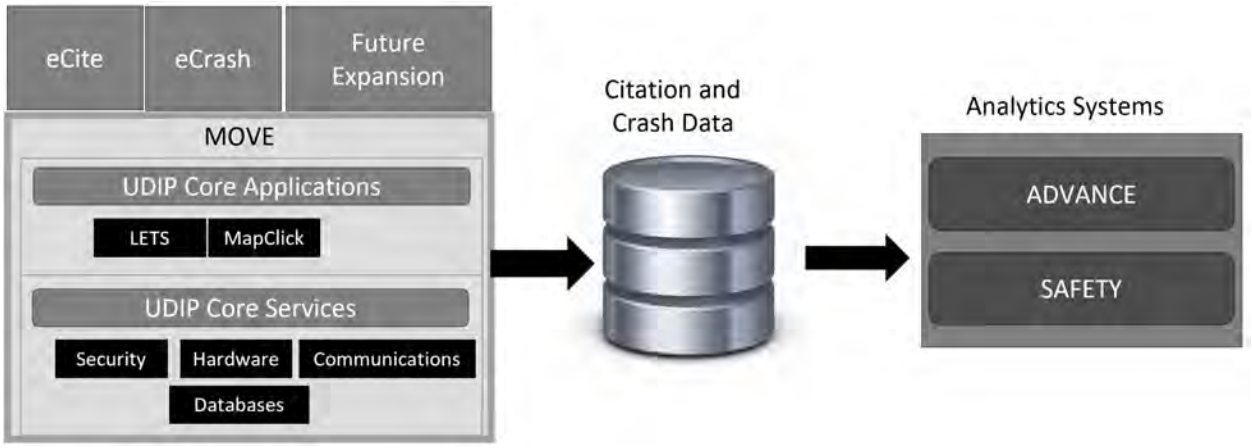
Our project plan can be addressed in two parts: (a) the redesign and implementation of the core enforcement and crash collection suite to mitigate the risks discussed above, and (b) the specific areas of enhancement that have been identified by the various stakeholders that will enhance the capabilities of the enterprise to align with the needs and demands of the future. Section 4.2 addresses (a), while Section 4.3 addresses (b).

4.2 Core Enforcement and Crash Collection Suite

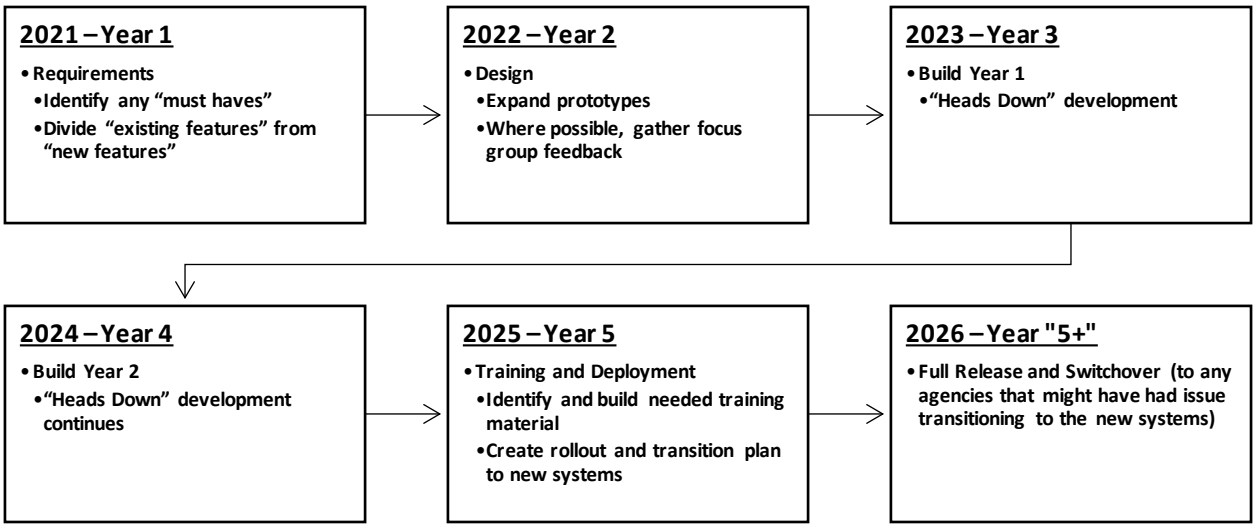
The Universal Desktop Infrastructure Platform (UDIP) is intended to fully replace and expand the foundational framework of the Mobile Officer Virtual Environment (MOVE). MOVE has served as the hub for the core traffic safety suite for several years. The systems it supports include eCite, eCrash, eForms, and MapClick. This UDIP system will be divided into two major components: Service and Interface. These components are intentionally separate to provide more flexibility and opportunity for upgrade of each item independently over their lifecycle.

The Service component contains the primary core features of the MOVE framework, including single-sign-on, interprocess communication (for sharing data between applications), and hardware integration (GPS, license scanners, etc.). The Interface component is a customizable user-facing interface that provides application launching, user login, access to system-wide settings, and display of recently scanned or populated data (where applicable). This component can also be hidden (unlike the current MOVE interface), based on several user requests for this option.

The figure below outlines how UDIP and its components fit into the entire traffic safety system suite, including the data workflow. As shown, a critical component of the system design is the downstream impact on the collected data and resulting utility to the analytics goal of the entire set of components. Not shown here is an ongoing analysis of the current field set (particularly with eCrash, as this upgrade will see it going from MMUCC v3 to MMUCC v5) that focuses on the impact to data driven enforcement and analytics.



Obviously, replacing these systems requires significant planning to both develop the new systems while also considering the best way to deploy them to users that are already using existing versions. To that end, we have developed a 5-year comprehensive development and deployment plan to cover the requirements gathering, software creation, documentation, training, and rollout. The outline of the major topics of each year of the plan are shown in the diagram below. A "Year 5+" has been included for any wrap-up effort related to deployment to agencies in Alabama that may require more time to transition to the new systems.



4.3 Enhancement Project Specifications

The enhancement project specifications are organized according to the seven operational components plus the administrative component into which they were organized by NHTSA:

- *General TSIS Management Component* was established for the management and administration of the Traffic Records Coordinating Committee (TRCC), and to provide for functions that are common to all other components. It is not intended to usurp the management authority of any of the agencies that are involved in the support of operation of the TSIS in serving its coordinating function.
- *Crash Component* includes the total 100% roll-out and subsequent upgrades to eCrash, further integration of GIS capabilities into eCrash and CARE, the generation of an updated Crash Facts Book, and the development of the Automated Dashboards for Visualization Analysis and Coordinated Enforcement (ADVANCE) to produce a more effective interface to deliver CARE-generated information.
- *Vehicle Component* plans include the development and roll-out of an electronically readable barcode on the registration receipt and a statewide distribution network that will make vehicle information immediately available to all consumers of these data in the state, including the LETS system. Other projects call for improved online insurance verification to support law enforcement civil assessments on uninsured motorists and the development of the data infrastructure to support crash avoidance and ultimately driverless vehicles.
- *Driver Component* calls for more effective driver licensing information (including pictures) to be distributed to the field. This will require a more effective Driver History database, which will be updated automatically by eCrash and eCite, to be available to officers in the field via an upgraded new version of the Mobile Officer's Virtual Environment (MOVE) system, which is the umbrella portal system that encompasses all of the mobile applications available to law enforcement.
- *Roadway Component* involves a wide diversity of projects in support of the State's Interactive Highway Safety Design Manual (IHSDM), Highway Safety Manual (HSM), and Safety Analyst (SA) initiatives (IHSDM/HSM/SA initiatives). A primary focus of plans in this component address continuing to develop and populate a repository of the Model Inventory of Roadway Elements (MIRE) for both state and local routes. Ultimately this database will be used in the integration of roadway features into CARE and the integration of Crash Modification Factors (CMFs) into the Cost-benefit Optimization for the Reduction of Roadway Environment Caused Tragedies (CORRECT) system using the facilities of the CMF Clearinghouse.
- *Citation and Adjudication Component* includes the extension and roll out of the electronic citation to all jurisdictions, a proposed improved virtual DUI defendant intake system, a method for moving digital information directly to the field officers using available cell phones, a statewide Internet-based incident reporting network, and technological advances to make the traffic citation reporting and processing system totally paperless.
- *EMS-Medical Component* includes continued support for the completion of the deployment of the Recording of Emergency Services Calls and Urgent-Care Environment (RESCUE)

system, which will implement the National Emergency Medical Services Information System (NEMSIS) standards. Other planned projects include an ambulance stationing research project, the development of a spinal injury database, and a pilot project to reduce EMS delay time to the scene of crashes with a moving map display.

- *Integration and Information Distribution Component* considers results produced from all of the above-planned projects, and thus transcends them with the goal of integrating data and results from the six operational components above, producing information from these integrations, and distributing this information. General innovations of MOVE and the use of mobile platforms for MOVE and its applications are also included. Integration is also necessary for the Data-Driven Approaches to Crime and Traffic Safety (DDACTS) that are now being recommended by various federal agencies. A number of ETLs (Extract-Transition-Load middleware) will be developed to enable the integration of crash, citation, roadway, EMS/injury and vehicle data so that analytics can be performed on these datasets to generate information that is not currently available.

Projects have been proposed to address the most critical needs identified in the last assessment as well as other issues that have come to light since that time. There are always far more projects proposed than there are resources to accomplish them. The projects detailed in the plan are those that have been determined by the TRCC to have the highest priority, but their sequencing will still need to be resolved. The following procedure is used to prioritize and sequence the proposed projects:

- Projects are solicited within each of the stakeholder agencies to assure that all potential projects are considered.
- Each of these projects are ranked according to the following criteria by all interested parties within the respective agencies:
    - Impact on the understanding and reduction of fatal and severe injury crashes (frequency and severity) over the lifecycle of the use of the results from the project;
    - Relationship of the project to ongoing efforts with regard to cost, project momentum and synergy in advancing ongoing traffic safety projects;
    - Project cost – the downside – what other projects are going to have to be sacrificed if this project is funded? Also, total lifecycle maintenance costs must be considered, e.g., the necessity for users to purchase new equipment in order to implement the results of the project.
- Each of the agency stakeholder representative on the TRCC brings their recommendations to the TRCC meetings. These are discussed in detail and the final implementation plan is determined.

The final set of projects that appear in the plan are those with the highest priority and thus the greatest reductions in fatalities and severe injuries. However, the sequencing of projects is itself an optimization problem, and there is no guarantee that any given project will be fully accomplished within the five-year planning horizon. An exception to this statement involves those projects in Section 5 that were recommended in the most recent Traffic Records Assessment; an attempt will be made to initiate all of these projects in the upcoming fiscal year. Every attempt and commitment will be made, however, to assure that some progress is made to advance all of the projects in the plan.

Acronym coding will be used to preface the projects given in the plan to indicate their sources, as

follow:

- If there is no acronym as a preface to the project description, this indicates that these projects are being carried over from the previous plan version without significant changes (i.e., other than minor update modifications).
- **NTRA** – indicating New Traffic Records Assessment, i.e., the project plan was developed in direct response to a recommendation of the Traffic Records Assessment.
- **NTRCC** – indicating New Traffic Records Coordinating Committee indicating that the project plans were originated by recommendations of the TRCC.

The following sections present brief summaries of the projects planned within each of the seven TSIS component areas, with another added component for integration of two or more of the other components, called the Integration and Information Distribution Component.

4.3.1. General TSIS Management Component

1. NTRA. Quality Control Management (applicable to all components). This is a comprehensive project that covers quality control in all of the TSIS components. Each component coordinator will appoint a quality control manager to evaluate the quality of all data being received, generated and distributed by that component. In the absence of such an appointment, the component coordinator will assume the responsibilities. The charge of the taskforce within each component will be as follows:
    - Review and become totally familiar with Advisory best practices with regard to quality and perform a check-list level assessment to determine the current inconsistencies between them and current agency procedures. While this will provide a general guide to the taskforce, it will be noted that the taskforce charges below go well beyond these best practices, and thus should not be limited to those given in the Advisory.
    - Identify and then prioritize the most critical data errors in terms of the following: (a) the necessary use of the data element, (b) the degree to which errors in this data element results in harm in either transactional or analytical use, or (c) the cost of improving this data element to a point where this harm will be significantly reduced.
    - Establish the members of the taskforce that will be responsible for evaluation and improvement of each of the most critical data elements (one member may be responsibility for several data elements).
    - Explore any improvements that can be made in the ETL to create new data elements from existing data elements that will make data element(s) of greater use (e.g., the conversion of EMS arrival times to delay times).
    - Determine if any new data elements or modifications of data elements would be beneficial and report these recommendations to the appropriate IT management within the agency.
    - Implement the necessary remedial measures on a cost/benefit basis.
    - Report results to the TRCC.

    Progress: Not yet initiated due to lack of resources (see Section 7.6 for TRCC decisions with

regard to this project.)

2. NTRA. Survey of TRCC members. Prior to the TRCC meeting that is dedicated to the definition of new projects each year, conduct a survey of all agencies involved and use that information in the development of the strategic plan.
   Progress: To be initiated for FY2023.

4.3.2. Crash Component

1. ADVANCE Upgrade. Due to expanded needs of the system and significant improvements technology, The Automated Dashboards for Visualization Analysis and Coordinated Enforcement (ADVANCE) is in dire need of expansion in the form of a refactoring (and in some cases) a rewrite of the core software. There are several known innovations that need to be incorporated into it, such as portal-based hotspots, improved portal based user created filters and location filtering. Additionally, the technical landscape has changed to a degree that an entirely new underlying framework should be implemented to serve as a firm foundation for ADVANCE in the coming years.
   Progress: This project started out with a complete systems analysis and requirements development to assure that the development is optimized. These requirements were converted into preliminary designs, and the major part of the development is completed, and ADVANCE is now a functional product. The aforementioned improvements and re-founding is currently nearing a completion phase of the initial development, which includes a working prototype.
2. MapClick Implementation. This project will finalize the infrastructure and provide training to support MapClick for improved crash location capability. The most pressing need is to modify MapClick so that is can use the newly completed ALDOT eGIS line work. This is essential so that officers can obtain *all* required location data (coordinates, node numbers, link numbers, road names, road codes and milepoints) by a single click on a map available in the officer's vehicle. This will also result in the full implementation of a safety location portal for obtaining MapClick data and related information. Reporting officers use their existing GPS (available in most units) to obtain the general location of the crash (or any other event or object) on the map. The map is then expanded so that a precise location can be selected. Clicking on that spot on the map puts all of the data into the record – the recording officer might check this data for general reasonableness but is generally not required to enter any other data into the record. This system is being used by all ALEA officers and about 20% of the local police reporting agencies. It is essential that additional training be performed to get the remainder of agencies aboard. Note: As long as the *same maps* are used to generate GIS outputs as are used in the underlying MapClick data collection perfect accuracy (which is impossible to attain in any event) is not required. Thus, it is not necessary for perfect maps to be generated in order for this system to work very effectively. It is, however, necessary that all of the layers of data be present, because if this system does not generate all of the required data it will not be accepted by the law enforcement community, and this will be detrimental to its use becoming universal. Given the longevity of this project,

and the feedback received related to its use as in important potential tool in improving locations for items not only related to crashes, this project has the additional goal of investigating the feasibility and possible implementation details of a more comprehensive concept of MapClick to provide even wider record support and an overall better location toolkit for other traffic safety records in Alabama.

Progress: For updates to MapClick, see Section 4.2.5 Roadway Project 1. MapClick is a fully functional product. However, all of the state's roadways are not subject to its benefits because of the lack of data. Efforts will continue as long as there are roads that do not have all of the data necessary for MapClick implementation. For the secondary goal of a possible expansion or re-conceptualization for the targets for MapClick assistance, efforts are in progress to index current and potential uses for accurate location data and are being gathered for a future system design.

3. NTRCC. Crash (eCrash) upgrades and training. A new major re-write of eCrash is required to address the following requirements:
   - MMUCC standards that have dramatically affected the organization and content of the crash report;
   - Enhancement of the recently integrated MapClick capabilities to transition away from the link/node locational system to a statewide ALDOT maintained Linear Reference System (LRS) for all roadways (whether on the state system or not);
   - Additional attributes that need to be added to the report, such as modifications of the recently added distracted-driving variable for officers' opinions for impaired driving and the variable that indicates damage to roadway inventory items (state or county property) in order to facilitate their replacements.
   - Additional plans for FY 2021-2025:
     - Finalize the new Alabama crash model;
     - Produce functional eCrash client to support data collection for the new Alabama crash model;
     - APIs for ALEA consumption and others for 3rd party vendor submission;
     - Provide training materials for upgraded eCrash system; and

   Update: This project was initiated with a stakeholder review of the current system to critique not only the technical content of the eCrash system, but also consistency and accuracy in reporting. Other suggestions were forthcoming from the stakeholder meetings. The following has been accomplished:
   - Built eCrash application framework to support MMUCC 5 guideline data model,
   - Completed User Interface screens to collect data under MMUCC 5 guideline,
   - Implemented validation rules outlined in MMUCC 5 guideline so data collected will be internally consistent and useful for analysis,
   - Implemented business rules to promote user collection efficiency and ease-of-use, and
   - Performed internal analysis of current crash data model against MMUCC 5 guideline data mode.

   Progress: This project was initiated in FY2019 and it will continue until all of the requirements outlined above are completed. This is expected no later than FY2025.

4. CARE modifications and upgrades. The adoption of Statewide LRS will require updating CARE Location Reporting and its Hot-Spot analysis for local roads. In addition, it will further enable location reporting, mapping, and sliding hotspot analysis on the portals. This ongoing project will also result in a new CARE desktop interface, continual upgrading of the data, and development of an enterprise CARE version prototyped by ALDOT internal use, and user training on these systems. GIS upgrades will augment CARE's current GIS map-generation capabilities with spatial and attribute filter dropdowns, the ability to export these filters and the ability to create templates for the various types of printers that might be employed in map production, including the consideration of the security and confidentiality issues that need to be resolved as this technology is deployed on web-based systems for engineering, law enforcement and other uses. This and the next two projects will share the same stakeholder recommendation and review processes.
   Progress: this project is effectively completed, and hotspots are being generated for the state HSP and CHSP accordingly.
5. Upgrade of CARE scripting capabilities. Scripting enables standard reports to be easily designed and then run from CARE. It essentially "captures" a series of CARE commands and saves them into a program. When a user wants to reproduce that functionality, this is available by means of entering a command and parameters to direct the saved script. The capability is quite limited presently. The proposed upgrade will enable scripts to have a number of parameters that can be passed into the scripts by the users. Examples of parameters include logic specifications for subsets, variables and processing specifications.
   Progress: Not yet initiated; initiation is expected in FY2023.
6. Upgrade CARE dashboard user interface. The upgraded dashboard will enable local agencies to see a default presentation that they will be able to modify using the dashboard as another interface to their crash records.
   Progress: This project has been completed for the SAFETY portal but it is not fully implemented in ADVANCE. The current ADVANCE dashboard capability is still limited and needs to be expanded considerably to include improved filter generation and storage as well as improved location hot spot features.
7. Upgrade to the Crash Facts document. The Alabama Crash Facts Book (CFB) was designed in the 1984 time-frame, right after a change in the crash reporting form. There are two needs that must be addressed at this time: (1) enabling the generation of this information on a routine basis directly out of CARE, and (2) changing the format and content according to the results of a comprehensive study that will be conducted. This project will accomplish both by putting into CARE a system by which a series of steps used to generate information can be incorporated into a script and re-used. This will insure that the results are uniform and consistent from year to year, and that the information is totally up-gradable as new data formats are applied.
   Progress: not initiated. There appears to be little demand from users of the CFBs to want different data elements included, and there is considerable pressure to maintain the current data elements so that year-to-year comparisons can be made. Minor modifications (such as the addition of Distracted Driving as a separate data element) are being made and will continue to be made. This project will remain in the plan as is, and it will be considered annually. An online Crash Fact Book is being considered.

8. Final mandate for use of eCrash. The eCrash system was a major project that has obvious positive effects on timeliness, consistency, completeness, uniformity (including MMUCC compatibility), and efficiency of the state's crash reporting. It is imperative that the entire state either use eCrash or submit eCrash compatible data electronically so that the full utility of these innovations can be achieved. An edict not to receive any additional paper forms after December 1, 2013 was a major positive step in this direction. However, not all local agencies have responded to this edict. As of March 2015, the proportion submitting paper forms was estimated at about 1.0%. While no additional paper forms were being accepted after January 1, 2018, there was still some work necessary with the local agencies to see that they are properly using eCrash.
   Progress: Completed. The use of eCrash is effectively universal throughout the state.
9. Special location exception reports. This capability currently exists and the goal of this project is to promote its use with training and other incentives. This will generate reports similar to those in the Early Warning programs. However, instead of the exception reports being crash-frequency-criteria based, they are based on a location type specification to the system (e.g., all work zones, recently completed improvements, wet-weather crash locations, etc.).
   Progress: This project has been started and a number of exception reports have been generated, but the full potential of this capability has not yet been full realized. The project will include training of all users so that they understand the power of this capability.
10. Unreported crash incident reporting. There are a number of incidents that should be reported but are not, the most notable probably being deer strikes. In Michigan where it is required to report deer strikes in a crash report, over 30,000 per year are reported. Alabama has more deer than Michigan, and yet in 2010 eCrash (85% of crashes reported) only recorded 2,162 crashes involving deer. It is envisioned that this reporting capability could exist as a portal that would be initiated by voluntary reporting from the general public.
    Progress: Not yet initiated. It is expected that this project will probably not be initiated until FY2025.
11. Centralized CARE. Historically, the CARE architecture has functioned as a stand-alone desktop application intended for one user on one machine. The user was responsible for updating the CARE application and the CARE datasets. The Centralized CARE or (CARE Enterprise) system will reduce the burden of effort on the users to maintain the latest versions of the CARE executable and datasets.
    Progress: This is an on-going effort to change both CARE and the policies allowing access to centralized resources and data. A significant step in that ongoing process is to train users on a new facility for them to know when new executables or data are available. CARE10 is configurable to provide such notifications to users. Efforts to bring about full implementation will continue.
12. Upgrade of the FOCIS system. The Formulated Ordering of Crashes at Intersections and Segments (FOCIS) tool provides a visual summary of crashes at intersections of various types (traditionally referenced as a "collision diagram"). This visual tool is valuable in providing engineers with a quick synopsis of the volume and type of crashes. The determination of correct countermeasures and resources to apply requires a graphical summary report and a detailed report of the crashes at the intersection. The FOCIS tool will be modified and users will be trained to provide improved specification, summary information,

back-drops for different intersection types and improved reporting.
Progress: Completed and implemented within eCrash.

13. Coordinate-based hotspot capability. This project is concerned with developing new methods for determining hotspots based on the entered coordinates in the crash report. With the implementation of MapClick and more sophisticated GPS techniques, the coordinate values are becoming much more reliable in being able to be used for crash location. We currently know of no algorithms that have been developed to determine hotspots based totally on these coordinates (plus road code), but a comprehensive search for any research or development that has been done in this area will be conducted and this project will start with the best practices currently found to be used in the country. One major problem in using coordinates-only is that many roadways are so close together that there is no way to distinguish between them as to which roadway the hotspot would be on. We plan to use a combination of the coordinates and the "ON" road to develop new algorithms. While these will only be of partial use in the short term, we feel confident that the completeness and accuracy of the entered coordinates will be of such a quality in the near future (e.g., over the next five years) that these new methods will be clearly superior to those currently requiring translation to linear reference systems (LRS), which themselves are not perfectly accurate. It is expected that this innovation will require considerable user training.
Progress: Not yet initiated. Expected to be initiated in FY2025.
14. Database Systems Management (DBSM) project. DBSM is a proposed meta-data system for more effectively managing all aspects of traffic safety information systems. It will formalize many of the steps in optimization that have been used in Alabama for some time, but it also adds some components that are currently lacking in the current informal systems approach. It will start by elaborating on the crash categories given in "Table 1" that is used in the HSP and several other planning documents. To this will be added a temporal and geographical component for each of the crash types for which countermeasures will be considered. Within the temporal component provisions will be made for documenting the effects of various countermeasures over time. The goal will be to use the system not only for operational management, but also for data collection of those data elements that can be used to optimize traffic safety investments in non-roadway countermeasures much as the roadway countermeasures are optimized within the CORRECT system.
Progress: Not yet initiated. Expected start date is in FY2024.
15. TZD research and education. Public Information and Education is essential to the acceptance of driverless vehicles by the general public. A series of PI&E spots are required to augment the advertising that has already begun in this direction by the manufacturers. The spots will be more generic not only for educating the general public but for motivating manufacturers to take the lead in the development of this technology. Part of this will include research to determine the ultimate role of the "driver" and the transitional role that will have to be played over the next half century in this evolution. Special variables and codes need to be developed now to deal with driverless vehicles.
Progress: Not yet initiated. This is a futuristic project that might not get initiated until near then end of the 2027 planning horizon.
16. NTRA. Guideline improvement to meet Advisory best practices. The crash component manager will set up a taskforce to develop and implement improved guidelines for the Crash

data system to reflect best practices of the advisory. This will include the following activities:

- Create a list of Advisory best practices as they relate to crash records.
- Assign a cost and an expected benefit related to the implementation of each of the recommended best practices.
- Determine how far down the list that implementation is feasible and revise the feasible items with increased research.
- Develop a work plan for those projects that will be necessary to implement the most cost-beneficial items.
- Propose recommendations to the TSIS SP for review and approval by the TRCC.

Progress: Not yet initiated. It is expected to be initiated in the 2024 time frame.

17. NTRA. Develop comprehensive data dictionary for raw crash data. Currently no formal data dictionary exists for the raw crash data, although there is a manual that describes each data element in detail, and Excel datasets listing the data elements for each dataset produced by the various crash data ETLs. This project calls for the development of a comprehensive data dictionary for the raw crash data. It will also include methods for tracking all datasets produced from the crash data, including those that are integrated with data from other modules.

    Progress: It is expected that, generally, this project will be deferred until after the next major upgrade of the eCrash system that is expected in the FY2023 time-frame. At that time a list of included data elements (and potential values) will be produced by the system itself. These will be given attributes according to standard data dictionary development procedures. The data dictionary will be made available in the most readable and usable forms on the various crash records web portals.

18. NTRA. Crash module systems analysis. A task force will be established that will accomplish the following activities:

    - Conduct a complete systems analysis of the current crash module including both internal procedures and process flows as well as the integration with other modules.
    - Become totally proficient with the recommendations given in the Advisory.
    - Create a preliminary list of anticipated current crash module deficiencies.
    - Compare deficiencies against the recommendations given in the Advisory.
    - Recommend remedial action to correct any deficiencies.
    - Create a list of potential projects that can then be compared on a cost-benefit basis to recommend updates to the TRCC SP.

    Progress: Not yet initiated. Expected start time will be in the FY2023-2024 time frame.

19. NTRCC. Automation of the FARS data. The data entry process of the Alabama FARS data needs to be upgraded to include all required FARS data elements plus the following to enable ALDOT to meet federal requirements: (1) MPO boundary area, (2) RPO boundary area boundary, (3) FARS Highway Functional Classification, and (4) FARS National Highway System Classification. The current CARE FARS system also needs upgrade to process data from the most recent FARS updates.

    Progress: This is an important project that will be initiated as soon as funding becomes available for it.

4.3.3. Vehicle Component

1. Registration file content and access update. This project will upgrade current systems in order to facilitate the inclusion of vehicle tax data (sales and property) and other necessary vehicle data fields into the registration file that is uploaded by the county licensing offices to the state registration database on a daily basis. Validation error reports will be provided to county license plate issuing officials electronically to allow them to correct erroneous vehicle registration data. The registration data will be available, in a system called DISCOVERY, for use by the DOR, county license plate issuing officials, ALDOT and other agencies in order to create reports and perform analytics. Previous registration file upload projects provided process for county licensing offices to upload registration data on a daily basis; instead of once a month. Eventually, the goal is for counties to provide real time registration data using web services so that vehicle registration data is available to law enforcement in a timelier manner.
   Progress: This project largely completed, except for county licensing offices providing real time registration data using web services. A web service is available; however, most county registration system vendors utilize older technology, and some counties do not have enough bandwidth to support this service. It has been suggested that the state should provide a centralized registration system; similar to the state title system, to address this and many other issues.
2. NTRCC. ETAPS upgrade to ALTS. Development of a modernized Alabama Title System (ALTS) to replace the Electronic Title Application Processing System (ETAPS). The new system includes a better user interface, integrated title database, platform that allows application to be used with tablets, smartphones, etc., electronic liens and titles (ELT), and national motor vehicle title information system (NMVTIS) interface. NMVTIS includes a NICB (National Insurance Crime Bureau) stolen vehicle verification that will replace NCIC; NICB has more complete data for verification on the vehicle prior to the issuance of a certificate of title. A major goal of this system is to make all titles issued electronically.

- Progress: NMVTIS is in-progress and will be completed by the end of FY22 or early FY23. Public-facing versions of about half of the application types have been rolled out so that members of the public can submit applications directly rather than having to go to a county office or print and mail forms. The 3rd party imaging vendor has been replaced with direct document upload, which has cut down on processing times, saved the state some money, etc. ALTS is developed and deployed and has replaced ETAPS. ELT exists, but only for a small subset of cases. The full ELT implementation has been pushed out past the NMVTIS implementation

3. Integration of ALEA driver license and state identification databases. This will enable license plate issuing officials and designated agents of the state (car dealers and financial institutions) to collect the legal name and address of the vehicle owner when completing an application for certificate of title. Users may also scan the barcode on the back of the DL/ID in order to populate the vehicle owner's name/address in the title application. The DL/ID number and expiration date will also be collected in the registration record. This is important because the title record is used to populate the registration record, which is used

by law enforcement at traffic stops and crashes. This will insure that the accurate driver record is available to law enforcement during a traffic stop or crash. The DL/ID verification process will also be used to verify the identity of customers for other DOR applications (i.e. dealer license, records requests, surety bond applications, etc.).
Progress: This project is completed except for the ability of users to scan the barcode on the back of the driver's license or identification card to populate the name/address fields.

4. Implementation of OVIS. The state Online Insurance Verification System (OIVS) allows licensing officials and law enforcement to electronically verify insurance at the time of registration or during traffic stops and crashes. The DOR also re-verifies insurance on every vehicle registration on a monthly basis using the OIVS web service. The OIVS web service provides a direct connection to insurance carriers for real time insurance verification. The OIVS web service is also used by ALEA to verify insurance for uninsured motorists involved in crashes and eliminates the need for SR13 forms. A training video was produced and distributed to all Alabama law enforcement agencies regarding the use of OIVS within the LETSgo system. This project will assure the full implementation of OVIS to all appropriate agencies throughout the state. FY2018 through FY2019 progress includes working with ALEA to provide access to the DOR online insurance verification system in order to administer the newly created law that allows ALEA to issue assessments to uninsured motorists who are involved in crashes.
   Progress: this project is completed.
5. Development of modernized IRP/IFTA systems. The International Registration Plan (IRP) and International Fuel Tax Agreement (IFTA) systems are for interstate commercial vehicle registration and licensing. The upgrade to these systems will include a better user interface, ability for users to upload documents, and the ability to utilize the applications on a variety of platforms and with any electronic device (smartphone, tablet, computer, etc.). The IRP/IFTA systems directly interface with the state's commercial vehicle information exchange window (CVIEW) that is used by Alabama for commercial vehicle enforcement and screening. The IRP/IFTA system data is uploaded to the federal motor carrier administration's (FMCSA) SAFER database, the national law enforcement telecommunications system (Nlets), and the IRP and IFTA clearinghouses for use by commercial vehicle law enforcement and administrators in the US and Canada. Progress of this project in FY2018 and FY2019 included the implementation of: (1) a new commercial vehicle licensing system for IRP and IFTA licenses and taxes, and (2) a new commercial vehicle information exchange window (CVIEW) for use by DOR, ALEA, APSC and ALDOT.
   Progress: this project is completed.
6. Upgrade and implementation of MVTRIP. The motor vehicle title, registration and insurance portal (MVTRIP) is used by DOR and its partners (ALEA, ADECA, ALDOT, county licensing officials, designated agents, etc.) to access DOR applications. MVTRIP provides user authentication (via CAPSlock) with a single userid and password which controls organization, group and user access to DOR applications under the MVTRIP suite of applications (e.g., registration, titles, insurance, inventory management, plate ordering system, unclaimed vehicles, IRP/IFTA, CVIEW, DISCOVERY, dealer licensing, etc.).
   Progress: this project is completed.

7. Print on demand registration receipt. This project consists of the development and implementation of a print on demand registration receipt process that includes the validation decal that is affixed to the license plate. The new process includes a receipt/decal that can be printed by county licensing offices; either at the customer service counters or back offices (online and mailed renewals), and the ability for customers to utilize kiosks to renew vehicle registrations. This process has been developed to work with the various system vendors and equipment currently utilized by county license plate issuing officials. The project also includes the ability for county license plate issuing officials and designated agents to print temporary tags on demand using existing systems and equipment. The issuance of the temporary tag will be controlled by DOR, which includes a durable temporary tag material that can be attached to the rear of the vehicle. Temporary tag data will be available to law enforcement. The print on demand process for registration receipts and validation decals is now being implemented. Progress during FY2018 and FY 2019 included the implementation of the print on demand process for Alabama license plates.
   Progress: this project is completed.
8. e-Credentials/e-Registration Receipts. This project will result in the automatic generation of the registration receipt and its transmission to the registrant's electronic wallet on an electronic mobile device, similar to a boarding pass. The registrant could then provide this to law enforcement at the roadside instead of providing the paper registration receipt, similar to that they can already do this with insurance cards. An image of the receipt will also be provided (i.e. picture, PDF, email, text, etc.). An e-Credential project is also underway that will allow CMV credentials (IRP and IFTA) to be sent to a driver's electronic wallet on a mobile electronic device. Completion was anticipated by the end of FY2018. This functionality will also be available to passenger vehicle registrations in the near future, similar to electronic driver's licenses and insurance cards. Law enforcement will need to be able to verify this electronic information with their mobile electronic devices, or with license plate readers. Eventually, the goal is to eliminate the paper registration receipt and validation decal.
   Progress: This Project is completed. Electronic credentials are being provided as a PDF to motor carriers with International Registration Plan (IRP) and International Fuel Tax Agreement (IFTA) licenses. Law enforcement officers across North America are required to accept electronic credentials for IRP and IFTA. Electronic credentials are not available for passenger or non-interstate commercial vehicles; however, Alabama law was amended to allow for electronic credentials.
9. Barcodes on vehicle registration receipts. A vehicle registration card is as important as a license card when it comes to collecting accurate data. Currently the drivers' license card is swiped to provide data for eCite and eCrash. A vehicle registration card would pay its way very quickly in terms of saved officer time and nearly perfect data accuracy, and it would go a long way toward countering vehicle theft.
10. Vehicle data LETS integration. This project would take the current improved and timely data that is being obtained from the Motor Vehicle Title, Registration and Insurance Portal (MVTRIP) and assure that it is available to all officers in the field on a timely basis.
    Progress: Registration data is currently available within the LETS system. However, contin-

uous evaluation of the data sources and their timeliness is ongoing. Known areas of improvement have been identified and discussions are ongoing as which and how to implement particular improvements, particularly with record accuracy and timeliness.

11. Online Insurance Verification System (OVIS). OIVS is an online system to determine conformance with the State mandatory insurance law. It is integrated with LETS (within MOVE) so that officers can be trained to have access to the relevant information at the roadside. This system is in need of continual updates that are surfacing as it is being rolled out and implemented statewide.
    Progress: This project was part of Project 4 above, and thus, it has been completed.
12. Effective vehicle TZD infrastructure. See CARE ETL development below under Integration; specifically, for the crash-vehicle data integration. Toward Zero Deaths (TZD) can only become a reality if ultimately vehicles are equipped with the technology that essentially eliminates any possibility of a crash. Effective prototypes in this direction have been demonstrated reflected by some jurisdictions approving the use of driverless vehicles. This element of the plan is to establish the fact that Alabama will use all of the data resources at its disposal to support this effort and to make TZD a reality in the shortest time possible.
    Progress: No progress per se, but the current efforts to make eCrash totally MMUCC5 compliant will provide a base to launch this project.
13. NTRCC. Addition of the Driver License (DL) number on the title record. The vehicle owner's driver's license number is not required in order to obtain the title record. However, ALTS and many other MVTRIP systems have a service (ALVerify) that allows the user to enter a DL# and expiration date/month and the licensee's name and address will be populated in the title application. This enables the agency issuing titles to pre-populate the title record with all available information on the drivers' license (e.g., name and address and all other vehicle owner information). This will also enable the driver license validation service to populate the title record.
    Progress: Completed.
14. NTRCC. More frequent county uploads of title records. Data are updated nightly now, but someone at ALEA has to manually make it integrate into LETS. What is needed is the design and development of a virtual real-time system for updating LETS so that information is available to officers in the field at the point when the transaction occurs. NLETS integration needs to be considered simultaneously with this, since it needs to have a timelier upload as well. This should be considered in recognition of legislation expected to be proposed shortly to allow offices to issue an electronic receipt for registration. This is not a DOR project but appears here because of its close association with vehicles and titles.
    Progress: Initiated; CAPS is working with ALEA on this continuous improvement.
15. NTRCC. Electronic liens and titles (eTitling). The Department of Revenue is in the final stages of the development of an eTitling system. This component of the project will extend this effort to evaluate the systems developed with the goal of continuous improvement throughout its lifetime.
    Progress: This Project is completed.

[Qualifying note for Project 16 below. There will be no attempt to initiate this project before obtaining the total concurrence of the appropriate officials within ALDOT to assure

that they are in total agreement with its goals.]

16. NTRCC. Multi-Agency Task Force for a Common License Plate Readers (LPR) System. This project is being suggested in order to determine if there is general support for a cooperative effort among several agencies to coordinate their efforts with regard to LPR. If so, a task force (called the LPRTF) is suggested that will consist of representatives from all agencies that might want to share in the use of these cameras for a wide variety of purposes. The task force will need to become aware of the needs of the various interested agencies. This will lead to a plan for the development of LPR requirements, funding, and strong consideration to the wide variety of legal and judicial issues associated with such a system. The product of the LPRTF will be a plan that can be signed-off by all of the involved agencies.
    Progress: This component is expected to be effective in FY2024 and its implementation will be continuous and ongoing. Improvements have been made to Alabama license plate design to allow better LPR readability. Stacked characters have been removed and license plate numbering scheme has been simplified.
17. NTRCC. Electronic Credentialing (eCredential) program. When this project is completed it will eliminate annual validation decal for vehicle registration.
    Progress: The annual validation decal has not been eliminated; however, the decal has been changed from a 3-color rotation (red, yellow & green) to a single color (yellow). In addition, a disability access parking decal may now be displayed on the license plate for qualifying individuals. This allows any license plate to display disability access parking decals.
18. NTRA. Improve vehicle data system. Perform a general systems analysis over the entire Vehicle data system and use the results to improve the description and contents of the Vehicle data system. (New project)
    Progress: To be initiated in FY2024.

4.3.4. Driver Component

1. DUI driver data intake and reporting system. The eCite system uses MOVE to automatically query LETS to determine if the offender has a criminal record, outstanding warrants or protection orders, or is otherwise dangerous to the arresting officer (e.g., has offenses involving firearms). This project will enlarge this capability to touch the MIDAS system for DUI information to provide a final link back to the field so that the officer can be trained to determine if the individual has a history of DUI offenses. It will also provide the linkage from the officer to MIDAS to initiate or augment a current case record. DUI (drugs and alcohol) accounts for up to 40% of fatalities in the state of Alabama, and this is seen as an information tool that will be a major deterrent to DUI.
    [*Update on MIDAS*. It was determined during FY2016 that the MIDAS database was almost exclusively text entries, and very little of it was coded information. This made it impossible to initiate many of the projects that involved MIDAS. The judgment of the TRCC, however, is that the interactions with MIDAS should remain in the plan with the goal of

sometime over the next five years, updating MIDAS to be driven by drop-down menu categories that will serve to provide the data necessary for the integration required by the proposed projects. These projects will be found both in the Driver and the Citation/Adjudication components. Any additions or modifications of these projects will require discussion and approved by AOC leadership.]
Progress: Awaiting decision as to if or when to implement this project.

2. MIDAS offender completion validation. This is an innovation of the MIDAS system to enable it to validate when an offender has completed his/her time of suspension or otherwise satisfied their alternative or traditional sanctions prior to re-instatement.
Progress: This project will need to be discussed and approved by AOC leadership. [See *Update on MIDAS* above.]
3. Traffic safety incident (ULTRA) data availability. Comparable to the DUI driver data intake and reporting system discussed above, a system is needed to enable officers and law enforcement agencies to obtain full access to the ULTRA system. ULTRA is a statewide initiative sponsored by ACJIC (formerly) for recording, summarizing and reporting incidents before and after they arise to the status of resulting in arrests. It is expected that ULTRA will need to be adapted to traffic safety incidents by the addition of several variables to be determined by a systems analysis performed with this objective in mind.
Progress: Awaiting decision as to if or when to implement this project.
4. Information mining of the ULTRA data. In order for the maximum amount of information to be extracted from the ULTRA database, routinely updated ETL programs need to be put in place and the resulting datasets made available to all authorized users.
Progress: Completed.
5. LETS upgrades for traffic safety. The Law Enforcement Tactical System (LETS) project has without question been the most successful law enforcement IT project conducted within Alabama in the past two decades. Under the direction of ACJIC (now housed in ALEA), this project will take advantage of this momentum for traffic safety by integrating into LETS provisions by which serial traffic violators can easily be identified either directly by officers with networked laptops or PDAs, or by dispatchers as the officers check in. Electronic citation information will enable officers to know if a driver has been given a recent warning or related citation. LETS has also been quite successfully used at DUI and safety belt enforcement check stops. Close to $1 million has already been invested into LETS; this allocation will be leveraged to assure that traffic safety application users are trained to obtain full use of the system.
Progress: LETS version 4 was released in FY22.
6. MOVE upgrades. There are a number of additional components that can be added to MOVE to enable officers to be more efficient in their investigation and reporting activities. For example, an insurance validation system would serve to provide a direct link from the officer in the field to a database indicating if the driver has liability insurance. ALEA officers have also recommended several other upgrades to MOVE, including enhancements for real time data, map and building layout communications directly to field officers to deal with various emergencies (e.g., weather, hazardous materials, major traffic and other disasters, both natural and man-made). Overall, between the feature requests and progress in the software development space, a newer, improved version of MOVE is required to meet the

needs of the modern law enforcement officer. To that end, a design and prototyping process is needed to implement this system.
Progress: Significant progress has been made in the design of an updated version of MOVE, and this effort is expected to continue through FY2023.

4.3.5. Roadway Data Systems Component

1. Improved data gathering/connectivity through eGIS. The ALDOT (eGIS) effort is initiating several parallel efforts to implement the most technologically advanced infrastructure for all of its efforts that require location specification, including crashes, roadway features, citations and other related applications. This project has been initiated by stakeholders' meetings in which the primary goals of the systems were established and documented (e.g., goals of traffic safety and smooth traffic operations). These goals will be the basis for an eGIS five-year plan with tasks that can be implemented immediately, recognizing the value of the current on-going efforts. The immediate plans for this project include the following:
    - Incorporate the ALDOT-maintained location system (for all public roads) route network into crash locating tools (MapClick and post-processing data improvements);
    - Expand ALDOT's efforts in updating the "all public roads" route network for non-State maintained routes; and
    - Augment ALDOT's efforts to provide infrastructure and tools to local authorities (e.g., City, County, MPO, RPO) to update and maintain the "all public roads" route network for non-State maintained routes.
    - New immediate plans
        - Formally integrate new eGIS data with MapClick
        - Release new version of MapClick with new eGIS data

    Progress: Most work for this project is being done by the eGIS team, and it is important to recognize that the processing systems are basically in place with MapClick. The problem is the tremendous amount of data preparation necessary to support all roadways in the state. All significant MapClick functions will be available once the dataset is finalized. See also the MapClick Implementation (Project 2) within the Crash Component plan (Section 4.2.2).
2. Statewide roadway data inventory. The state (including both ALDOT and many local jurisdictions) has spent millions of dollars on the creation and storage of roadway data. Yet, when a preliminary analysis was performed to determine the availability of the data for Interactive Highway Safety Design Manual/Highway Safety Manual (IHSDM/HSM) implementation, it was found that there is no central repository of these data, nor is there even a centralized data dictionary so that it could be determined which data elements even exist. A critical first step is to create such a data dictionary that would list the data elements, where they are created, who is responsible for their storage and update, and the current use to which they are being employed. Without such a document any further data gathering might be found to be unnecessarily redundant, and there would be no hope that the current data will ever be fully employed in the IHSDM/HSM efforts. While this effort should begin with the data that exists for state, federal and Interstate (i.e., mileposted) routes, it should not be

limited to these routes, recognizing that in 2009 about 46% of fatalities occurred on county roads and city streets.
Progress: In process of creating a task force to initiate and oversee this documentation process.

3. IHSDM/HSM implementation project.
   Progress: This project is currently in its preliminary investigation stages in order to formulate a plan for the implementation of IHSDM, HSM, and Safety Analyst. It is expected that over the next five years that these systems will be an integral part of the design and roadway improvement functions throughout the state.
4. Roadway Issue Dispatch (RID) roll out. This project has created an automated form that is an add-on to the current law enforcement MOVE system. It gives polices officers that have MOVE the capability to report any roadway conditions that could be considered as hazardous. For state, Federal and Interstate roadways, this information is immediately forwarded to the appropriate person within ALDOT for immediate remedial consideration. The project will determine and implement the most effective disposition of forms completed and electronically submitted by local law enforcement.
   Progress: The form is available to ALEA but there needs to be training to assure that the systems rolled out will be implemented by local law enforcement agencies.
5. Roadway Improvement Safety Evaluation (RISE). The goal of this project is to create economies of scale and safety uniformity within the roadway system. This can be accomplished by leveraging funds already dedicated (required) to be spent for roadway maintenance to also serve traffic safety interests. That is, while the crews are in the field doing maintenance they will be called upon to perform consistent safety upgrades along the entire corridor where they are working. This systematic optimization system is seen to be a revolutionary approach toward roadway safety improvements, in that we know of no other state using. It is estimated to double the safety value being obtained over those that are independent and strictly traffic safety.
   Progress: Ongoing. This project is underway but needs further efforts in its implementation.
6. NTRA – Model Inventory of Roadway Elements (MIRE). Continue to develop and populate a repository for both state and local routes. Over the course of this plan complete and validate 100% of the elements for all state routes. Develop a detailed plan for the population of MIRE data elements for all public routes at the rate of 20% per year until 95% of all local routes are covered. Relate the MIRE data to crash data in the CARE system for analysis and consideration of roadway engineering data in the state traffic safety program. The following provides additional details for this plan in response to the TRA:
   - Assure that all data elements that exist in the current roadway data system in use comply with general published MIRE requirements, and specifically, those detailed in the Memorandum dated 20-March-2017 from Scott T. Johnson, Acting Director, Office of Safety Technologies; SUBJECT: Reporting Model Inventory of Roadway Elements (MIRE) Fundamental Data Elements Improvements in State Traffic Records Strategies Plan Due July, 2017.
   - Seek opportunities through committee meetings and develop detailed plans to expand the collection of FDEs onto more non-system roadways with the goal of using these data elements for safety analysis programs that incorporate roadway and crash data that can

benefit users of all public roadways. This can readily be done by using the CARE ETL to integrate MIRE and MMUCC data elements so that various roadway geometrics and other characteristics can be evaluated from a crash avoidance point of view.

- Complete the development of the roadway enterprise system that is currently being developed and assure that all data elements in this system conform to MIRE.
- Establish plans for and initiate development of the ALDOT eGIS Geodatabase data dictionary.
- Perform studies to determine the value of Non-Fundamental MIRE Data Elements and develop a plan to incorporate them into the data dictionary and subsequent analytics.
- Establish a process for adding new data elements to the data dictionary and the analytics processes as their value is established.
- Incorporate the State collected MIRE data elements into the crash database so that the relevant MIRE data elements are included in the Crash reports.
- Enlarge ALDOT efforts in collecting the MIRE data elements for all public routes not on the State maintained network.
- Provide assistance to the State in providing MIRE data collection, reporting tools and training to local authorities (e.g., City, County, MPO, RPO).
- There are a number of analyses that have been performed using roadway characteristics data that were available prior to MIRE. This component of the project will demonstrate how the MIRE data elements will be able to drive analyses that are currently available via the Safety Portal.

Progress: Ongoing; initiated in FY2020. Completion is expected to take five years.

7. NTRA. Design and develop data dictionary for roadway data elements. Currently no formal data dictionary exists for the raw roadway data elements. This project calls for the development of a comprehensive data dictionary for these data, including but not limited to the MIRE data elements that are to be collected in Project 6 above. The data dictionary will conform to standard currently accepted IT practices. In addition to data elements, it will also include methods for tracking all datasets produced from the roadway data, including those that are integrated with data from other modules, e.g., ADT. It is expected that this project will be deferred until after the next major upgrade of the MIRE system that is expected in the FY2021 time-frame. At that time a list of included data elements (and their potential values) will be produced by the system itself. These will be given attributes according to standard data dictionary development procedures. The data dictionary will be made available in the most readable and usable forms on the various ALDOT records web portals.

   Progress: In organizational phase of establishing a task force to generate this documentation.

8. NTRA. Systems analysis of roadway data elements. A task force will be established that will:
   - Become totally proficient with the recommendations given in the Advisory and will create a preliminary list of anticipated current roadway module deficiencies.
   - Conduct a complete systems analysis of the current roadway module including both internal procedures and process flows.
   - Explore quality control procedures and recommend a lead analyst for this continuous

task.

- Extend this analysis to the integration with other modules as well as the data elements developed in Projects 6 and 7 above.
- As the analysis of each element of the system continues, compare existing procedures against the recommendations given in the Advisory.
- Recommend remedial action to correct any deficiencies to improve the roadway data system to reflect the best practices of the Advisory.
- Create a list of potential projects that can then be compared on a cost-benefit basis to recommend updates to the TRCC SP.

Progress: None; the task force has yet to be established.

[Qualifying note for Projects 9 and 10 below. There will be no attempt to initiate these projects before obtaining the total concurrence of the appropriate officials within ALDOT to assure that they are in total agreement with the goals of these projects.]

9. NTRCC – Establishment of Construction Relief-Route Task Force (CRRTF). Initially, the purpose of this project will be to establish the CRRTF, which will consist of representatives from ALDOT, FMCSA, FHWA, CAPS and other selected stakeholders for the purpose of developing the plans for "Relief Routes." Relief Routes are one or more alternative routes that vehicles can take in order to avoid the delays (and other potential hazards) associated with construction of new routes or significant modifications of existing routes. The plan is for stakeholder representatives to meet at a convenient time with the agenda of planning the structure, organization and activities of the CRRTF. Once it is organized, it is envisioned that new plans will be shared with the CRRTF to enable them to ultimately develop and implement Relief Routes by creating the appropriate signage along these routes and by adequately publicizing them as suggestions to appropriate organizations (such as the Alabama Trucking Association) as well as social media, ALGo, and the news media.
   Progress: None at this time. Initiation will require the highest levels of the involved agencies to come to an agreement.
10. NTRCC – Development of Requirements for Construction Relief Route Software. [New project for FY2023.] This will be a project that will heavily involve the CRRTF defined above. The software could either be an add on to ALGo, and independent app, or both. The requirements will specify the users, who will be involved as stakeholders in enlarging and rounding out the requirements so that they serve the intended purpose of guiding interested motorists onto optimal alternative Relieve Routes.
    Progress: None at this time. Initiation will require the highest levels of the involved agencies to come to an agreement.

4.3.6. Citation/Adjudication Component

1. NTRCC. Upgrades to eCite. There are a number of current issues in addition to advances in technology that call for some major upgrades to the eCite system. A stakeholders meeting will be organized including representatives from the various agencies that are

involved with both issuance and adjudication. That will result in a list of requirements that will form the basis for a complete systems analysis and some re-design of the system to make it more effective in increasing officers' productivity and presence in the field as well as facilitating the adjudication process. These should include considerations for making eCite device agnostic to the extent possible within current resource constraints. The immediate plan is to gather new business requirements for MOVE and eCite from ALEA, and to start development of the MOVE and eCite applications with our newly developed frameworks (see also Section 4.3.4, Project 6).

Progress. The following progress has been made:

- Brainstormed and documented possible improvements to eCite;
- Created Alabama eCite Validation Reference List document to assist in future development; and
- Performed research and development on frameworks allowing for efficient creation of data forms and application communication.
- Systems analysis and planning for continued improvement.
- Development of new framework has begun.

2. ALEA Motor Carrier-National FMCSA compliance. This project will support the ALEA Motor Carriers unit in bringing about in-state regulation of motor carriers and the integration of these systems with the National FMCSA ongoing initiatives. This includes at least five major software developments and respective training as given in the FMCSA documentation.

   Progress: Systems analysis and design are underway.

3. NTRCC. Citation adjudication technology. This project involves the development of the technology infrastructure necessary to support the full implementation of the proposed legislation by the Alabama legislature that allows for electronic citations to serve as an "alternative approach" to tickets completed using the Alabama Uniform Traffic Citation form, including the development of the technology to print the notice to appear, as well as the technology and training to support electronic swearing (eSwear). Legislation is expected to be passed during the term of this plan. This upgrading in technology will also consider improvements in the current electronic search (eSearch) of these records. This project will be initiated by a meeting of all stakeholders who might be affected. This will lead to a requirements document, which, in turn will lead to a design and development of these upgrades. In their deliberations stakeholders should consider the possibility of eliminating altogether the need for swearing to citations.

   Progress: Remote eSwearing has been initiated and completed, and it is available to any agency that wants to use it. The other aspects of this project are in the early requirements development phase.

4. Municipal electronic disposition system. This project is complementary to the citation adjudication technology project.

   Progress: Ongoing. This project has been prototyped by some preliminary work that has begun with regard to district courts and Commercial Motor Vehicles (CMV). It needs to be further developed and applied at the district levels and then expanded into the municipal courts.

5. Completion of the eCite roll-out. The goal of this project is a total roll-out of eCite and elimination of all paper citations statewide. In the interim, methods have been developed to enable current paper tickets to be electronically submitted in a format that is compatible with eCite so that there is a comprehensive picture of the enforcement activity statewide. However, the goal is to eliminate paper submissions in the near future by getting all agencies to submit directly into eCite.
   Progress: The process for accomplishing the goal of this project is complete, but it must always be considered ongoing as new agencies adopt eCite. We do not have 100% eCite adoption at this time. About 80% of citations are electronic.
6. Citation and DUI Tracking System. This system will display information on the current status of every citation that has been issued to date. It will be able to respond to queries to determine if any given citation is (a) still in the electronic possession of the officer; (b) submitted but not adjudicated; (c) fully adjudicated or (d) reported to the driver history record. A portal will be created, and training conducted to enable officers in the field and judicial officials to see relevant MIDAS information on a given defendant so that (among other reasons) a repeat offense in another part of the state is not treated as a first offense. It will also enable law enforcement to know whether a given individual is: (1) still on probation, (2) within the court referral program, or (3) in some other alternative treatment program.
   Progress: Not yet initiated; this project will need to be discussed and approved by AOC leadership.
7. NTRA. Creation of a taskforce to develop and implement improved guidelines based on the Advisory. This will also cover interfaces as well as data. This taskforce will:
   - Become proficient with the relevant recommendations of the advisory.
   - Perform an internal assessment as to which components are in compliance with these provisions and which are most in need of remediation.
   - Conduct a complete systems study of all current components within the citation/adjudication component, i.e., all systems that relate to either transactional or analytical systems and impact traffic safety. This review will be at a very high level so that the most critical components can be identified for further development or remediation.
   - Once this is established, a deeper analytical study will be performed on the most critical modules that will result in recommendations for additional development or supporting projects to bring the system into closer conformance with the Advisory.
   - Recommend to the TRCC any new projects that are required to this effect so that they can be integrated into the SP once approved.

   Progress: Not initiated. Expected initiation in CY2023.

4.3.7. EMS-Medical Surveillance Component

1. NTRCC. Complete the implementation of RESCUE. This project will complete the implementation of the Electronic EMS run system, Recording of Emergency Services Calls and Urgent-Care Environment (RESCUE) system. RESCUE is a National Emergency Medical Services Information System (NEMSIS) compliant data entry for emergency

medical units (ambulance and other EMS units). As part of the NEMSIS effort, and to assure more consistency and completeness of reporting, a web-based data entry system was developed, at the request of ADPH, to replace the current fragmented data entry system. RESCUE has been completed, and it is in process of being deployed. Ambulances and other EMS units statewide may choose to use RESCUE or not for data collection, but all agencies must now submit NEMSIS-3 compliant data to the RESCUE data aggregator for submission to the national database.

Progress:

- Provided continual RESCUE technical support to ADPH EMS;
- Completed updates to RESCUE website to improve user experience based on user feedback;
- Released Schematron updates with direction from ADPH EMS to promote better PCR reporting and data quality;
- Developed system to send weekly submission statistic emails to EMS providers and ADPH EMS;.
- Developed system and process to allow EMS providers using 3rd party submission software to submit any backlog of PCRs;
- Performed research and development of new web technologies in preparation for new RESCUE ePCR Exchange system.
- Collaborated with ADPH EMS to generate business requirements for new RESCUE ePCR Exchange system.
- Support newly released RESCUE ePCR Exchange system;
- Released new version of RESCUE with upgraded web technologies; and
- Prepared for release of NEMSIS v3.5.0.

This effort is expected to continue in that RESCUE and RESCUE Exchange is currently deployed and implemented.

2. Analytics of RESCUE data by CARE. Once the RESCUE database is created, tools will be developed within CARE to perform the search and analyses necessary for its effective implementation. Training on the RESCUE system will also assure that the data elements gathered are compliant with the most recently released version of NEMSIS.
   Progress: Completed.
3. Supporting training for 3rd party vendors. It is essential to get all third-party vendors completely compatible with the data formatting and content requirements so that all data collected can go into a single database. Once established, each of the vendors' compatibility with the system will need to be validated.
   Progress: Ongoing. Time and effort have been spent assisting various vendors test their submission process and working through issues to get agencies submitting NEMSIS 3.4 compliant records. NEMSIS Version 3.4 officially became the Alabama standard on 1/1/2018. There is also a general need for continued support of Alabama EMS by providing tools, data, and validation rules needed to ensure submissions are complete and accurate.
4. Supporting software for RESCUE and RESCUE portal. A number of supporting software modules are needed to implement RESCUE. These deal primarily with the interfaces to other systems currently receiving data from or providing data to the existing EMS run data

entry system. There is also a portal that has been released as a prototyped in FY2018. Since that release, a number of enhancements have been recommended by users. This project will translate these recommendations into design modifications and then to re-develop the portal to meet all user needs.

Progress: Ongoing. Since the release in FY2018, a number of enhancements have been recommended by users. This project will continue to translate these recommendations into design modifications and then to re-develop the portal to meet all user needs.

5. Develop an EMS version of MOVE.
   Progress: This project was cancelled in favor of the web-based data entry system that was developed at the request of ADPH (see Project 1 above).
6. First Responder Solution Technique (FIRST) seeks to provide Law Enforcement (LE) agencies with quick, accurate, and location-aware inventory of available emergency medical assistance facilities. A primary goal of the FIRST project is to provide this inventory to LE in the case of mass-causalities in rural areas of Alabama. The project has collected a set of geo-located data providing medical facilities in the state from which a compact shape-file was developed for deployment in MOVE), which provides the MapClick interface. The integration of a geo-located emergency medical facilities layer in MapClick provides LE the ability to visually determine the nearest appropriate facility. This project also evaluated the available Alabama emergency medical assistance facilities inventory to the Model Inventory of Emergency Care Elements (MIECE) data standard developed by the National Association of State EMS Officials (NASEMSO) in March 2011. The FIRST project will also evaluate the feasibility of providing LE with routing information from their current location to a selected facility.
   Progress: Not yet initiated; this project is still in the pre-data-collection stage. Plans are to continue to develop this capability so that it can reach its full potential over the next five years.
7. EMS-Trauma data integration through CARE. A prototype system for the EMSIS data has proven its value in providing valuable information from this EMS run database. To integrate trauma data into this system a two-phased approach will be performed: (1) the refinement of the current CARE/EMSIS system and the incorporation of trauma data under CARE, and (2) the use of ETL techniques to integrate these datasets into a third dataset using key variables for case matching. Consideration for the best match methods in Phase 2 and user training will be integral parts of the first phase.
   Progress: Awaiting higher-level decision to initiate.
8. Medical database access/integration.
   Progress: Pre-requirements. This is a long-term project that must first be defined in terms of the various databases that could be made available to the state, e.g., trauma registry, Electronic Death Reporting System (EDRS), emergency room and hospital discharge databases. Current contacts within the Alabama Department of Public Health will be the starting point for a high level preliminary requirements document as a starting point for this project. Ultimately records from volunteer fire departments might be included in this overall effort.
9. Model Inventory of Emergency Care Elements. Develop and populate a repository of the Model Inventory of Emergency Care Elements (MIECE) for the State. The MIECE repository will be used to provide First Responders an inventory of emergency care resources in

the occurrence of a mass casualty event.
Progress: Pre-requirements. This project requires the highest-level supportive decisions before it can be implemented.

10. Real-time ePCR retrieval system. This will replace the past use of paper ePCR forms for this purpose, which were handed off to the hospital when the patient was admitted. The new technique for the ePCR generation process will be Internet-based so that this basic function of authorized retrieving of relevant ePCRs can be performed similar to the operation of other portals that are maintained by CAPS.
Progress This system, called RESCUE Exchange, is complete and is referenced in #1 of Section 4.3.7.
11. NTRA. Interface research task force. A taskforce will be appointed by the manager of this component, which will be as comprehensive as possible with individuals who are familiar with past CODES projects as well as those who have specialized expertise in at least one of the medical/EMS data systems, with the following charge:
    - To become totally familiar with all aspects of the Advisory as they relate to the EMS/Medical component.
    - To review the systems interfaces in comparison with the Advisory.
    - To make recommendations for all interfaces that may not be in accord with the Advisory.
    - To prioritize the large number of potential interfaces that exist, with the goal of creating or improving those interfaces that are most productive from a management and research perspective.

    Progress: While it is not expected that complete integration can be achieved because of the legal issue and the autonomous aspects of the various medical systems (e.g., per hospital) making up this component, the study should develop a plan that sets forth those interface developments first that are considered of the greatest combination of benefit and feasibility. It is only when this is completed and presented to higher-level decision-makers that approval for this effort can proceed.
12. TRCC – Replacement of AlaCert with a new EMS licensing system. The current ADPH system for maintaining EMS licensure records, AlaCert, will be replaced through a multi-step process to gather information on the current process, evaluate the expected deliverable components, and work to implement those components. This system will include components that maintain all of the user information, license information for each user, and prints licensure cards. This process will focus on tight integration with the current RESCUE ePCR system, as this system uses AlaCert as its primary identity provider. This project will develop requirements for an improved EMS licensure system to replace the current AlaCert system.
    Progress: In discussions with stakeholders to determine scope and applicability of this system within the traffic safety sphere of applications and data. Initial indications are that this system is more complex than initially assumed and may require more planning and discussion than was previously thought.

4.3.8. Integration and Information Distribution Component

1. TSIS/TRCC Coordination. The state has never had the resources to employ a formal full-time TSIS coordinator. The function has been performed by the Traffic Records Coordinating Committee, with the Chair providing the coordination functions assisted by the ADECA staff. Examples of the TSIS Coordination responsibilities include: (1) Administer the allocation of the Section 405c funds, including the performance of full effectiveness and administrative evaluations of all activities within the TSIS Strategic plan, whether Section 405c-supported or not; (2) Generally promote and be a champion for the integration of data and information systems among all of the involved departments; (3) Survey nationally TSIS innovations and make them known to the respective subject matter experts within Alabama; (4) Update the TSIS Strategic Plan on at least a semi-annual basis; (5) Be the executive secretary and facilitate the activities of the TRCC; and (6) Assure the continued enhancement and maintenance of information within SafeHomeAlabama.gov. The state will make increased efforts to get the State Safety Coordinating Committee involved in providing additional coordination among the various entities that have traffic records responsibilities.
   Progress: On hold until resourced become available.
2. Development of DELTA. The Data Evaluation Lifecycle Tracking and Analysis (DELTA) system development is a meta-data project to establish a system for tracking data elements within large multi-database integrated data systems that could be distributed over several agencies. Its purpose is to determine all of the ramifications of making a change in any data element so that the negative effects of such changes can be evaluated and minimized. This considers not only the technical component of the change but also the business processes for all of the involved agencies. While DELTA could be applied to any combination of data systems, it will be prototyped using crash data as the first example.
   Progress: Not yet initiated; awaiting higher-level support.
3. Crash-Injury Data Integration. The goal of this project will be the integration of pre-response, crash, EMS, trauma registry and hospital data so that the injury ramifications of a crash event can be mapped through its lifecycle. This data will also be useful in the evaluation of countermeasures, especially those that related to crash injury severity. This integration has been problematic in most states and the project will be initiated by several stakeholders' meetings to determine: (1) the support for such an integration; (2) the anticipated use of the data by the various stakeholders; (3) the issues in accessing available data; and (4) a prioritization of the anticipated tasks so that a plan can be developed. It is expected that a detailed systems analysis in conjunction with these meetings in order to provide a technical underpinning for the decisions that are made. This project will be coordinated closely with that discussed in Section 4.3.7, Project 5. The primary emphasis of the initial phases of this total integration will be in the linkage between the Electronic Patient Care Report (ePCR), currently produced by RESCUE, and the crash report, currently produced by eCrash. With the adoption rate of RESCUE for ePCR data, the opportunities for linking patient care data to crash reports has become quite feasible. Specific opportunities include, but are not limited to, the following:
   - Researching correlations between officer opinion of crash severity and actual EMS

severity assessment and medical care given;
- Roundtrip time of EMS dispatch to delivery to medical facility.
- Comparison of officer reported medical dispatch and arrival times to EMS-provided dispatch and arrival times;
- Delayed fatalities to the delay time of receiving medical attention; and
- Delayed fatalities to type of medical facility initially receiving the patient.

A second longer-term focus will be on the linkage of these (ePCR and eCrash data) to the Alabama Trauma Registry (ATR). While this is a much longer term project the ultimate goal is to consider these data elements through the complete lifecycle of the event. i.e. eCrash > ePCR > ATR, and ultimately discharge data.
Progress: While this project could provide extremely valuable data, it is proving to be difficult within Alabama at this point.

4. Citation-Adjudication Portal. This will involve (1) the integration of citation and adjudication data from potentially several levels or police and court agencies; (2) the design of an data retrieval and presentation system; and (3) a web portal that will be accessible by all authorized personnel to track any given citation from issuance to final disposition. Since this will involve city, county and state agencies, the integration will be of fair complexity, and prioritization and sequencing of activities will be essential to first prototype and then to develop a system that will serve both the law enforcement and the judicial needs of all stakeholders.
   Progress: On hold awaiting higher level support.
5. Mobile Officers' Virtual Environment (MOVE). This is the basis for bringing together all of the systems currently used by field law enforcement officers, including eCite, eCrash, officers' logbook, roadway issues reports, and all of the paperless office upgrades being made for ALEA and local agencies. MOVE will be upgraded to apply to several more applications and to operate more effectively with current applications. The immediate plan is to gather new business requirements for MOVE and eCite from ALEA, and to start development of the MOVE and eCite applications with our newly developed frameworks (see Section 4.2.6, Project 1).
   Progress. The following progress has been made or is anticipated:
   - Brainstormed and documented possible improvements to MOVE;
   - Created Alabama MOVE Validation Reference List document to assist in future development; and
   - Performed research and development on frameworks allowing for efficient creation of data forms and application communication.
   - Development has begun on a new version
   - See Section 4.3.4, project 6.
6. Mobile device technology implementation. Listed under the Integration component because it affects all of the data entry and query systems within all other components. This will involve porting the current systems to advanced mobile devices such as iPads, iPhones, and other devices operating under the Android and other mobile device operating systems.
   Progress: Not initiated; awaiting funding for this purpose.
7. Data-Driven Approaches to Crime and Traffic Safety (DDACTS). This approach, which is

heavily supported by NHTSA and DOJ, seeks to take advantage of the officers in the field to assure that they are in the right place at the right time with the right equipment and software to perform whatever their immediate mission assignment might be; and to serve as the most effective deterrent to both crime and traffic violations. This is the epitome of the benefits of integration of data from both the traffic safety and the criminal justice communities. MOVE and CARE perform this data integration currently; DDACTS will create new applications of these data to further optimize officer activities and other law enforcement resources.
Progress: Not initiated; awaiting funding for this purpose.

8. CARE multiple database analytics development. The CARE Extract-Translate-Load (ETL) component has been proven as an effective method for integrating databases that were originated for a variety of purposes other than traffic safety. By creating a crash data linkage with related data, benefits are derived in both the traffic safety and the other involved disciplines. The following are the immediate proposed integrations:
   - Crash and roadway characteristics data. This has been in prototype form for a number of years, proving the concept; it needs to be enlarged to cover the new data elements being collected within ALDOT.
   - Crash and citation data. Some prototypes exist along this line as well that compare the locations of crashes with the locations of citations, which is invaluable for officer location deployment decisions.
   - Crash and EMS/Injury data. This has been designed and is in its infancy; working prototypes are expected in the near future.
   - Crash and vehicle data. This is in need of design and development, the goal being to load the CARE datasets with vehicle characteristics that are now available via the tag number through the vehicle database to surface the Vehicle Identification Number, and then to use that number to engage the ETL to load the dataset with vehicle characteristics.

   Progress: Not initiated; awaiting funding for this purpose.
9. NTRCC. Tighter eGIS integration. Most of the TSIS components have a GIS element that enable them to be integrated with most of the other components. A simple example of this that has been accomplished is the current ability to show crashes and citations on the same map, and the corresponding ability to optimize the re-deployment of law enforcement resources to address crash hotspots. Similar optimizations could be performed with EMS resources as a second example. This project will be initiated by a meeting of stakeholders to brainstorm consideration of the various components and to determine the costs and benefits of each integration so that a priority can be established for moving ahead with eGIS-based integration.
   Progress: Not initiated – awaiting a meeting of stakeholders for this purpose to get the project kicked off.
10. NTRCC. Safety Portal full implementation. The goal of this project is to enable those in the traffic safety community to access all of the information that they are authorized to consume under a single portal. This will eliminate the need for a different portal for each agency. It will be a consolidation of the current, largely distributed access that is required to the many disparate databases, and at the same time facilitate the capabilities to integrate two or more of these databases to produce more effective information for decision-making. This

is a new web site that will be based on CARE/ADVANCE technologies. Its goal is to enable those in the traffic safety community to access all of the information that they are authorized to consume under a single portal. This will eliminate the need for a different portal for each agency. It will be a consolidation of the current, largely distributed access that is required to the many disparate databases, and at the same time facilitate the capabilities to integrate two or more of these databases to produce information as discussed above.
Progress: Completed and in the maintenance stage.

11. NTRCC. Countermeasure evaluations. A wide range of countermeasure evaluations are needed to translate crash, citation, demographic and other raw data into useful information for decision-making. Countermeasures will be prioritized in terms of their criticality to fatality reduction, the flexibility to modify related countermeasures and the expectation of the evaluation to modify policy. Currently the following are seen to have the highest potentials: speed related, impaired driving (worst offenders and ignition interlocks), restraints, distracted driving and distracted walking (including observational surveys).
Progress: These evaluations have been, and will be, performed as they are requested by authorized personnel and agencies. This will result in a series of smaller projects than the typical projects discussed in Section 4.2.
12. SafeHomeAlabama.gov web site. This web portal includes all state agencies, the legislature's newly re-constituted State Safety Coordinating Committee, and all known service groups. Its goal is to be totally comprehensive in keeping the entire traffic safety community aware of the most recent developments in traffic safety both in Alabama and Nationally. Much of the information generated will be directly obtained from the TSIS given in the plan. The rationale behind this web portal is that it is of no use to gather data unless it can be translated into useful information for countermeasure development. This is the first formal statewide system for distributing traffic safety information.
Progress: While the site is currently operational, it needs further enhancement and continued effort to see that it is maintained with up-to-date information. This project will be extended in this plan to include publicizing and linking to the "Safety Portal," discussed above.
13. NTRCC – New vehicle safety feature data analytics. With the completion of several software development projects, new eCrash and other data elements are now available to create valuable information. Examples from the MMUCC eCrash update include data on AVs and EVs by VIN. From these, crash frequency and severity can be estimated as a function of new vehicle ADAS features. The primary goal of the analytics process will be to determine the extent of crash frequency and severity increases or decreases of these various new features. In turn, this will provide the data to drive various optimization approaches to address these potential issues in decision-making. The process will be heavily driven by creative Data Integration Extract-Translate-Load (ETL) techniques that will be developed. For example, MIRE and Crash data can be integrated by location to provide estimates of the effects of roadway modifications on crashes.
Progress: This project has been successfully completed with 8 ADAS features being evaluated – see http://www.safehomealabama.gov/caps-special-studies/ under Vehicle-Related studies that have titles starting with ADAS. These studies were forced to be suspended since there were so few vehicles that could be used for control (i.e., which did not have the ADAS feature of interest). These studies are being continued by insurance companies and IIHS.

4.4 TSIS Measurable Performance Indicators

A summary of the TSIS project goals in terms of measurable performance indicators is given below for each of the TSIS components. Each of the projects is listed under the particular TSIS component to which they relate (e.g., crash, vehicle, driver, etc.). In most cases IT projects only return their benefits when fully completed and deployed (e.g., a half-completed software development project generally does not produce any tangible benefits). There are some exceptions in data development projects, but in most cases the goals established would be effective once the envisioned project to satisfy it was totally completed.

The state would have to perform studies that cost well beyond the total Section 405c allocation to the state in order to establish the benchmarks and performance metrics to any degree of reliability. For this reason, the best estimates were used in many cases. In some cases the ongoing and proposed projects have the objective of establishing data or systems that currently do not exist, and therefore the current benchmark is zero. In other cases the benefits of the systems being developed will not be realized until these systems are deployed, and in these cases the metric is a degree of completion as opposed to some impact on the TSIS itself. Thus, to the extent possible the metrics that are recommended in NHTSA document **DOT HS 811 441 entitled "Model Performance Measures for State Traffic Records Systems"** were used as the basis for the performance metrics given below. In addition, the annual required Interim report that the State submits to NHTSA uses the metrics that are specified in the **DOT HS 811 411** document.

4.4.1 Management Component Project Metrics/

4.4.1.1 Quality Control Management Metrics

- Assignment of a quality control coordinator to each operational component.
- Within each component:
    - Selection of items in need of qualify improvement.
    - Documentation of improvements made.

4.4.2 Crash Component Project Metrics

4.4.2.1 ADVANCE Upgrade

- Functioning ADVANCE portal with new technology upgrades in place.
- Stakeholder satisfaction measured by survey above 95%.

4.4.2.2 MapClick project.

- Increase the accuracy and completeness of the crash location entry for on-system (mile-posted) locations from its current level of about 85% to at least 98%.
- For off-system segment locations, increase the accuracy from 0% to at least 98%. (This can be measured by the number of cases that contain a 99999 in the node field, indicating that the node entered was either invalid or unknown.)

- Reduce the invalid or unknown cases from its current value of approximately 20% of cases to less than 2% of cases.

4.4.2.3 eCrash upgrades and training

- Modify the eCrash data entry screens so that the data collected is over 90% MMUCC compliant.
- Reduce time to enter locations from an average of 15 minutes to less than one minute with consistent accuracy as described in Item 4.3.2.2.

4.4.2.4 CARE modifications and upgrades

- Give users greater intuitive access to crash data and the information in the crash database thereby increasing the number of queries that they can perform without assistance from its current estimate of 60% to over 80%.
- Increase the number of queries that users will make from an average of 20 queries per user to well over 50 queries per user per year.

4.4.2.5 CARE scripting and dashboard capabilities.

- Provide greater productivity in enabling users to save complex queries and reuse them, resulting in a 20% increase in the number of reports generated.
- Increase the accuracy of query responses by 30% since they will not have to be re-created periodically.

4.4.2.6 Upgrade CARE dashboard user interface

- Significant recognized improvements in the interface making it easier for users to get available information from the available datasets.
- Results of user survey of stakeholders.

4.4.2.7 Upgrade to the Crash Facts document.

- Increase in the consistency of information presented from year to year (with the introduction of eCrash data this consistency dropped to about 90%).
- Increase consistency to 100%, providing users the capability to compare figures from year to year.

4.4.2.8 Final mandate for use of eCrash.

- MMUCC compliance increase from 85% to over 95%.
- Increased consistency among all data elements through a systematic series of cross-tabulation checks; reduction of inconsistent data elements by 90%.
- Timeliness improvement from an average of about six weeks for current paper forms to be entered for the remaining paper forms to the eCrash delay of an average of less than 18 hours.

4.4.2.9 Special location type exception reports.

- Since the information being produced from these reports does not currently exist, there will be a 100% increase in information content from each type of exception report that will be created.

4.4.2.10 Unreported crash incident reporting.

- This project will create new data that do not currently exist since these data will generate information that cannot be derived from any current data source.
- At least 100 reports in the first prototype year.

4.4.2.11 Centralized (Enterprise) CARE

- Functioning CARE system that uses a central server to store all executables and all datasets.

4.4.2.12 Upgrade of the FOCIS system

- Demonstration of a functional advanced collision-diagram generation system that is more advanced that any currently in existence.

4.4.2.13 Coordinate-based hotspot capability

- Demonstration of a hotspot capability that is based totally on GIS coordinates and ON road code, independent of any linear reference system.
- Tested and verified system working as good if not better than the LRS hotspot systems.

4.4.2.14 Database Systems Management (DBSM)

- Progress in developing the DBSM will be evident from the ease of generating new reports once it is operational.
- It is not possible to specify other metrics at this point to measure its effectiveness in time savings and eliminating problems when it comes to changing the structure of variables that are used elsewhere in the system.

4.4.2.15 TZD research and education

- Assessment of the effectiveness is best measured by before and after surveys for the educational effort.
- Research is needed to design the PI&E efforts that will be most effective in preparing the general public for the major benefits expected from connected and autonomous vehicles, and to recognize that their flaws are temporary as the technology moves forward.

4.4.2.16 Guideline Improvement

- List of Advisory best practices as they relate to crash records.
- Documented cost and an expected benefit related to the implementation of each of the recommended best practices.
- Implementation and work plan for those projects that will be necessary to implement the most cost-beneficial items.
- Recommendations to the TSIS SP for review and approval by the TRCC.

4.4.2.17 Data Dictionary

- Comprehensive data dictionary for raw crash data that is consistent with industry standards for data dictionaries.
- Documented methods for tracking all datasets produced from the crash data, including those that are integrated with data from other modules.

4.4.2.18 Crash Module Systems Analysis

- Documentation of a complete systems analysis of the current crash module including both internal procedures and process flows as well as the integration with other modules.
- Preliminary list of anticipated current crash module deficiencies.
- Recommended remedial action to correct any deficiencies.
- List of potential projects that can be compared on a cost-benefit basis to recommend updates to the TRCC SP.

4.4.2.19 FARS Data Automation

- Upgraded FARS data entry to include all required FARS data elements.
- Addition of the following to enable ALDOT to meet federal requirements: (1) MPO boundary area, (2) RPO boundary area boundary, (3) FARS Highway Functional Classification, and (4) FARS National Highway System Classification.
- Updated CARE FARS system to process data from the most recent FARS updates.

4.4.3 Vehicle Projects

4.4.3.1 Registration file content and access update.

- Current systems upgraded to include the new data being made available by upgrades in the vehicle registration process.

4.4.3.2 ETAPS upgrade to ALTS.

- Conversion of ETAPS to ALTS completed, and the system is working totally under ALTS.
- Implementation verified to be 100% by all designated agents in all counties.

4.4.3.3 Integration of ALEA driver license and state identification databases

- Testing is completed to assure that there is full integration of the two databases such that anything in one is accessible to the other and vice versa, given that the same person exists in both databases.
- Prototype tested to verify the ability to scan the barcode to obtain the vehicle owner's information via a link to the driver's license number and the registration record.

4.4.3.4 Implementation of OVIS

- Full implementation of OVIS measured by the number of agencies using it.
- FY2019 progress included working with ALEA to provide access to the DOR online insurance verification system in order to administer the newly created law that allows ALEA to issue assessments to uninsured motorists who are involved in crashes.

4.4.3.5 Modernized IRP/IFTA systems

- Significantly improved user satisfaction with the interface.
- Ability for users to upload documents and to utilize the applications on a variety of modern electronic devices.
- Progress of this project in FY2019 included the implementation of: (1) a new commercial vehicle licensing system for IRP and IFTA licenses and taxes, and (2) a new commercial vehicle information exchange window (CVIEW) for use by DOR, ALEA, APSC and ALDOT.

4.4.3.6 Update and implementation of MVTRIP

- Upgrading of the MVTRIP system without loss of utility, to include a new upgraded dashboard that displays and performs analytics on the MVTRIP data.
- Compatibility with the most common technologies that are being applied in the field.

4.4.3.7 Print on demand registration receipt

- Final testing completed and complete print on demand registration receipt system fully operational.
- The print on demand process for registration receipts and validation decals is now being implemented; 100% implementation by the end of FY2019.
- Progress during FY2019 included the implementation of the print on demand process for Alabama special distinctive license plates.

4.4.3.8 Electronic vehicle registration receipts

- Final testing of the system that meets all requirements for producing and transmitting an electronic receipt to registrants' electronic wallets.

4.4.3.9 Vehicle registration cards

- Improved accuracy of person and vehicle validation from its current value of approximately 90% to 98%.
- Successful prototype of barcodes on registration cards in several target beta test areas.
- Implement barcodes on registration cards statewide.

4.4.3.10 Vehicle data LETS integration

- Decrease the average time that it takes an officer in the field to obtain vehicle and insurance verification from the current average to less than five seconds.

4.4.3.11 Online Insurance Verification System (OVIS) updates

- Detect at least five areas where improvements can be made and develop them during the first year after project initiation.
- Regression tested improvements.

4.4.3.12 Effective TZD infrastructure.

- Documented interaction with TZD researchers resulting in the use of CARE and other tools and data to support TZD efforts.

4.4.3.13 Addition of the DL validation to populate the vehicle owner data in the title record.
- Fully functional Driver License (DL) number as required part of the title record.
- Ability to retrieve the registration record from the vehicle owner's driver's license number.
- Ability to pre-populate the title record with all available information on the drivers' license (e.g., name and address and all other vehicle owner information).

4.4.3.14 More frequent county uploads of title records
- Design and development of a virtual real-time system for updating LETS.
- Information is available to officers in the field at the point (no more than five minutes after) when the transaction occurs.

4.4.3.15 Electronic liens and titles (ELT)
- Completed requirements gathering phase for the production of current lien and title information electronically.
- Functioning lien and title information system.

4.4.3.16 Automated License Plate Readers (ALPR)
- Completed requirements gathering for system to support civil enforcement of registration violations through the use of automated license plate readers (ALPRs).
- Completed preliminary and detailed design.
- Functioning software to use ALPRs for enforcement of registration laws.

4.4.3.17 Electronic Credentialing (eCredential) program
- Completed requirements gathering for system to support electronic credentialing.
- Completed preliminary and detailed design.
- Functioning software to perform the electronic credentialing functions.

4.4.3.18 Improve Vehicle Data System
- Assign responsibility to agency
- Establish project team for analysis
- Publish project team report

4.4.4. Driver Component Projects

4.4.4.1 DUI driver data intake and reporting system
- Law enforcement identification and apprehension of at least ten additional DUI offenders (per month) with outstanding warrants or court obligations.

4.4.4.2 MIDAS offender completion validation
- (Currently this capability does not exist.)

- The ability to identify for any defendant where s/he stands with regard to completing their sentence.
- The identification within the database of an increase of 30% additional existing offenders who have not completed their time of suspension or satisfied their alternative or traditional sanctions.

4.4.4.3 Traffic safety incident (ULTRA) data availability

- This system and thus the information that it would generate does not currently exist. This will result in the availability to law enforcement of selected incidents that relate to traffic safety (e.g., habitual drug use). The first prototype should support 50-100 queries per day.
- Documentation of the systems analysis necessary to create additional data requirements.

4.4.4.4 Information mining of the ULTRA data

- Functioning ETL for ULTRA.
- ULTRA datasets being processed by CARE.
- Resulting CARE outputs.

4.4.4.5 LETS upgrades for traffic safety

- (This capability does not currently exist.)
- The capability to detect hundreds of serial traffic violators per month based on an expected 50-100 queries per day

4.4.4.6 Mobile Officer Virtual Environment (MOVE) Upgrades

- Most of the additional capabilities that enable officers to complete forms in their vehicles will require upgrades to the current MOVE system. Since this is a supportive role, it can only be measured in terms of the other systems that it supports.

4.4.5 Roadway Data Systems Projects

4.4.5.1 Improved data gathering/connectivity through eGIS

- Centerlines developed for all state roads completed by end of FY2017.
- Centerlines developed for at least 80% of county roads and city streets by the end of FY 2021.
- ALDOT-maintained location system (for all public roads) route network incorporated into crash locating tools for at least 95% of crash reports;
- ALDOT's "all public roads" route network expanded to 80% of all non-State maintained routes.
- Infrastructure and tools provided to 90% of local authorities (e.g., City, County, MPO, RPO).

4.4.5.2 Statewide roadway data inventory

- Accessibility: currently these data are widely distributed and not easily accessible for IHSDM/HSM implementation.

- Add data elements to an IHSDM/HSM warehouse to make 20% of these data elements accessible per year so that at the end of the five-year planning horizon 100% of the required data elements will be accessible.

4.4.5.3 IHSDM/HSM implementation project

- Improve the accuracy and the consistency of roadway modification benefit estimates by at least 50% over the planning horizon (e.g., if the accuracy is currently 80%, then a success would be in raising this accuracy to 90%, eliminating 50% of the deficiency).

4.4.5.4 Roadway Issue Dispatch (RID) project

- The addition of ten RID reports per month routed to either ALDOT or the appropriate county or city engineer.

4.4.5.5 Roadway Improvement Safety Evaluation (RISE)

- Beta test at least five maintenance project corridors during the second year after project initiation.

4.4.5.6 MIRE creation for state routes

- Ongoing progress of 20% of the data elements functional per year after initiation of the project.
- Comparable progress to incorporate the relevant state-collected MIRE data elements into the crash database and Crash reports.
- MIRE data elements collected for 80% public routes not on the State maintained network.
- Ongoing implemented training on MIRE data collection and reporting tools to local authorities (e.g., City, County, MPO, RPO).

4.4.5.7 Design and develop data dictionary for roadway data elements.

- Comprehensive data dictionary for raw roadway data elements that is consistent with industry standards for data dictionaries as well as federal requirements.
- Documented methods for tracking all datasets produced from the roadway data, including those that are integrated with data from other modules.

4.4.5.8 Systems analysis of roadway data elements.

- Documentation of complete systems analysis of the current roadway module, including both internal procedures and process flows.
- Documentation of the integration with other modules as well as the data elements developed in Project 7 above.
- Recommendations for all remedial actions to correct any deficiencies resulting from a comparison of existing procedures against the recommendations given in the Advisory.
- List of potential projects that can then be compared on a cost-benefit basis to recommend updates to the TRCC SP.

4.4.6 Citations and Adjudication Projects

4.4.6.1 Upgrades to eCite

- Reduce the average time of getting citation information into the database from several days to an average of less than one day.
- Increase the proportion of agencies on by at least 2% per year.

4.4.6.2 ALEA Motor Carrier Integration – FMCSA compliance

- From less than 50% current compliance to 100% compliance with Federal standards.

4.4.6.3 Citation adjudication technology

- For all eCite agencies, eliminate the need for paper tickets and officer swearing to the ticket in person at the courthouse.
- Reduce the time spent in printing to a few seconds

4.4.6.4 Municipal electronic disposition system

- Five beta test municipalities after the first year of the start of development.
- At least 20 municipalities using the system after the second year.

4.4.6.5 Completing of the eCite roll-out

- At least 95% of municipalities using eCite by the end of FY2023.

4.4.6.6 Citation and DUI Tracking System

- Number and percentage of defendants for which data are available; functional portal under MOVE enabling officers to make queries on particular individuals; administrative capability to check the status of citation and defendants.

4.4.6.7 Taskforce to develop and implement improved guidelines

- Documentation of an internal assessment as to which components are in compliance with the provisions of the Advisory and which are most in need of remediation.
- Documentation of a complete systems study of all current components within the citation/adjudication component, i.e., all systems that relate to either transactional or analytical systems and impact traffic safety.
- Documentation of an in-depth analytical study of the most critical modules and the recommendations for additional development of supporting projects to bring the system into closer conformance with the Advisory.
- Recommends to the TRCC any new projects that are required to this effect so that they can be integrated into the SP once approved.

4.4.7. EMS-Medical Surveillance

4.4.7.1 Complete and implement RESCUE – completed.

- Beta test of the RESCUE system completed by the end of the second year from project initiation. This objective has been accomplished.

4.4.7.2 Supporting software for RESCUE.
- Deployed operational support software; number of vendors who are using the supporting software and the support it is providing to RESCUE for effective operation.

4.4.7.3 Develop EMS version of MOVE
- This project has been cancelled due to deciding to go web-based with RESCUE.

4.4.7.4 Continued development of the First Responder Solution Technique (FIRST)
- All MOVE components developed and deployed in beta tests.
- Reduced transport time for beta areas.
- Reduced number of patients who need to be forwarded to more appropriate facilities in beta test areas.

4.4.7.5 EMS-Trauma data integration through CARE
- ETL developed and pilot datasets generated that contain integrated EMS and Trauma data that support all CARE analytical capabilities.

4.4.7.6 Medical database access/integration
- Documentation of the systems analysis study that contains recommendations as to the initial databases that can be integrated.

4.4.7.7 Model Inventory of Emergency Care Elements (MIECE) Repository
- Beta test of the MIECE data entry system completed by the end of the first year of project initiation.

4.4.7.8 Interface research task force (coordinated closely with item 4.3.8.3 below)
- Existence of an ongoing taskforce.
- Documented review of the systems interfaces in comparison with the Advisory.
- Recommendations for all interfaces that are not in accord with the Advisory.
- Prioritization of the large number of potential interfaces that exist, with the goal of creating or improving those interfaces that are most productive from a management and research perspective.

4.4.8. Integration Projects

4.4.8.1 TSIS/TRCC Coordination
- The presence of a coordinator and staff to perform all necessary coordination functions.

4.4.8.2 Development of DELTA

- Documented design of DELTA to take in the practical aspects of a multi-agency approach toward data lifecycle coordination.
- Functioning prototype system for a select subset of the total TSIS in order to initiate its full evolution.

4.4.8.3 Crash-Injury Data Integration (coordinated closely with item 4.3.7.8 above)

- Definition and establishment of two (or more) additional databases needed to prove the concept, e.g., eCrash and RESCUE data.
- Functioning CARE dataset that proves the concept of multiple database information generation using the ETL approach for integration.
- Functional linkage between the Electronic Patient Care Report (ePCR), currently produced by RESCUE, and the crash report, currently produced by eCrash.
- Established use of this integration demonstrated by (for example):
    - Establishing correlations between officer opinion of crash severity and actual EMS severity assessment and medical care given;
    - Roundtrip time of EMS dispatch to delivery to medical facility.
    - Comparison of officer reported medical dispatch and arrival times to EMS-provided dispatch and arrival times;
    - Delayed fatalities to the delay time of receiving medical attention; and
    - Delayed fatalities to type of medical facility initially receiving the patient.

4.4.8.4 Citation-Adjudication Portal

- Functioning web-based portal that satisfies current needs of all stakeholders.
- Specification of improvements for anticipated needs in the future.

4.4.8.5 Mobile Officers' Virtual Environment (MOVE) upgrades to support integration.

- New version of MOVE.

4.4.8.6 Mobile device technology.

- Research feasibility.

4.4.8.7 Data-Driver Approaches to Crime and Traffic Safety (DDACTS)

- Creation of at least one implemented DDACTS system; e.g., the integration of crash, incident and citation data to determine optimal placement of law enforcement assets.

4.4.8.8 CARE multiple database ETL development.

- One application functional every fiscal year of the following: (1) crash-roadway; (2) crash-citation; (3) crash-EMS/injury; (4) crash-vehicle.

4.4.8.9 Tighter eGIS integration

- Documentation of a systems study to determine which component database combinations will produce the most benefit from being integrated by location.
- Prioritized plan for the integration by location.

- Prototype functional integrated map-based information generation.

4.4.8.10 Safety Portal full implementation

- The functioning portal with two major CARE/ADVANCE datasets added per year over the planning horizon.

4.4.8.11 Countermeasure evaluations

- Result of an analysis to determine and prioritize those countermeasures that are most in need of evaluation from the viewpoint of feasibility and the flexibility to make modifications to improve the programs under consideration.
- Intermediate and final evaluation documentation.

4.4.8.12 SafeHomeAlabama.gov

- Add 10 pages to SHA and assure that information received is posted out on the web site within one hour of receipt by the end of FY 2021.
- Increase the Twitter account that announces all significant updates to SHA to 100 followers.

5.0 Traffic Records Assessment Recommendations

See the responses to recommendations in Section 6.

There were no TRCC recommendations for general SP. However, the following considerations were given for Strategic Planning (SP):

SP1. Recommendation: *Include a survey of local organizations and tribes to obtain their help in directing future planning.*

SP2. Recommendation: *Add considerations to each project that address: (1) The performance attributes being addressed, (2) The organization responsible for the project, and (3) a general timeline.*

5.1 Crash Recommendations

1. Recommendation: *Improve the applicable guidelines for the Crash data system to reflect best practices identified in the Traffic Records Program Assessment Advisory.*

2. Recommendation: *Improve the data quality control program for the Crash data system to reflect best practices identified in the Traffic Records Program Assessment Advisory.*

3. Recommendation: *Improve the procedures/process flows for the Crash data system to reflect best practices identified in the Traffic Records Program Assessment Advisory.*

Considerations:

- Consider developing documentation for the flow of the crash data from data collection to analysis and;
- Consider creating feedback reports for law enforcement agencies with performance measures on timeliness, accuracy and completeness.

5.2 Vehicle Recommendations

1. Recommendation: *Improve the data quality control program for the Vehicle data system to reflect best practices identified in the Traffic Records Program Assessment Advisory.*

2. Recommendation: *Improve the description and contents of the Vehicle data system to reflect best practices identified in the Traffic Records Program Assessment Advisory.*

Considerations:

- Consider development of a formal, vehicle system comprehensive data quality control program;

- Consider improving the methodology for periodical data audits of the vehicle data system and;
- Consider sharing data system quality management reports with the State's TRCC committee for their regular review.

5.3 Driver Recommendations

1. Recommendation: *Improve the data quality control program for the Driver data system to reflect best practices identified in the Traffic Records Program Assessment Advisory.*

Considerations:

- Consider developing formal documentation for the edit checks and data collection guidelines, as well as the processes for updating the data dictionary;
- Consider creating process flow diagram(s) for the driver data system. Having these processes documented can help to identify possible overlaps and identify where efficiencies could be gained and;
- Consider establishing performance measures for driver data as it pertains to timeliness, accuracy, completeness, uniformity, integration, and accessibility.

5.4 Roadway Recommendations

1. Recommendation: *Improve the data dictionary for the Roadway data system to reflect best practices identified in the Traffic Records Program Assessment Advisory.*

2. Recommendation: *Improve the data quality control program for the Roadway data system to reflect best practices identified in the Traffic Records Program Assessment Advisory.*

3. Recommendation: *Improve the procedures/ process flows for the Roadway data system to reflect best practices identified in the Traffic Records Program Assessment Advisory.*

Considerations:

- Consider developing roadway system documentation into a central repository;
- Consider establishing roadway system performance measures and;
- Consider sharing performance measure, data quality reports with the TRCC and roadway data system stakeholders.

5.5 Citation/Adjudication Recommendations

1. Recommendation: *Improve the data quality control program for the Citation and Adjudication systems to reflect best practices identified in the Traffic Records Program Assessment Advisory.*

Considerations:

- Consider expanding the use of Citation and Adjudication system data for analysis;
- Consider developing performance measures and data quality reporting about the Citation and Adjudication data systems to the TRCC and safety stakeholders and;
- Consider developing a policy review of the citation and court case management documentation so that all data dictionaries and manuals are kept up-to-date and in sync.

5.6 EMS / Injury Surveillance Recommendations

11. Recommendation: *Improve the data quality control program for the Injury Surveillance systems to reflect best practices identified in the Traffic Records Program Assessment Advisory.*

12. Recommendation: *Improve the interfaces with the Injury Surveillance systems to reflect best practices identified in the Traffic Records Program Assessment Advisory.*

Considerations:

- Consider establishing the State TRCC as the entity that quantifies the burden of motor vehicle injury using EMS, emergency department, hospital discharge, trauma registry and vital records data and;
- Consider having TRCC leadership work with the Alabama State Hospital Association to grant confidential access to ER/Hospital Discharge data.

5.7 Data Use and Integration Recommendations

No recommendations.

Considerations:

- Consider developing the ability to integrate the crash and injury surveillance data systems to compare the injury severity from the crash report to that reported by EMS and;
- Consider creating specific analyses that integrates the crash and driver datasets. Example, analyses might include an assessment of graduated drivers' license (GDL) law effectiveness or of crash risk associated with motorcycle rider training, licensing, and behavior.

6.0 Traffic Records Assessment (TRA) Responses to be addressed in FY2023-27

These responses were not intended to repeat the content of the Traffic Records Information Systems (TSIS) Strategic Plan (SP). For this reason a brief response is given here for each recommendation that in all cases refers the reader to other sections of the SP. The NHTSA *Traffic Records Program Assessment Advisory* will be referenced in the responses below as *the Advisory*. In each case the recommendation from the TRA will be followed by the State's response.

SP1. Recommendation: *Include a survey of local organizations and tribes to obtain their help in directing future planning.*

Strategic Plan Response: See Section 4.2.1 ~~project #2~~.

SP2. Recommendation: *Add considerations to each project that address: (1) The performance attributes being addressed, (2) The organization responsible for the project, and (3) a general timeline.*

Strategic Plan Response: This is being addressed throughout this Strategic Plan.

6.1 Crash Recommendation Actions

1. Recommendation: *Improve the applicable guidelines for the Crash data system to reflect best practices identified in the Traffic Records Program Assessment Advisory.*

Strategic Plan Response: See Section 4.3.2, Project 16 for details. The crash component manager will set up a taskforce to develop and implement improved guidelines for the Crash data system to reflect best practices of the advisory.

2. Recommendation: *Improve the data quality control program for the Crash data system to reflect best practices identified in the Traffic Records Program Assessment Advisory.*

Strategic Plan Response: See Section 4.3.1, Project 1 for details. This is a comprehensive project that covers all of the TSIS components. Each component coordinator will appoint a quality control manager to evaluate the quality of all data being received, generated and distributed by that component. In the absence of such an appointment, the component coordinator will assume the responsibilities.

3. Recommendation: *Improve the procedures/process flows for the Crash data system to reflect best practices identified in the Traffic Records Program Assessment Advisory.*

Strategic Plan Response: See Section 4.3.2, Project 18 for details. A comprehensive systems analysis will be performed for the Crash data system that will consider all procedures and process flows within this component using the guidelines and data dictionary developments of projects 16 and 17. These will be compared against the recommendations given in the Advisory and remedial action will be taken to correct any deficiencies.

6.2 Vehicle Recommendation Actions

1. Recommendation: *Improve the data quality control program for the Vehicle data system to reflect best practices identified in the Traffic Records Program Assessment Advisory.*

Strategic Plan Response: See Section 4.3.1, Project 1 for details. This is a comprehensive project that covers all of the TSIS components. Each component coordinator will appoint a quality control manager to evaluate the quality of all data being received, generated and distributed by that component. In the absence of such an appointment, the component coordinator will assume the responsibilities.

2. Recommendation: *Improve the description and contents of the Vehicle data system to reflect best practices identified in the Traffic Records Program Assessment Advisory.*

Strategic Plan Response: See Section 4.2.3, Project 19 for details. A comprehensive systems analysis will be performed for the Vehicle data system that will consider all procedures and process flows within this component using the guidelines and data dictionary developed. These will be compared against the recommendations given in the Advisory and remedial action will be taken to correct any deficiencies.

6.3 Driver Recommendation Actions

1. Recommendation: *Improve the data quality control program for the Driver data system to reflect best practices identified in the Traffic Records Program Assessment Advisory.*

Strategic Plan Response: See Section 4.3.1, Project 1 for details. This is a comprehensive project that covers all of the TSIS components. Each component coordinator will appoint a quality control manager to evaluate the quality of all data being received, generated and distributed by that component. In the absence of such an appointment, the component coordinator will assume the responsibilities.

6.4 Roadway Recommendation Actions

1. Recommendation: *Improve the data dictionary for the Roadway data system to reflect best practices identified in the Traffic Records Program Assessment Advisory.*

Strategic Plan Response: See Section 4.3.5, Projects 6 and 7 for details. Currently no formal data dictionary exists for the raw roadway data elements. This project calls for the development of a comprehensive data dictionary for these data, including but not limited to the MIRE data elements.

2. Recommendation: *Improve the data quality control program for the Roadway data system to reflect best practices identified in the Traffic Records Program Assessment Advisory.*

Strategic Plan Response: See Section 4.3.1, Project 1 for details. This is a comprehensive project that covers all of the TSIS components. Each component coordinator will appoint a quality control manager to evaluate the quality of all data being received, generated and distributed by that component. In the absence of such an appointment, the component coordinator will assume the responsibilities.

3. Recommendation: *Improve the procedures/ process flows for the Roadway data system to reflect best practices identified in the Traffic Records Program Assessment Advisory.*

Strategic Plan Response: See Section 4.3.5, Project 8 for details. A comprehensive systems analysis will be performed for the Roadway data system that will consider all procedures and process flows within this component using the guidelines and the recommendations given in the Advisory, and remedial action will be taken to correct any deficiencies.

6.5 Citation/Adjudication Recommendation Actions

1. Recommendation: *Improve the data quality control program for the Citation and Adjudication systems to reflect best practices identified in the Traffic Records Program Assessment Advisory.*

Strategic Plan Response: See Section 4.3.1, Project 1 for details. This is a comprehensive project that covers all of the TSIS components. Each component coordinator will appoint a quality control manager to evaluate the quality of all data being received, generated and distributed by that component. In the absence of such an appointment, the component coordinator will assume the responsibilities.

6.6 EMS / Injury Surveillance Recommendation Actions

1. Recommendation: *Improve the data quality control program for the Citation and Adjudication systems to reflect best practices identified in the Traffic Records Program Assessment Advisory.*

Strategic Plan Response: See Section 4.3.1, Project 1 for details. This is a comprehensive project that covers all of the TSIS components. Each component coordinator will appoint a quality control manager to evaluate the quality of all data being received, generated and distributed by that component. In the absence of such an appointment, the component coordinator will assume the responsibilities.

2. Recommendation: *Improve the interfaces with the Injury Surveillance systems to reflect best practices identified in the Traffic Records Program Assessment Advisory.*

Strategic Plan Response: See Section 4.3.7, Project 8 for details. A task force will be appointed by the manager of this component with the charge of reviewing the systems interfaces in conjunction with the Advisory. Recommendations will be expected to include the prioritization of the large number of potential interfaces that might exist, with the goal of creating those interfaces that are most productive from a management and research perspective.

6.7 Data Use and Integration Recommendation Actions

No recommendations.

7.0 Responses for Recommendations that will Not Be Addressed in FY2023

7.1 Crash Recommendations

2. Recommendation: *Improve the data quality control program for the Crash data system to reflect best practices identified in the Traffic Records Program Assessment Advisory.*

Strategic Plan Response: See Section 4.3.1, Project 1 for details. This is a comprehensive project that covers all of the TSIS components. Each component coordinator will appoint a quality control manager to evaluate the quality of all data being received, generated and distributed by that component. In the absence of such an appointment, the component coordinator will assume the responsibilities. See Section 7.6 below for reason.

7.2 Vehicle Recommendations

4. Recommendation: *Improve the data quality control program for the Vehicle data system to reflect best practices identified in the Traffic Records Program Assessment Advisory*.

Strategic Plan Response: See Section 4.3.1, Project 1 for details. This is a comprehensive project that covers all of the TSIS components. Each component coordinator will appoint a quality control manager to evaluate the quality of all data being received, generated and distributed by that component. In the absence of such an appointment, the component coordinator will assume the responsibilities. See Section 7.6 below for reason.

7.3 Driver Recommendations

6. Recommendation: *Improve the data quality control program for the Driver data system to reflect best practices identified in the Traffic Records Program Assessment Advisory*.

Strategic Plan Response: See Section 4.3.1, Project 1 for details. This is a comprehensive project that covers all of the TSIS components. Each component coordinator will appoint a quality control manager to evaluate the quality of all data being received, generated and distributed by that component. In the absence of such an appointment, the component coordinator will assume the responsibilities. See Section 7.6 below for reason.

7.4 Roadway Recommendations

8. Recommendation: *Improve the data quality control program for the Driver data system to reflect best practices identified in the Traffic Records Program Assessment Advisory*.

Strategic Plan Response: See Section 4.3.1, Project 1 for details. This is a comprehensive project that covers all of the TSIS components. Each component coordinator will appoint a quality control manager to evaluate the quality of all data being received, generated and distributed by that component. In the absence of such an appointment, the component coordinator will assume the responsibilities. See Section 7.6 below for reason.

7.5 Citation/Adjudication Recommendations

10. Recommendation: *Improve the data quality control program for the Citation and Adjudication systems to reflect best practices identified in the Traffic Records Program Assessment Advisory.*

Strategic Plan Response: See Section 4.3.1, Project 1 for details. This is a comprehensive project that covers all of the TSIS components. Each component coordinator will appoint a quality control manager to evaluate the quality of all data being received, generated and distributed by that component. In the absence of such an appointment, the component coordinator will assume the responsibilities. See Section 7.6 below for reason.

7.6 EMS / Injury Surveillance Recommendations

11. Recommendation: *Improve the data quality control program for the Injury Surveillance systems to reflect best practices identified in the Traffic Records Program Assessment Advisory.*

Strategic Plan Response: See Section 4.3.1, Project 1 for details. This is a comprehensive project that covers all of the TSIS components. Each component coordinator will appoint a quality control manager to evaluate the quality of all data being received, generated and distributed by that component. In the absence of such an appointment, the component coordinator will assume the responsibilities.

Reason for not implementing the TRA Quality Control Recommendations for All Modules: In reviewing the resources available to the state, the Traffic Records Coordinating Committee has determined that resources are not currently available for implementing the formal quality control recommendations made in the Traffic Records Assessment report for each and every module. This is not to say that there are not current efforts to maintain quality by all of the agencies involved in traffic records. These efforts have been ongoing for many years, and the quality of the products produced attest to their effectiveness. However, the Traffic Records Assessment recommendations required that specific personnel be assigned to these functions and that documentation be produced to demonstrate these formal efforts. Efforts will be made during FY2023 to plan for the best methods to address these recommendations, but the TRCC did not feel that resources on any current efforts should be sacrificed to this end.

State Traffic Safety Information System Improvements Grant
Interim Progress Report

State: Alabama **Report Date:** 6/1/ 2022 **Submitted by:** _____

Regional Reviewer:

System to be Impacted	**X CRASH ___DRIVER ___VEHICLE ___ROADWAY ___CITATION/ADJUDICATION ___EMS/INJURY OTHER specify:**
Performance Area(s) to be Impacted	**___ACCURACY __ __TIMELINESS __X___COMPLETENESS ___ACCESSIBILITY ___UNIFORMITY ___INTEGRATION OTHER specify:**
Performance Measure used to track Improvement(s)	**Narrative Description of the Measure** The "Has" Coordinate variable in the **crash database** was studied. This variable refers to presence of a GPS coordinate associated with the location of the crash within the crash record. A comparison was made in the two study periods of the number of "No Coordinate" values in the records.
Relevant Project(s) in the State's Strategic Plan	**Title, number and strategic Plan page reference for each Traffic Records System improvement project to which this performance measure relates** Crash Component, Item 4.2.2.3 eCrash Upgrades and 4.2.2.8 – Final Mandate for use of eCrash, Pages 25 - 27, TSIS Strategic Plan 2021-2025, April 13, 2020.
Improvement(s) Achieved or Anticipated	**Narrative of the Improvement(s)** During the April 1, 2020 – March 31, 2021 study period, the percentage of "No Coordinate" values in the "Has Coordinate" variable in the **crash database** was 6.30%. During the April 1, 2021 – March 31, 2022 study period, the percentage of "No Coordinate" values in the "Has Coordinate" variable decreased to 5.10%. This is a 1.20% decrease in "No Coordinate" values per record which equates to a relative proportional improvement of 19.0% (1.20/6.30) in **data completeness** between the two study periods for this variable in the **crash database**.
Specification of how the Measure is calculated / estimated	**Narrative Description of Calculation / Estimation Method** The percentage of "No Coordinate" values in the "Has Coordinate" variable was compared during the two study time periods. Using the percentage of No Coordinate values takes into account the number of records as opposed to comparing the raw frequency. Then, simply divide the difference by the percentage in the earlier timeframe to calculate the percent decrease in records with "No Coordinate" values which equates to an increase in data completeness. (See attached detailed data.)
Date and Baseline Value for the Measure	April 1, 2020 through March 31, 2021 (see attached detailed data) **Value** / **Frequency** / **Percentage** No Coordinate value / 8364 / 6.30% Total Crash Records / 132758 / 100%
Date and Current Value for the Measure	April 1, 2021 through March 31, 2022 (see attached detailed data) **Value** / **Frequency** / **Percentage** No Coordinate value / 7800 / 5.10% Total Crash Records / 152830 / 100%
Regional Reviewer's Conclusion	**Check one** **___ Quantitative performance improvement *has* been documented** **___ Quantitative performance improvement has *not* been documented** **___ Not sure**
If "has not" or "not sure": What remedial guidance have you given the State?	
Comments	

Interim TSIS Progress Report AL Crash report supportive data

April 1, 2020 - March 31, 2021

Has Coordinate				
Values	Frequency	Cum. Freq	Percentage	Cumulative %
Coordinates derived from Route-Milepost	27876	27876	21.00%	21.00%
Coordinates derived from Link	6920	34796	5.21%	26.21%
Coordinates derived from Node	35030	69826	26.39%	52.60%
Coordinates entered by Officer	36197	106023	27.27%	79.86%
Coordinates entered Manually	18371	124394	13.84%	93.70%
No Coordinates	8364	132758	6.30%	100.00%

April 1, 2021 - March 31, 2022

Has Coordinate				
Values	Counts	Cumulative	Percentage	Cumulative %
Coordinates derived from Route-Milepost	32073	32073	20.99%	20.99%
Coordinates derived from Link	8084	40157	5.29%	26.28%
Coordinates derived from Node	40571	80728	26.55%	52.82%
Coordinates entered by Officer	42407	123135	27.75%	80.57%
Coordinates entered Manually	21895	145030	14.33%	94.90%
No Coordinates	7800	152830	5.10%	100.00%

Decrease in Null Values per Record		Decrease
0.0120		19.0%

State Traffic Safety Information System Improvements Grant
Interim Progress Report

State: Alabama Report Date: 5/25/2022 Submitted by: _____
Regional Reviewer:

System to be Impacted	**__ __CRASH ___DRIVER ____VEHICLE ____ROADWAY ____CITATION/ADJUDICATION __X __EMS/INJURY OTHER specify:**
Performance Area(s) to be Impacted	**____ACCURACY __ X __TIMELINESS __ ___COMPLETENESS ____ACCESSIBILITY ____UNIFORMITY ____INTEGRATION OTHER specify:**
Performance Measure used to track Improvement(s)	**Narrative Description of the Measure** The "Submission Lag" variable in the EMS patient care report (PCR) **database** was studied. This variable refers to the submission lag time for the first submission of the EMS data. A PCR may be submitted multiple times for a variety of reasons. It may have Schematron errors that need to be corrected. Or it could have data that needs to be updated/corrected. So, the earliest submission time is the first time that patient care report is submitted. A comparison was made in the two study periods of the number of "Less than 24 hours" values in the records.
Relevant Project(s) in the State's Strategic Plan	**Title, number and strategic Plan page reference for each Traffic Records System improvement project to which this performance measure relates** EMS-Medical Surveillance Component, Item 4.2.7.1 Complete the implementation of RESCUE, Pages 40 - 41, TSIS Strategic Plan 2022-2026, June 1, 2021.
Improvement(s) Achieved or Anticipated	**Narrative of the Improvement(s)** During the April 1, 2020 – March 31, 2021 study period, the percentage of "Less than 24 hours" values in the "Earliest Submission Lag" variable in the **EMS (RESCUE patient care reports) database** was 71.20%. During the April 1, 2021 – March 31, 2022 study period, the percentage of "Less than 24 hours" values in the "Earliest Submission Lag" variable increased to 72.77%. This is a 1.56% increase in "Less than 24 hours" values per record which equates to a relative proportional improvement of 2.2% (1.56/71.20) in **data timeliness** between the two study periods for this variable in the **EMS database**.
Specification of how the Measure is calculated / estimated	**Narrative Description of Calculation / Estimation Method** The percentage of "Less than 24 hours" values in the "Earliest Submission Lag" variable was compared during the two study time periods. Using the percentage of values takes into account the number of records as opposed to comparing the raw frequency. Then, simply divide the difference by the percentage in the earlier timeframe to calculate the percent increase in records with "Less than 24 hours" values which equates to an increase in data timeliness. (See attached detailed data.)
Date and Baseline Value for the Measure	April 1, 2020 through March 31, 2021 (see attached detailed data) **Value** / **Frequency** / **Percentage** Less than 24 hours value / 642014 / 71.20% Total EMS Records / 901670 / 100%
Date and Current Value for the Measure	April 1, 2021 through March 31, 2022 (see attached detailed data) **Value** / **Frequency** / **Percentage** Less than 24 hours value / 683087 / 72.77% Total EMS Records / 938755 / 100%
Regional Reviewer's Conclusion	**Check one** **___ Quantitative performance improvement *has* been documented** **___ Quantitative performance improvement has *not* been documented** **___ Not sure**
If "has not" or "not sure": What remedial guidance have you given the State?	
Comments	

Interim TSIS Progress Report EMS RESCUE Patient Care Report (PCR) supportive data

April 1, 2020 - March 31, 2021

Variable Earliest Submission Lag		
Values	Frequency	Percentage
Less than 24 hours	642014	71.20%
24 to 72 hours	83780	9.29%
Greater than 72 hours	152208	16.88%
Before reported Unit Back In Service time	3768	0.42%
No valid record	19900	2.21%
Total	901670	100.00%

April 1, 2021 - March 31, 2022

Variable Earliest Submission Lag		
Values	Frequency	Percentage
Less than 24 hours	683087	72.77%
24 to 72 hours	91898	9.79%
Greater than 72 hours	135020	14.38%
Before reported Unit Back In Service time	5710	0.61%
No valid record	23040	2.45%
Total	938755	100.00%

Increase in Less than 24 hours Values per Rec	Increase
0.0156	2.2%

State of Alabama

Impaired Driving Strategic Plan 2020-2023

March 5, 2020

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State of Alabama
Impaired Driving Strategic Plan

Executive Summary

The purpose of the Impaired Driving Strategic Plan (IDSP) is to provide overall guidance to all agencies and private groups who are involved with various aspects of reducing the problems caused by ID. Specifically, the Alabama Impaired Driving Prevention Council (AIDPC) was formed not only to develop this plan but to guide its implementation and future enhancements. The first strategic plan for Impaired Driving (ID) was completed on March 5, 2020 for the 2020 to 2023 timeframe. This strategic plan has been updated each year, with the most recent being the current document for 2020 to 2023 that has the responsibility to provide ongoing governance to the development of the Plan and its execution.

Terminology. Throughout this plan, the term *impaired driving* (ID) will refer to operating a motor vehicle while affected by alcohol and/or other drugs, including prescription drugs, over-the-counter medicines, or illicit substances. ID should be viewed as an over-arching term that will encompass what in the past has been referenced by Driving Under the Influence (DUI), Driving While Intoxicated (DWI), substance abuse, and other descriptive terms. These alternative descriptive terms will not be used unless they are necessary to focus on some particular aspect of the ID problem. For example, some quotations from legal documents will use DUI, and in those cases, there should be no distinction made between ID and DUI. The current document will be referenced by the acronym IDSP (Impaired Driving Strategic Plan), i.e., the strategic plan for reducing the occurrence of ID, including all preventative, criminal justice, drug misuse and administrative aspects involved with ID issues. Finally, this document was created and approved under the auspices of the Alabama Impaired Driving Prevention Council (AIDPC).

This Executive Summary will present an overall top down view of the 2020-2023 Impaired Driving (ID) Strategic Plan. The plan is organized according to the recommendations of NHTSA Uniform Guidelines for State Highway Safety Programs (No. 8, November 2006), and thus has the major topics of:

- Alabama's Impaired Driving (ID) Challenge
- Program Management
- Prevention
- Criminal Justice Approaches
- Communication Program
- Alcohol and other Drugs Misuse: Screen, Assessment, Treatment and Rehabilitation
- Program Evaluation and Data Collection

This summary will be organized according to these topical areas.

Alabama's Impaired Driving (ID) Challenge

While Alabama has not been as permissive as many states in their marijuana laws, it has seen a general increase in ID caused by drugs as opposed to alcohol. The proportion of drug crashes to total ID crashes has increased from its low of 14.0% in 2006 to the most recent high of 25.3%. This alarming trend is indicative of the National increased social acceptance of drug use. The under-reporting of drug cases must be much higher than alcohol cases since there is a general inability of most law enforcement officers to identify many of the drug-related ID cases. A number of recommendations given in this plan will address this disturbing trend.

The challenge can be seen in the raw numbers of Impaired Driving crashes (including both alcohol and drug impairment as given in the following table).

Number of Reported ID Crashes (Alcohol or Other Drugs) Most Recent Five Years

2014	2015	2016	2017	2018
5,967	6,489	6,095	5,701	5,699

The plan gives a breakdown of these raw numbers and shows the trends over the last 12 years in a variety of ways. These show that we are not dealing with a stable issue, but one that is dynamically changing over time, and which will require a planning process that is adapting to this challenge. While it appears that there is a favorable downward trend in 2017 and 2018, additional data from 2019 will be needed to determine if there will be a regression to the mean.

The challenge can be analyzed when we view the general categories of ID crashes, and those categories that are over-represented, which is given in Section 1.1.3. Some of the more interesting findings of these problem identification studies are as follows:

- There was a significant reduction in the proportion of fatal crashes caused by ID in FY2017; a further analysis indicated that this was the result of speed reduction on the part of ID drivers.
- While speed decreases, the risk-taking of not being properly restrained remained about the same, with ID drivers being about 9 times more likely to be unrestrained than non-ID drivers.
- All the geographical analyses continued to point to the rural areas, especially for ID fatal crashes.
- County roads had well over twice their expected proportion of ID crashes, while all other roadway classifications were under-represented.
- Time of day and day of the week emphasize the typical times of alcohol and drug use: weekends beginning Friday night and ending Sunday morning had the highest proportions.
- ID caused crashes are under-represented in young drivers up until age 21. At 23, the first significant over-representation takes place and continues to age 55. There is a bi-modal distribution of: (1) 21 through about 35, and (2) 36 to 55. The first of these might be classified as largely social drinkers; while it is inescapable that the middle-aged caused ID crashes would largely have problems with substance abuse.
- The large number of ID offenders that do not have valid drivers' licenses indicates that the suspension of drivers' licenses may not be as effective as is desired.

To address these challenges, Section 1.2 shows that the AIDPC has adopted the following mission statement and short-term goal statement:

Mission Statement: *To maximize the impact of a harmonious collaborative effort to reduce the reduction of ID fatalities, injuries and crashes to the lowest level possible, and ultimately to eliminate them altogether.*

The following short-term goal is consistent with this overall mission statement:

Immediate Short-Term Goal: *Maintain the alcohol-impaired driving fatalities at the five-year baseline average of 262 (2013-2017) in 2020.*

While it may not seem ambitious to set a goal to simply maintain fatalities, this goal is consistent with the FY20 HSP, and takes into consideration more recent state data and other contributing factors and challenges to the fatality number.

Section 1.3 provides five guiding principles in the development of the IDSP:

- ID is a recognized public safety and health problem that has an enormous impact on our economy and the wellbeing of our citizens.
- While the AIDPC recognizes the many effective efforts made over past decades to address the problems created by ID, the large number of highway fatalities and injuries caused by ID indicates that these efforts should be reviewed and modified or augmented appropriately to provide for continuous improvement.
- There are a large number of partners in these efforts, all of whom have strong motivation to assist in the solution or mitigation of the ID problem, and as such, there is a critical need to coordinate these efforts so that they are not fragmented or even working at cross-purposes.
- The ID problem cannot be addressed by emphasis on only one aspect of the solution; in the past, a lack of a balanced approach has tended to be counterproductive; thus, a guiding principle is the respect that all involved disciplines must have for efforts outside of their direct purview.
- The problem is largely a cultural one and while strong deterrent and punitive measures are an essential part of the solution, they must be consistent with an overall change in the cultural attitudes that provide the environment in which ID can exist.

Section 1.4 shows that the efforts of the AIDPC are closely coordinated with those of the Alabama Department of Economic and Community Affairs (ADECA) in the development of its Highway Safety Plan (HSP) as well as those within ALDOT's SHSP efforts. The following recommendations were made within the HSP and SHSP documents:

- Sustain impaired driving enforcement efforts throughout the State by continuing enforcement strategies to reduce impaired driving, developing impaired driving enforcement experts through training, and recruiting additional agencies to participate in overtime impaired driving patrols and sobriety checkpoints.
- Sustain DUI public information and outreach campaigns to reduce impaired driving.

The remainder of the Executive Summary will follow the overall structure of the IDSP, which includes the following broad topical areas:

- Program Management
- Prevention
- Criminal Justice Approaches
- Communication Program
- Alcohol and other Drugs Misuse: Screen, Assessment, Treatment and Rehabilitation
- Program Evaluation and Data

Program Management

The administrative and management characteristics are organized into the following categories:

- Alabama Impaired Driving Prevention Council (AIDPC)
- Strategic Planning Organization
- Program Management
- Resources
- Data and Records
- Communication Program

These will form the basis for this summary. For more details see the subsection numbers for each of the categories that are given below.

2.1 Alabama Impaired Driving Prevention Council (AIDPC)

The AIDPC was assembled to develop and approve this plan and to assure that all aspects of the impaired driving problem were considered, and that as many alternative countermeasures as possible would be evaluated. AIDPC members represent agencies and organizations with a working knowledge and deep understanding of the various parts of Alabama's impaired driving prevention system and how these parts interrelate. Participants are given in Table 2.1 of Section 2.1

2.2 Strategic Planning Organization

Figure 2.2 presents the overall organization for the impaired driving strategic plan development within the State. The major entities involved with this include:

- The Alabama Department of Economic and Community Affairs (ADECA), which is the administrating agency for the NHTSA traffic safety grants, the Community Traffic Safety Program Coordinators (CTSPs), and the state Traffic Records Coordinating Committee (TRCC), all of which operate within ADECA oversight.
- The committee that administers and develops the Statewide Highway Safety Plan (SHSP), which represents all agencies in state government that are involved in traffic safety, and thus this would involve all relevant state agencies in this process.
- Medical and Treatment Agencies also participate in the AIDPC.
- Advocacy Groups, i.e., non-governmental entities that have traffic safety interests, especially in the area of impaired driving.

2.3 Program Management

The plan provides an essential component of the control process; it is obvious that a plan alone is not going to solve the problem. The planned projects and programs must be effectively implemented, which requires an effective management control process. Using the plan as a road map, management must determine if adequate progress is being made in all projects toward their goals. To accomplish this regular (quarterly, or as needed) meetings of the AIDPC are conducted with representatives of all of the entities that are performing projects under the plan.

2.4 Resources

The AIDPC planning effort is being performed under the assumption that sufficient funding, staffing, and other resources to support impaired driving programs will be forthcoming. The FAST Act has given the assurance of certain funding given that the State meets the planning and other legal requirements. One of the major roles of the AIDPC is to assure that the planned programs should achieve self-sufficiency by transferring as much of their costs as possible to impaired drivers themselves.

2.5 Data and Records

This topic is covered in detail in Section 7 and further illustrated in Appendices A and B. All management and planning functions have been and will continue to be both evidence and data driven. This process starts with an analysis of historical data in a problem identification that has the broadest possible perspective. It searches all Alabama crash data to answer the "who, what, where, when, and why," as well as the "how many" in all aspects of ID (all drugs including alcohol) related crashes. The statewide Traffic Records Coordinating Committee (TRCC) guides every aspect of these analyses and evaluation efforts.

2.6 Communication Program

The Communication Program is detailed in Section 5 and summarized in Section 2.6. The following is a partial list of ongoing efforts by the following agencies:

- The Alabama Department of Economic and Community Affairs (ADECA) has been involved with the development of Public Service Announcements (PSAs);
- The Alabama Law Enforcement Agency (ALEA), Public Information/Education Unit responds to special requests for information and officer participation in news events as well as participating in holiday and other special events;
- The ALDOT Highway Safety Marketing Outreach Program participates in an effort that involves approximately nine agencies and service groups;
- The Traffic Safety Research Prosecutor (TSRP) maintains a web site that provides general ongoing information on courses conducted by the TSRP; and
- The Alabama Department of Public Health (ADPH) uses multiple platforms to inform the public about impaired driving public health implications.

Prevention

The State's prevention program has the goal of proactive reduction impaired driving through public health approaches, including altering social norms, changing risky or dangerous behaviors, and creating safer environments. In order to accomplish the following objectives were established, and they have formed the basis for the activities in this regard:

- Apply formal and informal behavioral modification methods that center around the negative effects of alcohol and other drugs;
- Limit the availability of alcohol and other drugs, especially to those who are most apt to abuse them;
- Discourage or prevent those who are impaired by alcohol and other drugs from driving;
- Assure responsible alcohol service practices;
- Create and support transportation alternatives;
- Implement community-based programs:
    - In schools,
    - At work sites,
    - In conjunction with medical and health care facilities, and
    - By community coalitions.

Prevention efforts will be directed toward populations at greatest risk as determined by the problem identification efforts that were conducted in conjunction with the planning effort.

Criminal Justice Approaches

This set of countermeasure approaches includes the entire criminal justice system, including laws, enforcement, prosecution, adjudication, criminal and administrative sanctions and related communications. The goal is to achieve both *specific* and *general* deterrence defined as:

- **Specific deterrence** focuses on individual offenders and seeks to ensure that impaired drivers will be detected, arrested, prosecuted, and subject to swift, sure, and appropriate sanctions, and thereby reduce recidivism;
- **General deterrence** seeks to increase the public perception that impaired drivers will face severe consequences, thus discouraging all individuals from driving impaired.

A multidisciplinary approach and close coordination among all components of the criminal justice system was sought in developing this plan. The plan discusses these efforts according to the following categories:

- Laws,
- Enforcement,
- Prosecution,
- Adjudication,
- Administrative Sanctions and Support Programs, and
- Training.

Substance Abuse: Screen, Assessment, Treatment and Rehabilitation

This plan recognizes that impaired driving frequently is a symptom of a larger alcohol or other drug problem. Many first-time impaired driving offenders and most repeat offenders have some such dependency problems. Without appropriate assessment and treatment, these offenders are likely to repeat their crimes. In addition, alcohol use leads to other injuries and health care problems. Frequent visits to emergency departments present opportunities for interventions, which might prevent future arrests or motor vehicle crashes, and result in decreased alcohol consumption and improved health.

Section 6 describes goals of encouraging employers, educators, and health care professionals to implement systems to identify, intervene, and refer individuals for appropriate substance abuse treatment. This effort is organized according to the following components:

- Screening and assessment
  - Within the criminal justice system
  - Within medical and health care settings
- Treatment and Rehabilitation
- Monitoring of Identified Past Impaired Drivers.

Program Evaluation and Data Collection

Section 7 describes the processes that the state uses in its production and use of data to assure that all programs are data-evidence based. The State currently has easy access through the Critical Analysis Reporting Environment (CARE) to reliable data sources (e.g., crash reports and citations) that are being analyzed for problem identification, evaluation, and program planning. Several different types of evaluations are being performed to effectively measure progress, to determine program effectiveness, to plan and implement new program strategies, and to ensure that resources are allocated appropriately.

Problem identification is performed on an annualized basis, and the most recent are given in Appendices A and B. Appendix A is a list of those locations in the state that have the highest frequency of impaired driving crashes by roadway classification. Appendix B is a general problem identification as described below. This is also made available to the public through the SafeHomeAlabama.gov web site:

http://www.safehomealabama.gov/caps-special-studies/

Generally, problem identification systematically goes through the entire crash records database comparing impaired driving crash data with all other crash data to find those attributes that are significantly over-represented (e.g., times, ages, contributing circumstances and about 200 other attributes). This is translated into useful information for optimizing both the selection of available countermeasures and the improvement of those countermeasures that are selected. Section 7.1 presents details of the problem identification process.

Evaluations generally fall into two categories: administrative and effectiveness. *Administrative evaluations* determine if planned activities for given projects were actually performed, independent of what effects it might have had. *Effectiveness evaluations* strive to determine the crash or

severity reductions that result from any given countermeasure project. The plan calls for the use of CARE to provide effectiveness evaluations on as many of the countermeasures given in this plan as resources will allow. The evaluation process is detailed in Section 7.2.

Appendices

The plan contains the following appendices

- A – Specific Location Problem Identification: lists of those locations that had the highest volumes of impaired driving crashes by roadway classification.
- B – General Problem Identification Results: the results of the analysis of all crash records attributes to determine those for which impaired driving is over-represented.
- C – Adult Drug Court Map: gives the number of adult drug courts operating within each county.

State of Alabama
Impaired Driving Strategic Plan

1.0 Alabama's Impaired Driving (ID) Challenge

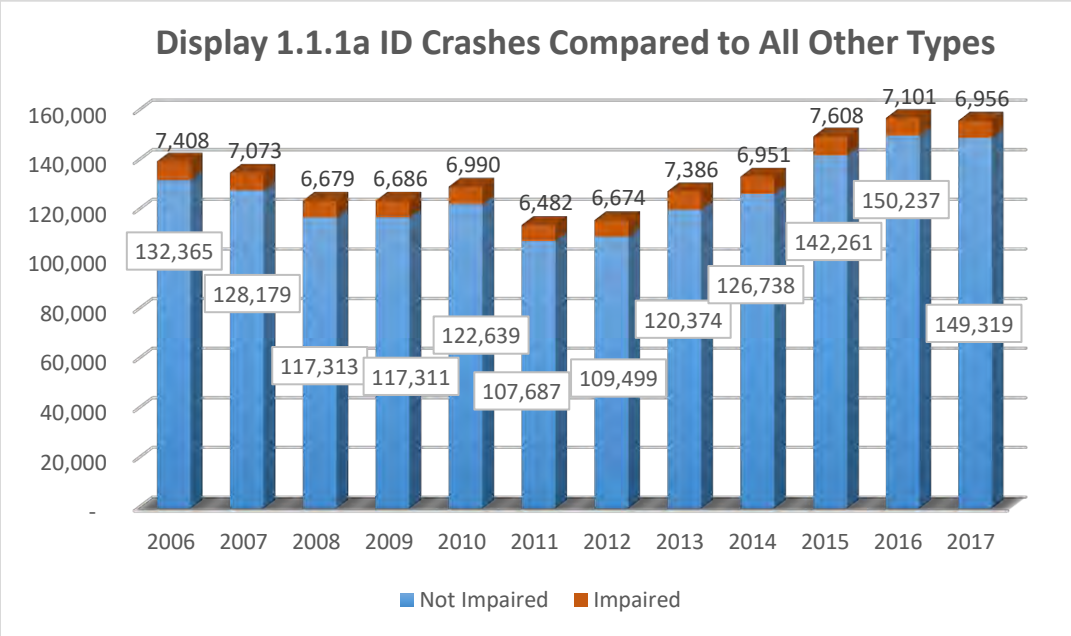
Terminology. Throughout this plan, the term *impaired driving (ID)* will refer to operating a motor vehicle while affected by alcohol and/or other drugs, including prescription drugs, over-the-counter medicines, or illicit substances. ID should be viewed as an over-arching term that will encompass what in the past has been referenced by Driving Under the Influence (DUI), Driving While Intoxicated (DWI), substance abuse, and other descriptive terms. These alternative descriptive terms will not be used unless they are necessary to focus on some particular aspect of the ID problem. For example, some quotations from legal documents will use DUI, and in those cases there should be no distinction made between ID and DUI. The acronym IDSP will refer to the Impaired Driving Strategic Plan, i.e., the strategic plan for reducing the occurrence of ID, including all preventative, criminal justice, drug misuse and administrative aspects involved with ID issues. Finally, this document was created and approved under the auspices of the Alabama Impaired Driving Prevention Council (AIDPC).

1.1 Magnitude and Classifications of the Impaired Driving Problem

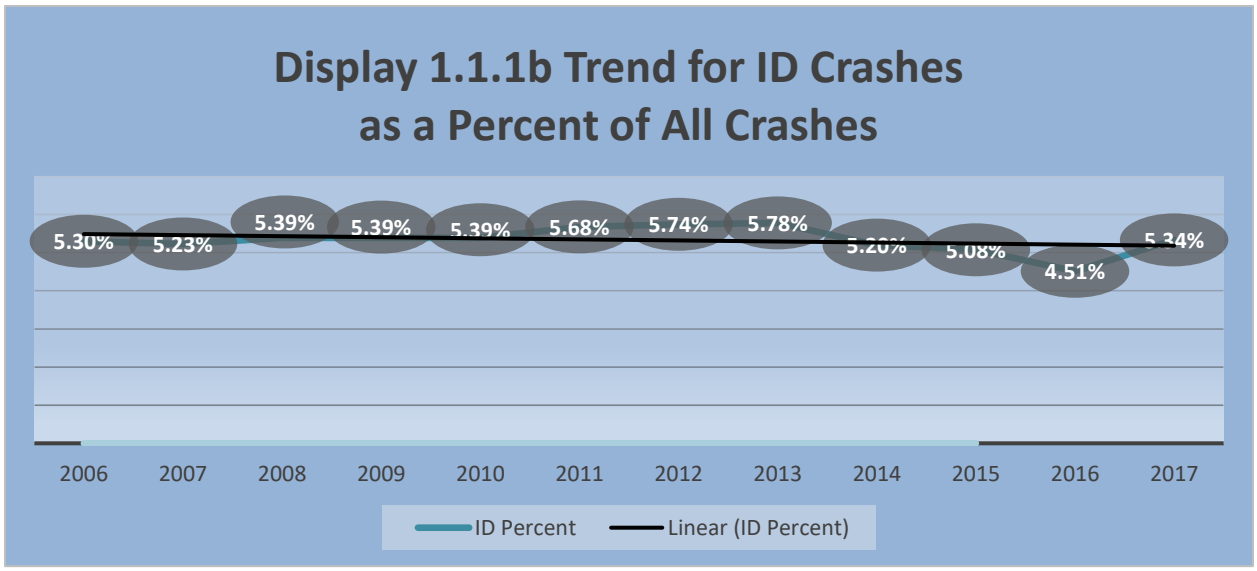
This section presents an overview of the systematic problem identifications that were performed, (unless otherwise specified) using the most recently available 12 years of Alabama data (CY2006-2017). This is generally a summary of the detailed problem identifications contained in Appendixes A and B. This will be organized below according to crash records analysis, citation records analyses and the general over-represented categories of ID as given by the crash records.

1.1.1 Impaired Driving Crashes Compared to Non-ID Crashes

Display 1.1.1a compares the number of reported ID crashes (red) with the number reported that were recorded as Non-ID (blue) over the calendar years 2006-2017.



The trend of the proportion of ID crashes to the total number of crashes is given in Display 1.1.1b. It has an average of 5.34% and varies from a low of 4.51% to a high of 5.78%. Generally, the number of ID crashes remains relatively stable as the total number of crashes has decreased and increased significantly over the years due to the various factors that influence overall crash frequency. Since the factors in the variation of overall crashes are primarily economic, this finding generally goes counter to the idea that ID crashes are also correlated to these economic factors, e.g., (1) the ability to purchase substances that could be abused, (2) the ability to drive once under these influences, and (3) the use of drugs and alcohol without going to more expensive establishments. The conclusion must be that those factors that have been effective in reducing overall crashes (which have been shown to be largely economic) have not had nearly the effect on ID crashes prior to 2013. As illustrated below, after 2013 ID crashes did not increase as much as crashes in general, which is a favorable trend.

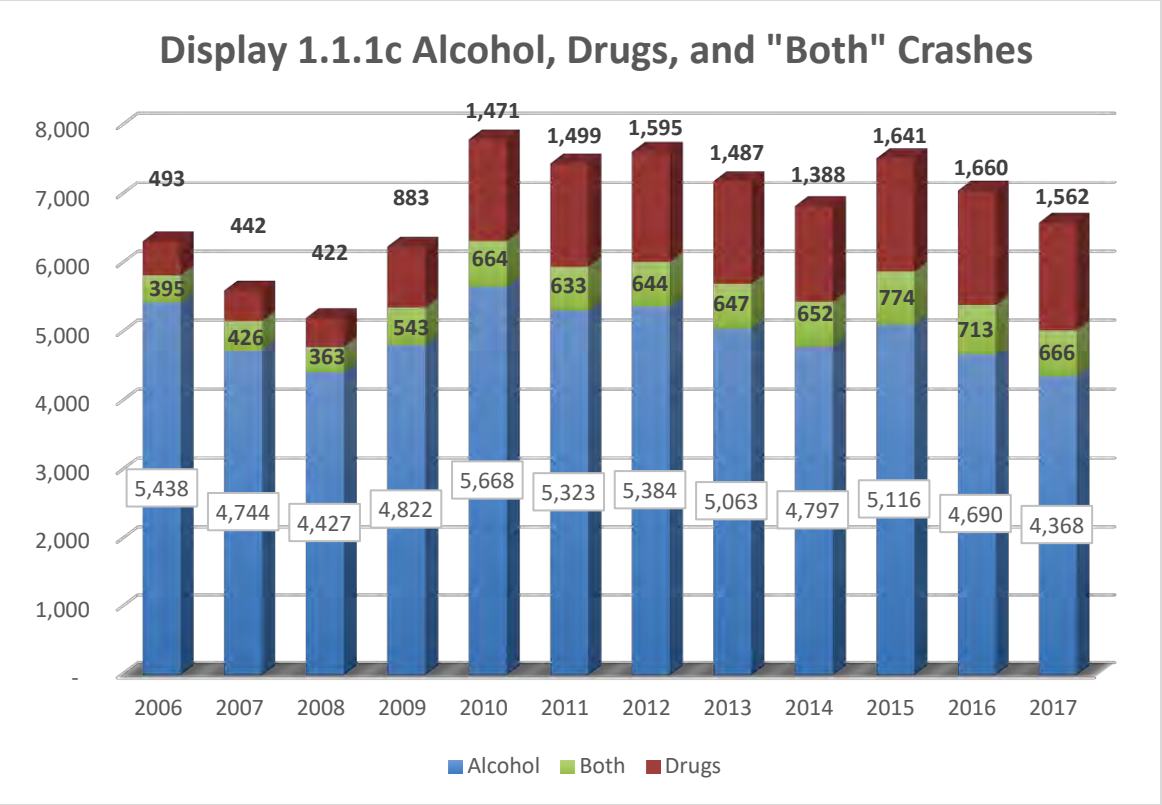


There is no argument that the number of *reported* ID crashes is less than what actually occur. The accurate identification of an ID crash in the field is often difficult for the field officer. This disparity can be illustrated by comparing the fatalities indicated by the Fatality Analysis Reporting System (FARS) and those obtained from Alabama crash records. The following table is indicative of this disparity.

Year	FARS ID Fatalities	AL Crash Records ID	Percent Reported
2006	377	267	70.8%
2007	377	289	76.7%
2008	314	230	73.2%
2009	267	264	98.9%
2010	264	230	87.1%
2011	261	252	96.6%
2012	240	212	88.3%
2013	259	209	80.7%
2014	265	220	83.0%
2015	244	232	95.1%
2016	329	262	79.6%
2017	265	205	77.4%
2018	246	186	75.6%
TOTALS	3,708	3,958	82.5%

This demonstrates that while the ID crash records are extremely important in providing *relative* information (e.g., the types of comparisons given in Appendix B), they are not as useful in determining the ultimate cost of ID crashes, either in terms of lives or in terms of economics. Fatality reporting is by far the most accurate, since it would be expected that the more severe the crash the more investigation would be performed in identifying the basic causes. Seeing the recent overall percent reported of about 82.5% (average of 2006-2018) for fatal crashes, it is reasonable to estimate that ID crashes *of all severities* are generally under-reported by a factor as high as 30%. (This is further confirmed by the most recent three years being under 80%.) That is, for every three that are reported as such, in all probability another one will be reported as a non-ID crash even though impaired driving was involved. One of the major recommendations that will be made in Section 7 will be for improved reporting.

Clearly, ID is a major cause of motor vehicle fatalities in the entire country, and Alabama is no exception. Display 1.1.1c shows how the ID crashes have been distributed between alcohol (blue), drugs (red), and both alcohol and drugs (green). The proportion of ID drug crashes has increased from its low of 6.7% in 2008 to the most recent high of 26.2% in 2016. This alarming trend is indicative of an increased social acceptance of drug use. The under-reporting of drug cases must be much higher than alcohol cases since there is a general inability of most law enforcement officers to identify many of the drug-related ID cases. A number of recommendations given in this plan will address this disturbing trend.



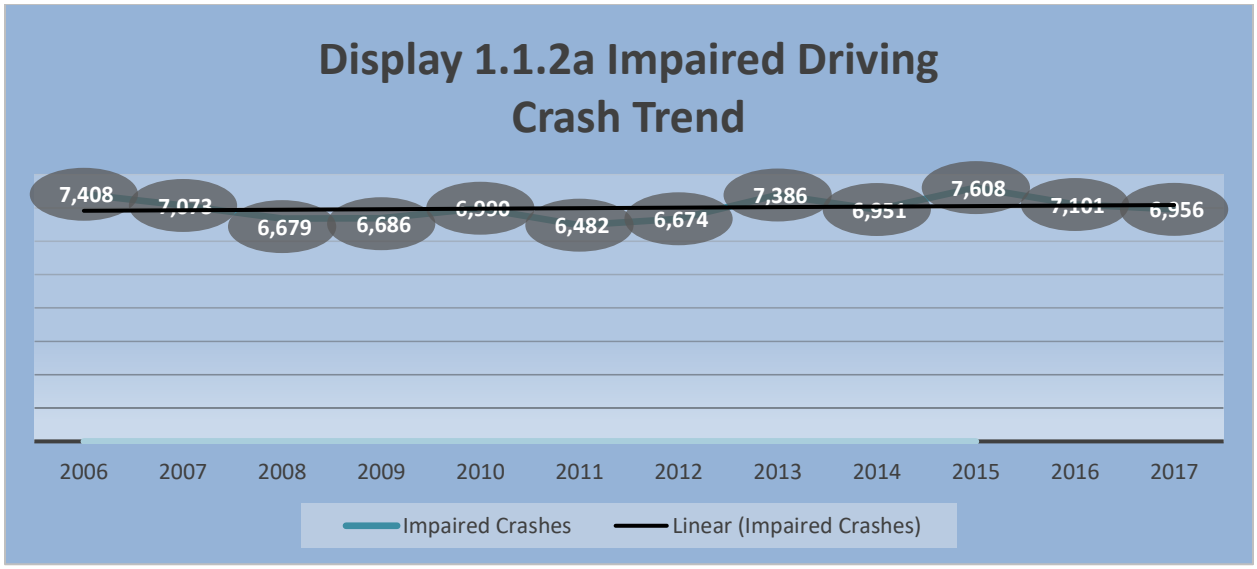
1.1.2 Twelve Year Impaired Driving Crash and Citation Trends

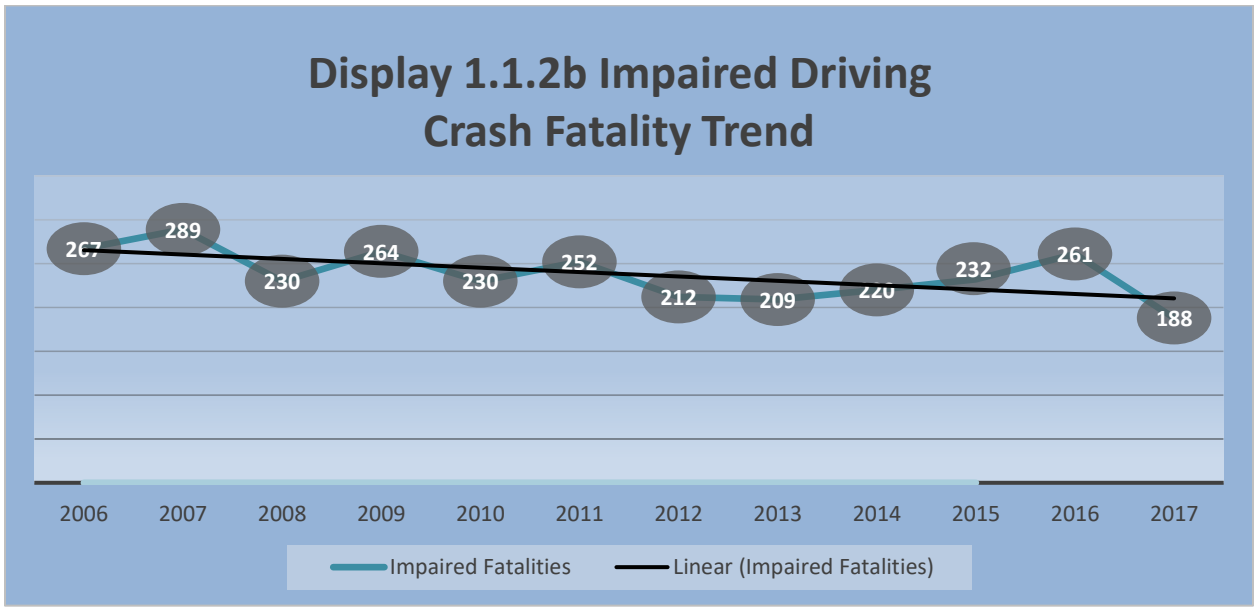
Display 1.1.2a shows the 12-year trend for impaired driving reported crashes. While the trend line is not steep, the concurrence of many of the data points very near the line shows that the year number is highly correlated to a decline in ID reported crashes. Statistical analysis shows that the line accounts for about 71% of the variation in the data points. The decline is about 134 crashes per year, with the overall decline being 1,472 impaired driving crashes over the 12 years.

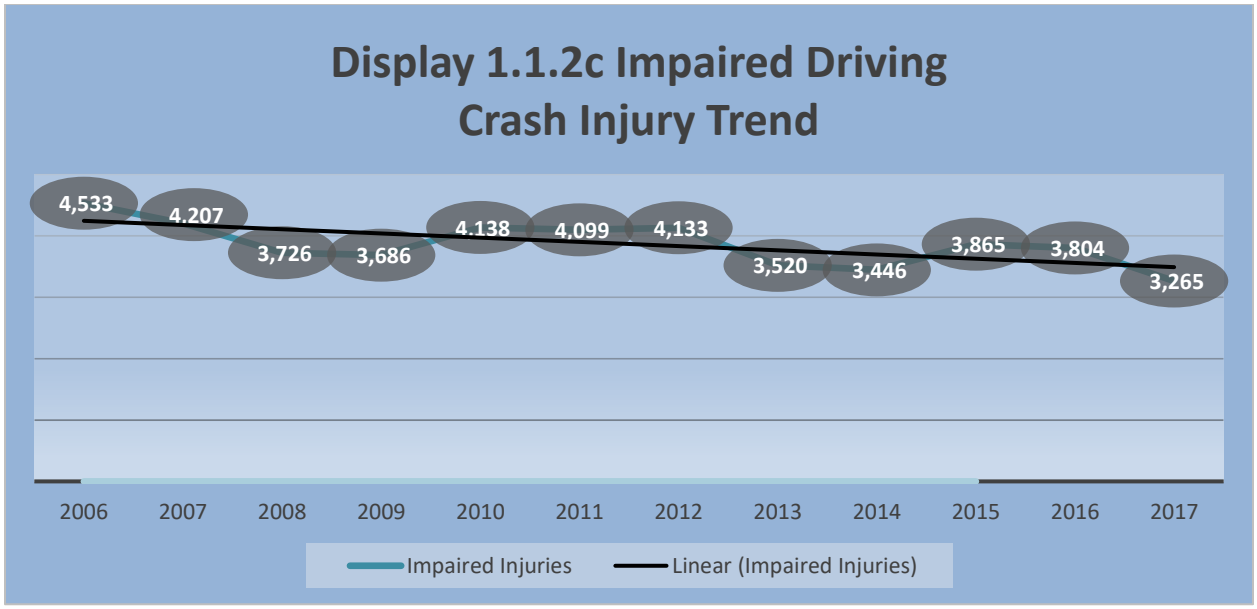
A more detailed analysis of the last five years will be given in Appendix B. Generally, this trend should be considered as being favorable, and an indication that the countermeasures being applied are bearing fruit. One concern, however, is that the decline could be in the reporting as opposed to the actual number of occurrences. This is not to say that any given officer is inconsistent in his/her reporting. However, in the past few years there has been a dramatic reduction in the number of reporting officers, especially at the state level. See the article at:

http://www.safehomealabama.gov/SafetyTopics/Enforcement/EnforcementStudies.aspx

entitled: "ALEA Trooper Staffing Level Critically Low." The problem with a critically low staffing level has a much broader effect than just a reduction in reports. Adequate law enforcement increases the deterrent effect, leads to more convictions thus reducing recidivism, and provides additional first responder means for reducing the deadly effects of many ID crashes.

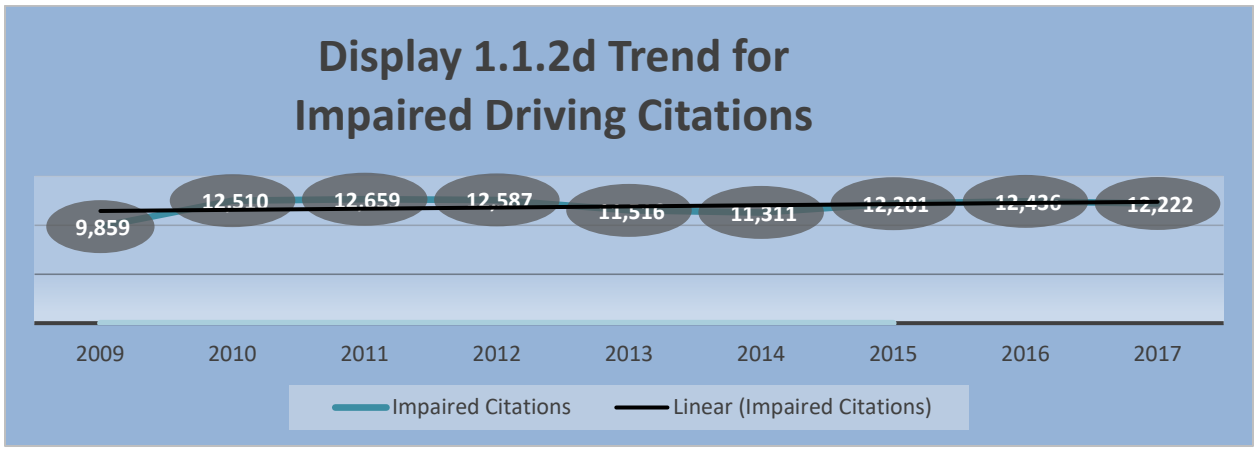

Display 1.1.2a Impaired Driving Crash Trend
7,408
6,679
6,686
6,482
6,674
7,386
7,608
6,956
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
Impaired Crashes
Linear (Impaired Crashes)


Display 1.1.2b Impaired Driving Crash Fatality Trend
289
230
264
230
252
212
209
232
261
188
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
Impaired Fatalities
Linear (Impaired Fatalities)



The results in Displays 1.1.2.b and 1.2.2c should be qualified by the fact that these crashes, especially fatalities, are given much more detailed investigation, and as a result the reliability and completeness of the reporting increases. The discussion of the caparison of FARS with Alabama law enforcement reported fatalities given in Section 1.1.1 should be given strong consideration.

The two displays are placed together above for purposes of comparison. Both show an overall improvement. While the year number accounts for 54.3% of the variation for fatalities, it accounts for only 37.3% of the variation in injuries, as can be observed by the larger variations from the regression line. However, both twelve-year trends are significant. Fatalities are being reduced on average of 1.2 per year for an estimated 12-year reduction of 14 fatalities; and injuries are being reduced by about 112 per year, for an estimated 12-year reduction of 1,344 injuries.



Display 1.1.2d gives the overall trend of citations for Impaired Driving issued within eCite for the most recently available nine years for which the eCite system has been operational. Data prior to that time are not comparable. In this case, the regression line accounts for only 7.1% of the variation over the years, making the trend line of little, if any, significance. Looking at the individual years, there was an obvious and significant increase with the adoption of eCite as it matured in 2009. The number of ID citations stabilized above the 12,500 level for 2010-2012. There was a tapering down in 2013 and 2014 probably due to reductions in trooper force at ALEA. The most recent complete year that we have (2017) shows the number of citations going back and being quite comparable in number to the higher pre-2013 levels, and the last three years being nearly identical (maximum variation less than 2%). Such consistency from year to year shows a steady state, both in the number of violations for which citations can be written and in the citation system itself.

The interpretation of the citation numbers is complex, especially in light of the recent reduction in law enforcement. It could be viewed as negative in the sense that there are more ID citations written in the most recent three years as opposed to the two years before that. On the other hand, it can also be viewed as positive in the sense that, even with less enforcement being performed, more citations are being written. Only a very small fraction of ID violators is brought to justice on any given time period. There is little doubt that even a doubling of the number of law enforcement officers would still not apprehend the majority of offenders. Such a dramatic increase in enforcement would also overwhelm the criminal justice system and that would create problems of its own that are discussed in other sections of this plan.

1.1.3 General Categories of ID Crashes

In order to keep the most current information available, a problem identification was performed using the fiscal year (FY) data as soon as it became available. The difference in the FY and calendar year (CY) data in such comparisons would not be significant. The following summarizes the findings of the problem identification, the details of which are given in Appendix B:

- **General Comparison of 2018 against 2014-2017**
    - Overall crash frequencies for 2018 were 10,410 crashes higher than the average per year totals for 2014-2017. Total crashes in 2018 were only about 2551 more than in 20167, but the increase from 2014 to 2018 was almost 26,000.
    - In a comparison over the five years, overall fatal crashes were down slightly, with 2018 having about 42 (1.2%) fewer fatal crashes than would be expected from the previous four-year average.
    - A similar a comparison of the calendar years of ID fatal crashes showed and overall decrease in ID fatal crashes from 198 in 2014 to 169 in 2018, ad decrease of 29 fatal crashes, a decrease of nearly 15%. The highest severity crash (Incapacitating Injury) was also down from 670 to 596, a reduction of 74 (11,0%).
    - Considering the overall percentage of ID fatalities to total fatalities, the results for each year from 2014 through 2018 were 3.3%; 3.2%; 3.9%; 3.2% and 3.0%, which was fairly stable with the exception of 2016.

1.2 Strategic Plan Mission and Goal Statements

The Alabama Impaired Driving Strategic Plan (IDSP) was developed and approved with the input and direction provided by the Alabama Impaired Driving Prevention Council (AIDPC), and they based their development efforts on the following mission statement developed by the AIDPC membership.

Mission Statement: *To maximize the impact of a harmonious collaborative effort to reduce the reduction of ID fatalities, injuries and crashes to the lowest level possible, and ultimately to eliminate them altogether.*

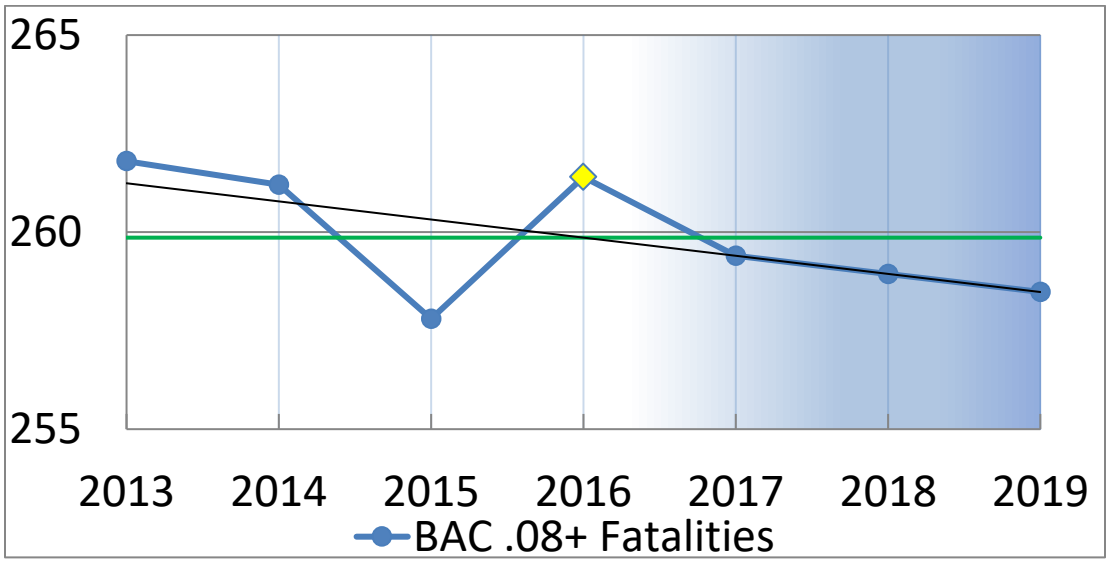
This mission statement recognizes the many efforts developed in the past and those currently ongoing. AIDPC members' experience ranges back to the first ID strategic plan that was developed in the mid-1970s. Over this time, Alabama has realized great gains in reducing the frequency and severity of impaired driving crashes. However, the AIDPC recognizes continued vigilance and improvement is needed to further reduce these devastatingly tragic events. As such, it has adopted the theory that has commonly been called "Continuous Improvement Forever" that mandates an attitude of never being satisfied with the current situation in recognition that improvement is always possible.

Immediate Short-Term Goal: *Maintain the alcohol-impaired driving fatalities at the five-year baseline average of 262 (2013-2017) in 2020.*

The goal is from the Alabama 2020 HSP, item C-5: Number of fatalities in crashes involving a motor vehicle driver (including motorcycle operators) with a BAC of .08 and above, as measured by the FARS estimated data given below:

2012	2013	2014	2015	2016	Base-line	Goal
257	260	264	247	279	262	262

5-Year Rolling Averages of Fatalities Involving a Driver with a BAC .08 and Above



It is important to recognize that extrapolations from a limited number of past values can lead to extreme errors, especially since the last value that we had in most cases at the time of developing the 2020 Highway Safety Plan was 2017, requiring (for example) that the estimates of 2018 and 2019 all be based on an extrapolation of 2006 through 2017. Rarely if ever does such a linear trend establish an accurate prediction, especially in crash data where regression to the mean usually follows any dramatic departure (positive or negative) from the established trend. Nevertheless, these estimates are presented since they are the best figures available upon which to make and refine future estimates and goals.

The considerations above are particularly true of any metric that is dependent on fatality counts. Consistent with the national trend, Alabama experienced almost a 24% reduction in fatalities between CY 2007 and CY 2009. Because of several economic factors (price of fuel, alcohol, reduction in driving by high-risk groups, reduction in speeds for fuel conservation, and several other well established factors), the expected regression to the mean did not occur until 2015, and it is being dramatically realized over the course of 2017. Any trend line that includes fatality counts prior to 2008 will obviously produce a downward trend that is clearly not feasible to maintain by traffic safety countermeasures alone.

1.3 Guiding Principles in the ID Strategic Plan (IDSP) Development

Given the goal mission statements given above, it is important to understand the overall guiding principles that were followed in developing the IDSP. The purpose of the IDSP is to provide overall guidance to all agencies and private groups who are involved with various aspects of reducing the problems caused by ID. Specifically, the Alabama Impaired Driving Prevention Council (AIDPC) was formed not only to develop this plan but also to guide its implementation and future enhancements. In this regard, they were required to address all of the impaired driving issues, review strategies that have been proven effective in impacting those issues, and develop a strategic plan that will serve to guide all aspects of efforts within the state to deal with the ID problem. The membership and organization of the AIDPC will be detailed below under Program Management (Section 2).

The following are the guiding principles that were approved by the AIDPC at the outset of its deliberations:

- ID is a recognized public safety and health problem that has an enormous impact on our economy and the wellbeing of our citizens.
- While the AIDPC recognizes the many effective efforts made over past decades to address the problems created by ID, the large number of highway fatalities and injuries caused by ID indicates that these efforts should be reviewed and modified or augmented appropriately to provide for continuous improvement.
- There are a large number of partners in these efforts, all of whom have strong motivation to assist in the solution or mitigation of the ID problem, and as such, there is a critical need to coordinate these efforts so that they are not fragmented or even working at cross-purposes.

- The ID problem cannot be addressed by emphasis on one aspect of the solution; in the past, a lack of a balanced approach has tended to be counterproductive; thus, a guiding principle is the respect that all involved disciplines must have for efforts outside of their direct purview.
- The problem is largely a cultural one and while strong deterrent and punitive measures are an essential part of the solution, they must be consistent with an overall change in the cultural attitudes that provide the environment in which ID can exist.

1.4 Relationship to the State Strategic Highway Safety Plan (SHSP) Efforts

The Impaired Driving Strategic Plan (IDSP) is closely coordinated with Alabama's Strategic Highway Safety Plan (SHSP). The purpose of the SHSP is to improve highway safety in all areas of traffic safety. Since its goal is to be comprehensive of all traffic safety efforts within the state, it subsumes all planning efforts that are targeted at particular focus issues (e.g., occupant protection, traffic safety information systems, impaired driving, etc.). The SHSP has identified ID as a major continuing priority area because the problem identification analyses demonstrate that this is one of the top three causes of fatal crashes. Thus, the IDSP serves as a complement to the SHSP by describing the ID-specific strategies and action steps to improve traffic safety. The last SHSP was published in July 2017.

The following recommendations regarding ID were made within the SHSP document:

- Sustain impaired driving enforcement efforts throughout the State by continuing enforcement strategies to reduce impaired driving, developing impaired driving enforcement experts through training, and recruiting additional agencies to participate in overtime impaired driving patrols and sobriety checkpoints.
- Sustain DUI public information and outreach campaigns to reduce impaired driving.

These statements are listed to demonstrate the complete cooperation that exists between the SHSP planning efforts and those required by FAST under the auspices of NHTSA.

1.5 Organization of the ID Strategic Plan

This strategic plan describes the components that Alabama's impaired driving program will include. At the beginning of the process, the Alabama Impaired Driving Coalition (AIDPC) determined its strategic plan should have objectives and countermeasures that reflect the various aspects of impaired driving. The first section of the plan deals with program management. Subsequent sections are generally ordered according to the organization of the various impaired driving countermeasures, namely:

- Program Management
- Prevention
- Criminal Justice Approaches
- Communication Program
- Alcohol and other Drugs Misuse: Screen, Assessment, Treatment and Rehabilitation

A final section is dedicated to the subject of impaired driving program evaluation and data collection. Results of the problem identifications are given in the Appendices A and B.

2.0 Program Management

The State of Alabama, including the Governor and the Legislature, have been very closely involved with strategic planning to address impaired driving issues, dating back to the mid-1970s when Dr. Russ Fine of the University of Alabama at Birmingham organized a task force and developed a strategic plan that has been updated over the years to take into account the many changing aspects of this complex issue. The State recognizes the need for strong leadership and sound policy development in these areas, and it has sought out the best within our traffic safety, law enforcement and medical communities to formulate this plan. This section of the plan deals with the overall management of the Impaired Driving (ID) program in the State. The administrative and management characteristics are organized into the following categories:

- Alabama Impaired Driving Prevention Council (AIDPC)
- Strategic Planning Organization
- Program Management
- Resources
- Data and Records
- Communication Program

These will be discussed in the following sections, respectively. In most cases, additional references will be given to other sections of this document for added details and to avoid redundancy.

2.1 Alabama Impaired Driving Prevention Council (AIDPC)

The Alabama Impaired Driving Prevention Council (AIDPC) was assembled by AOHS to develop and approve this plan and to assure that all aspects of the impaired driving problem were considered, and that as many alternative countermeasures as possible could be evaluated. To create a strategic plan that would focus on the problem areas with the greatest opportunity for improvement, and establish a successfully functioning Council, it was essential to have representation from agencies and organizations with a working knowledge and deep understanding of the various parts of Alabama's impaired driving prevention system and how the parts interrelate. The individuals who participated in the AIDPC meetings and assisted in drafting the IDSP are identified in Table 2.1. AIDPC organizers are deeply grateful for the time and effort members devoted to development of the strategic plan and for the counsel, advice, and expertise they brought to the plan, and that they continue to bring toward implementing it, and for their efforts in expanding the description and function of the AIDPC.

The major charge given by the AIDPC in its commission was to foster leadership, commitment, and coordination among all parties interested in impaired driving issues. Further, they were charged with the responsibility to attend regular meetings as established by the Chair, and to generally manage and provide overall control to the program as described in the ID Strategic Plan.

Table 2.1 Members of the AIDPC

NAME	AGENCY	TITLE	FUNCTION
Anthony, Terry	Alabama Board of Pardons & Paroles	Director of Field Service	Probation
Argo, Dean	Alcoholic Beverage Control Board	Government Relations Manager	Communication
Babington, Bill	Alabama Department of Economic and Community Affairs	Division Chief	SHSO
Barnes, Noel	Alabama Law Enforcement Agency	General Counsel	Drivers Licensing
Bogle, Sgt. Daryl	Alabama Law Enforcement Agency	DRE Instructor	Law Enforcement
Booth, Hon. Joy	Alabama Judiciary	District Judge	Adjudication
Brown, Dr. David	University of Alabama Center for Advanced Public Safety	Professor – CAPS	Data/Traffic Records
Christen, Cpl. Brandon	Alabama Law Enforcement Agency	Motor Carrier Unit	Law Enforcement
Edwards, Joshlynn	Alabama Department of Public Health	Public Health Educator	Public Health
Harper, Dr. Curt	Alabama Department of Forensic Science	Toxicology Discipline Chief	Drug Toxicology
Holloway, Shannon	Alabama Office of Prosecution Services	ADA, Dallas Co.	Prosecution
Jones, Jay	Lee Co. Sheriff's Office	Sheriff	Law Enforcement
King, Bettye	Alabama Municipal Clerk's Association	Municipal Clerk - Birmingham	Communication
Lee, Jill	Alabama District Attorneys Association	District Attorney, 18th Judicial Circuit	Prosecution
Lindsey, Bill	Alabama Traffic Safety Resource Prosecutor	Traffic Safety Resource Prosecutor	Prosecution/Communication
Morton, Pamela	MADD	State Victim Services Coordinator	Communication
Penton, Cpl. Jay	Alabama Law Enforcement Agency	Highway Patrol DRE Coordinator	Law Enforcement
Plato-Bryant, Cheryl	Alabama Administrative Office of Courts	Court Referral Program State Coordinator	Treatment & Rehabilitation
Simpson, Matt	Alabama Legislature	State Representative, 96th District	Communication
Sparks, Hon. Andra	Judiciary	Municipal Judge – Birmingham	Adjudication
Turner, Dr. Greg	Alabama Department of Forensic Science	Technical Director, Implied Consent Unit	Breath testing/Ignition Interlock

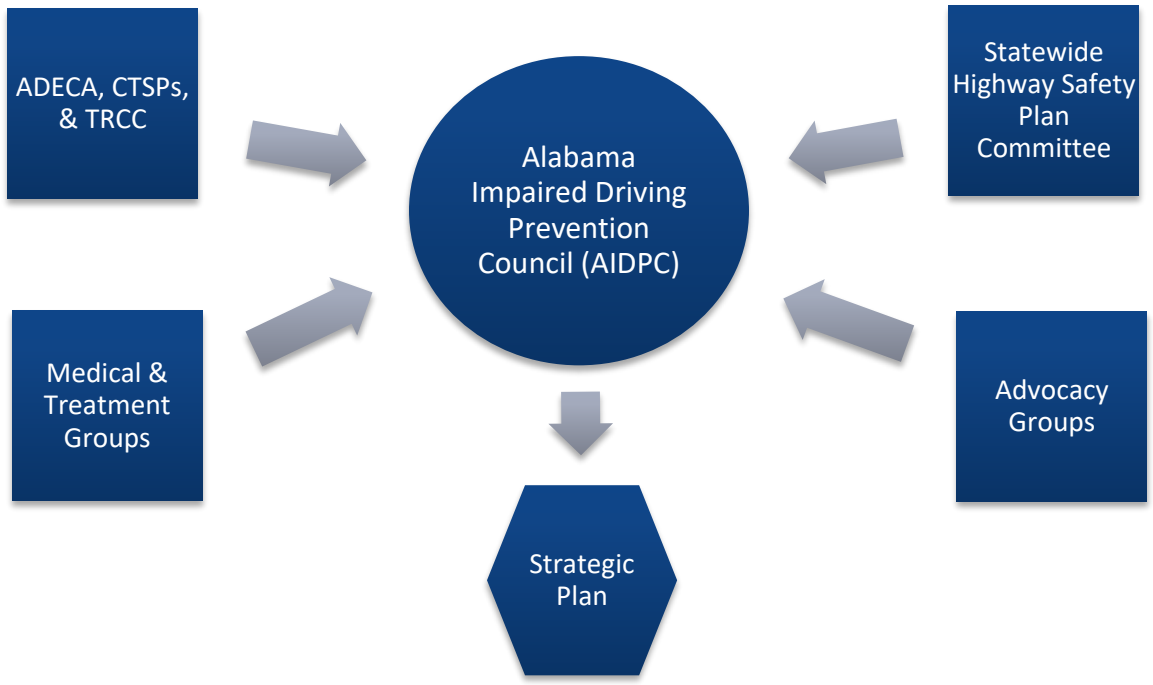
The IDSP was heavily data driven. In drafting the IDSP, members of the AIDPC relied on data on impaired-driving-related crashes, arrests, suspensions, and convictions data; also used were state-specific studies on youth and adult behavior and attitudes toward alcohol consumption/drug use specifically as they relate to impaired driving.

2.2 Strategic Planning Organization

Programs and activities are guided by problem identification, and they are carefully managed and monitored for effectiveness. The mission of the AIDPC requires the development and implementation an overall plan for short- and longer-term impaired driving prevention and remediation activities based on careful problem identification. Short-term refers to the projects and activities that will be part of the next Highway Safety Plan (HSP) and other non-supported volunteer efforts that will be implemented during the coming fiscal year. Longer-term plans are those expected to be implemented in subsequent fiscal years.

Figure 2.2 presents the overall organization for the impaired driving strategic plan development within the State. The central focus of the effort is the AIDPC and all information from the other organizational entities will go through the AIDPC in order to be evaluated and formulated into the plan.

Figure 2.2 Impaired Driving Strategic Planning Organization



The major entities involved with this include:

- The Alabama Department of Economic and Community Affairs (ADECA), which is the administrating agency for the NHTSA traffic safety grants, the Community Traffic Safety Program Coordinators (CTSPs), and the state Traffic Records Coordinating Committee (TRCC), all of which operate within ADECA oversight.
- The committee which administers and develops the Statewide Highway Safety Plan (SHSP), which represents all agencies in state government that are involved in traffic safety, and thus this would involve all relevant state agencies in this process.

- Medical and Treatment Agencies also provide input to the AIDPC (these groups are typically not included in generally traffic safety planning activities).
- Advocacy Groups, i.e., non-governmental entities that have traffic safety interests, especially in the area of impaired driving.

2.3 Program Management

The plan provides an essential component of the control process, establishing goals and objectives for the total impaired driving efforts in the State both for the total effort and for its individual components. However, it is obvious that a plan alone is not going to solve the problem. The planned projects and programs must be effectively implemented. This requires an effective management control process. Using the plan as a road map, management must determine if adequate progress is being made in all projects toward their goals, and if those projects are effectively meeting the standards set forth for them. When it is detected that such is not the case, then management needs to step in and provide correction, either strategically or tactically, to get things back on track.

To accomplish this regular (quarterly, or as needed) meetings of the AIDPC are conducted with representatives of all of the entities that are performing projects under the plan. This will essentially provide a management-by-exception process that will assure that proper corrective action be taken in any projects that are not making their expected progress. At the same time, it will provide a reporting mechanism to keep all AIDPC members and their respective agencies informed as to current impaired driving activities throughout the state.

2.4 Resources

The AIDPC planning effort is being performed under the assumption that sufficient funding, staffing, and other resources to support impaired driving programs will be forthcoming. The FAST Act has given the assurance of certain funding given that the State meets the planning and other legal requirements. It can be shown that the revenue generated from citations and reinstatement of licenses more than offsets the cost of the planned projects. However, since these monies go into the general fund and are not earmarked for impaired driving programs, they are not generally accessible to support the impaired driving countermeasure efforts. One of the major roles of the AIDPC will be to make inroads to assure that the planned programs should achieve self-sufficiency by transferring as much of their costs to impaired drivers.

2.5 Data and Records

This topic is covered in detail in Section 7 and further illustrated in Appendixes A and B. All management and planning functions have been and will continue to be both evidence and data driven. This process starts with an analysis of historical data in a problem identification that has the broadest possible perspective. That is, the initial research covers the most recent three calendar years (2015-2017) available at the time of the study. It searches all Alabama crash data to answer the "who, what, where, when, and why," as well as the "how many" in all aspects of impaired driving (all drugs including alcohol) related crashes. Once the general locations for impaired driv-

ing crashes are determined, more detailed hot-spot analyses are performed to direct the enforcement effort to those areas that have the highest concentration of impaired driving crashes. In addition, other data sources are utilized, including the state electronic citation data (eCite), U.S. Census data to establish and compare demographics, Fatality Analysis Reporting System (FARS), Crash Outcome Data Evaluation System (CODES), and others as they surface.

Alabama has a complete evaluation capability in its crash records system. One module is called the before-after analytical tool, and it can be applied right down to the specific roadway location on which an improvement is implemented. Numeric goals are set for all projects and, to the extent practical, these capabilities are run to perform evaluations not only to determine past successes but also to modify projects and programs to assure that the allocations of resources continue to improve.

Every aspect of this problem identification and evaluation effort will be guided by the statewide Traffic Records Coordinating Committee (TRCC), which represents the interests of all public and private sector stakeholders and the wide range of disciplines that need this information. Details of these studies will be published on-line and will be cited as appendices of this planning document.

2.6 Communication Program Management

The Communication Program is detailed in Section 5; this section will summarize the program management efforts that are associated with that program. In addition to the many focused Public Information and Education (PI&E) efforts, every project within the impaired driving program has a communications and public relations component associated with it. Program management has as its goal to coordinate these various efforts to ensure they are unified and working together for a common purpose. Thus, a comprehensive communications program will be developed and maintained that supports priority policies and program efforts that are comprehensive, including the following agencies:

- The Alabama Department of Economic and Community Affairs (ADECA) has been involved with the development of Public Service Announcements (PSAs), supporting Public Information and Education (PI&E) in general, and focusing these efforts around particular holiday events.
- The Alabama Law Enforcement Agency (ALEA), Public Information/Education Unit has a wide range of ongoing activities throughout the year, responding to special requests for information and officer participation in news events as well as participating in holiday and other special events.
- The ALDOT Highway Safety Marketing Outreach Program is an effort that involves approximately nine agencies and service groups.
- The Traffic Safety Research Prosecutor (TSRP) maintains a web site that provides general ongoing information on courses conducted by the TSRP, and addresses the many issues that prosecutors of ID cases face.
- The Alabama Department of Public Health (ADPH) uses multiple platforms to inform the public about injury prevention, the child passenger restraint program, and the review of deaths among all ages.

See Section 5 for details of the Communication Program.

3.0 Prevention

The State's prevention program has the goal of reducing impaired driving through public health approaches, including altering social norms, changing risky or dangerous behaviors, and creating safer environments. In order to accomplish this, the following objectives have been established:

- Apply formal and informal behavioral modification methods that center around the negative effects of alcohol and other drugs;
- Limit the availability of alcohol and other drugs, especially to those who are most apt to abuse them;
- Discourage or prevent those who are impaired by alcohol and other drugs from driving;
- Assure responsible alcohol service practices;
- Create and support transportation alternatives;
- Implement community-based programs:
    - In schools,
    - At work sites,
    - In conjunction with medical and health care facilities, and
    - By community coalitions.

Prevention efforts will be directed toward populations at greatest risk as determined by the problem identification efforts that were conducted in conjunction with the planning effort.

The subsections within the overall prevention countermeasures address the various prevention projects that are generally organized within the following categories:

- Responsible Alcohol Service,
- Community Based Programs, and
- Transportation Alternatives Program.

3.1 Responsible Alcohol Service

There are two basic prevention approaches that fall under this countermeasure category:

- Prevent all underage drinking by people under age 21; and
- Prevent "over-service" to people age 21 and older.

Alabama's Dram Shop Act, § 6-5-71, Ala. Code, 1975, provides:

> (a) Every wife, child, parent, or other person who shall be injured in person, property or means of support by any intoxicated person or in consequence of the intoxication of any person shall have a right of action against any person who shall by selling, giving, or otherwise disposing of to another, contrary to the provisions of law, any liquors or beverages cause the intoxication of such person for all damages actually sustained, as well as exemplary damages.
>
> (b) Upon the death of any party, the action or right of action will survive to or against his executor or administrator.
>
> (c) The party injured, or his legal representative may commence a joint or separate action against the person intoxicated or the person who furnished the liquor, and all such claims shall be by civil action in any court having jurisdiction thereof.

This Act was passed into law in 1909 and has been on the books without change since enactment. The Dram Shop Act provides liability for selling, giving, or disposing of liquors or beverages "contrary to the provisions of law."

The Alabama Alcoholic Beverage Control (ABC) Board Enforcement Division employs 113 sworn agents spread out over fourteen districts across the state. They are responsible for regulating the sale of alcohol and tobacco products as set forth in Title 28, Code of Alabama, 1975, as amended. This includes the enforcement of the ABC Board's Rules and Regulations, which have the full force and effect of law. They also license all manufactures, importers, wholesalers, and retailers of alcoholic beverages. Working with other city, county, state, and federal governmental agencies, they deal with the issues of under-age sales and service. The training that each of their agents receives each year exceeds the recommended minimum standards required by the State of Alabama's Peace Officers Standards and Training Commission.

Action Items:

- Work closely with private restaurant and other trade organizations like the Foundation for Advancing Alcohol Responsibility (https://www.responsibility.org/) to establish some formal programs for education and training with regard to server responsibilities, including Dram Shop provisions.

3.2 Community Based Programs

"Community" here is referring to those organizations and agencies that currently exist to fulfill other primary goals but have a health and safety mission. The prevention strategies they would participate in implementing would be primarily directed toward driver attitudes, but might also involve family or social interaction with drivers to influence them against taking the wheel when they are in no condition to do so. The ideal settings would include schools, places of employment, medical and health care environments, and other community coalitions and traffic safety programs implemented by advocate groups. Some of these will be detailed below.

3.2.1 Schools

School-based prevention programs must begin in elementary school and continue through college and trade school. If implemented properly, such programs play a critical role in preventing underage drinking and impaired driving, not only when the recipients attain the age of obtaining licenses themselves, but as a collective influence in the family and the community. Every effort in the planning process was made to assure that the proposed programs were developmentally appropriate, culturally relevant and coordinated with other drug prevention and health promotion programs ongoing in the community.

Action Items:

- Provide training to those involved with the educational system through the Drug Impairment Training for the Educational Professional (DITEP) courses (see Sections 4.2 and 4.7.3)
- Support legislation that will help to eliminate all underage drinking and drug use (see Section 4.1);
- Promote stronger GDL laws and their enforcement;

- Create greater awareness of the role that negative advertising plays on young people in all areas of unsafe driving.

3.2.2 Employers

The loss of a key individual to either injury or death, or incarceration, can be devastating to an employer. This countermeasure type requires first the convincing of employers that it is in the best interests of their company or non-profit agency to conduct programs to show their employees the alternatives to impaired driving, and even to provide alternatives for them (e.g., alternative transportation). Employers also need to be made aware of the responsibility that rests upon them for company-sponsored parties, which are often held near or on holidays when some participants may have already been indulging. These countermeasures provide information and technical assistance to employers and encourage them to offer programs to reduce underage drinking and impaired driving by employees and their families.

Action Items:

Initiate AIDPC interaction with private companies and trade organizations that have a common goal of reducing crashes caused by ID. These might include organizations exemplified by, but not limited to, the following entities:

- The Alabama Trucking Association (ATA; http://www.alabamatrucking.org/), which sponsors Infinit-i(tm) training for their membership: (http://lmstrucking.infinit-i.net/articles/Alabama_Trucking_Association.htm); and
- The EDPM Company, which has as its mission is to help society combat the many problems related to substance abuse in the workplace and home by providing personalized, quality employment testing services to our clients in an ethical, cost-effective manner. (http://www.edpm.com/index.php)

3.3 Transportation Alternatives Program

Transportation Alternatives (TA) is the generic name for the variety of ways in which those who have been impaired, either by alcohol or drugs, are prevented from driving by providing them with an alternative means of transportation. These services include the transport of those who should not be driving home from drinking establishments (or other applicable locations) using taxis (and pseudo-taxis, e.g., Uber), privately owned vehicles, buses, tow trucks, and law enforcement agents. Some programs provide drivers to drive the drinker's car home along with the drinker. The goal of those participating in the TA program will be to ensure that the accessibility, availability, and ease of integration into the social activity is such to provide the greatest likelihood of encouraging drivers to choose an alternative transportation rather than driving while impaired.

The TA program will strive to develop and promote the most effective TA programs that provide the greatest coverage of times, geography, individuals, and which involve the fewest practical barriers to their use. The goal is to achieve maximum ridership among individuals who would otherwise drive while impaired. It is essential that such a program be conceptually broad and have an operationally strong program structure. This will be implemented with the recognition of the need for the program being appropriately integrated into the broader multi-faceted community approach to addressing impaired driving in general.

The TA program will draw upon the most accepted and frequently used alternatives, which are those that occur in the relevant social context. These include choosing to use a designated driver, family member, or friend as alternative to driving after drinking. This program will encourage the appropriate people to designate a person who will not drink or otherwise be impaired to provide them with a safe ride home. Potential incentives will be sought wherein a bar or restaurant offers free non-alcoholic drinks and/or food to the designated driver. Incentives will extend to convincing employers that it is in the best interests of their company (or non-profit agency) to conduct programs to show their employees the alternatives to impaired driving, and even to provide transportation alternatives for them.

4.0 Criminal Justice Approaches

This set of countermeasure approaches includes the entire criminal justice system, including laws, enforcement, prosecution, adjudication, criminal and administrative sanctions and related communications. The goal is to achieve both *specific* and *general* deterrence defined as:

- **Specific deterrence** focuses on individual offenders and seeks to ensure that impaired drivers will be detected, arrested, prosecuted, and subject to swift, sure, and appropriate sanctions, and thereby reduce recidivism;
- **General deterrence** seeks to increase the public perception that impaired drivers will face severe consequences, thus discouraging all individuals from driving impaired.

A multidisciplinary approach and close coordination among all components of the criminal justice system was sought in developing this plan. Special coordination through the CTSP efforts was planned to assure that all law enforcement agencies at the State, county, municipal, and tribal levels would continue to create and sustain both specific and general deterrence.

The plan will be discussed in the following subsections in terms of:

- Laws,
- Enforcement,
- Prosecution,
- Adjudication,
- Administrative Sanctions and Support Programs, and
- Training.

4.1 Laws

The State has enacted many laws that have proven to be sound, rigorous, and easy to enforce and administer. However, efforts must continue, both in strengthening existing laws and in passing new laws that address issues that are developing within our society. Every attempt is being made to assure that these laws clearly define offenses, contain provisions that facilitate effective enforcement, and establish effective punitive measures for deterrence. Legislative efforts have been, and will continue to have goals of defining illegal activities and remedies, which include:

- Driving while impaired by alcohol or other drugs (whether illegal, prescription or over the counter) and treating both offenses in a comparable matter with similar punitive and remedial programs;
- Driving with a blood alcohol concentration (BAC) limit of .08 grams per deciliter, making it illegal "per se" to operate a vehicle at or above this level without having to prove impairment;
- Driving with a high BAC (i.e., .15 BAC or greater) with enhanced sanctions above the standard impaired driving offense;
- Zero Tolerance for underage drivers, making it illegal "per se" for people under age 21 to drive with any measurable amount of alcohol in their system (i.e., .02 BAC or greater);
- Repeat offender increasing sanctions for each subsequent offense;
- BAC test refusal with sanctions at least as strict, or stricter, than a high BAC offense;
- Driving with a license suspended or revoked for impaired driving, with vehicular homicide or causing personal injury while driving impaired as separate offenses with additional sanctions;

- Open container laws, prohibiting possession or consumption of any open alcoholic beverage in the passenger area of a motor vehicle located on a public highway or right-of-way;
- Authorization of law enforcement agencies to conduct sobriety checkpoints, (i.e., stop vehicles on a nondiscriminatory basis to determine whether operators are driving while impaired by alcohol or other drugs);
- Authorization of law enforcement to use passive alcohol sensors to improve the detection of alcohol in drivers;
- Authorization of law enforcement to obtain more than one chemical test from an operator suspected of impaired driving, including preliminary breath tests, evidential breath tests, and screening and confirmatory tests for alcohol or other impairing drugs; and
- Requiring law enforcement to conduct mandatory BAC testing of drivers involved in fatal crashes.

While most of the above provisions have been implemented in the State, they continue to be listed above since many of them require either strengthening or clarification.

In addition to the above general structure for the laws themselves, the following structure is part of the plan for establishing effective penalties:

- Administrative license suspension or revocation for failing or refusing to submit to a BAC or other drug test;
- Prompt and certain administrative license suspension of at least 90 days for first-time offenders determined by chemical test(s) to have a BAC at or above the State's "per se" level or of at least 15 days followed immediately by a restricted, provisional or conditional license for at least 75 days, if such license restricts the offender to operating only vehicles equipped with an ignition interlock;
- Enhanced penalties for BAC test refusals, high BAC, repeat offenders, driving with a suspended or revoked license, driving impaired with a minor in the vehicle, vehicular homicide, or causing personal injury while driving impaired, including longer license suspension or revocation; installation of ignition interlock devices; license plate confiscation; vehicle impoundment, immobilization or forfeiture; intensive supervision and electronic monitoring; and threat of imprisonment;
- Assessment for alcohol or other drug abuse problems for all impaired driving offenders and, as appropriate, treatment, abstention from use of alcohol and other drugs, and frequent monitoring; and
- Driver license suspension for people under age 21 for any violation of law involving the use or possession of alcohol or illicit drugs.

Action Items:

AIDPC makes special recommendations to consider and promote the following legislative actions in the forthcoming legislative sessions (ordered randomly):

1. Since some drugged driving (DUI/D) cases are being challenged to correlate findings with impairment (due to a number of factors), legislation is needed to shift to a concept of "internal possession" for both illicit and prescription drug abuse. While the number of drugs makes comprehensive legislation unfeasible, there are a number of common drugs that can be identified by fairly simple and reliable tests. These should be codified at this point to initiate the more comprehensive process.
2. There is a need for a preliminary tool to establish probable cause in DUI/D cases. Legislation is needed to enable the use of a roadside drug screen similar to the simple Preliminary

Breath Test (PBT) devices now used for alcohol screening. Feasibility studies will need to be performed by Alabama Department of Forensic Sciences.

3. Except in fatality crash cases there is no mandate for blood tests, and even in those cases only about 50% of the samples are captured. Urine is a marker of past use only (could be weeks, months), and cannot be effectively used for evidence since it is not necessarily correlated with impairment. Ideally, both blood and urine would be collected in all DUI/D cases; the legal basis for this at least in extreme cases of impairment needs to be strengthened by legislation.
4. Appendix B shows a tremendous over-representation of impaired drivers in violation of State statute 32-6-19 – driving while license privilege suspended or revoked because of a DUI or DUI related offense. To combat this, the following are recommended:
    - Impose an additional thirty-day mandatory jail sentence, not subject to suspension, attached to violations of 32-6-19 for any third or subsequent violation of the statute when the suspension/revocation is because of a DUI charge.
    - Those most closely involved: come up with other options for sentencing that will address this issue similar to the third time DUI offenders discussed below.
5. Alternative sentencing options for third time DUI offenders that would allow for a mandatory treatment requirement upon conviction. Upon a conviction for a third violation of 32-5A-191, the judge may elect any or all of the following:
    - Require a mandatory in-patient treatment program of not less than six months (or other time period to be determined), in order to help the defendant recover from their substance addiction.
    - Require that any driver, upon conviction for a second violation of 32-5A-191, carry a personal health insurance plan or an automobile coverage plan that would cover the costs of the treatment program.
    - Any driver who failed to procure the proper insurance plan would not be eligible to be sentenced to the treatment program, but instead would serve a 6-month mandatory jail sentence upon a third conviction.
    - These options would not apply to violations of 32-5A-191 that involved special circumstances (e.g., Vehicular Homicide).
6. Add the fee that is now imposed on DUI convictions to also cover convictions for Driving While Suspended and Driving While Revoked when the suspension/revocation is the result of a DUI conviction. This fee goes into the Alabama Chemical Testing Training and Equipment Trust Fund, which relies heavily upon these fees to remain viable.
7. The following items were suggested as ways in which the Pardons and Paroles (P&P) tasks may not dramatically improved (see Section 4.5.4):
    - Enable courts to add a special condition of no alcohol for probationers convicted of impaired driving.
    - For those so sentenced, require defendants to be fitted with a Continuous Alcohol Monitoring Device that constantly measures the offender's alcohol content and communicates with P&P remotely, greatly reducing the number of visits and the amount of time the probation officers must spend meeting with impaired driving probationers. This will be a major savings in time and other resources for P&P in the area of impaired driving offender monitoring.

While all AIDPC members did not necessarily endorse all of the SHSP items above, it was felt best to include them so that they could be considered with all of the other legislative recommendations.

4.2 Enforcement

This is the major effort put forth by the state, and it has been totally data driven to assure that funding is allocated in the best possible way. The details of these analyses are covered in Section 7 and Appendix A. The goal is to conduct frequent, highly visible, well publicized and fully coordinated impaired driving (including zero tolerance) law enforcement efforts throughout the State, especially in those locations where location data analysis has determined that alcohol related fatalities are most likely to occur. To maximize visibility, the State is maximizing contact between officers and drivers by using sobriety checkpoints and saturation patrols. These efforts are being widely publicized before, during, and after they occur.

Highly visible, highly publicized efforts are scheduled periodically at focus times when impaired driving has been found to be over-represented, and on a sustained basis throughout the year. To maximize resources, the State is coordinating efforts among State, county, municipal, and tribal law enforcement agencies. The plan involves the use of CTSPs for activities such as promotion of national and local mobilizations and increasing law enforcement participation in such mobilizations, and for collaboration with local chapters of police groups and associations that represent diverse groups to gain support for enforcement efforts. In addition, the state plans to coordinate efforts with liquor law enforcement officials, and to conduct training of all law enforcement officers to increase the probability of detection, arrest, and prosecution, including Standardized Field Sobriety Testing, and selected officers will receive training in media relations and Drug Evaluation and Classification (DEC).

In addition to the deterrent and remediation benefits of ID enforcement, the decline in DUI arrests in the last ten years from a high of 31,000 to about 21,000 in CY2017, which has exacerbated the issue of funding for the Implied Consent Laboratory (ICL). This lab is essential to the total ID criminal justice effort, since its function is critical to making most DUI cases. The recent decline coupled with the fact that, on average, only 55% of the fine money is collected, has created a crisis situation for the ICL. This problem will be addressed by a planned increased emphasis on DUI detection and arrest. As many officers will be on patrol as the current force will allow. To the extent possible overtime will be used to increase the force. However, reductions in the numbers of patrol officers over the past few years have made it extremely difficult to obtain officer hours even on an overtime basis. Every effort will be made to address these issues.

4.2.1 Drug Recognition Expert (DRE) Program

Alabama is one of 49 states and the District of Columbia to implement the Drug Evaluation and Classification Program (DECP). At the heart of this program is the Drug Recognition Expert (DRE). A DRE is a law enforcement officer trained in detecting and recognizing impairment caused by substances other than alcohol. The Los Angeles Police Department originated the program in the early 1970s when officers noticed that many of the individuals arrested for driving under the influence had very low or zero alcohol concentrations. The officers reasonably suspected that the arrestees were under the influence of drugs but

lacked the knowledge and skills to support their suspicions. Working with medical doctors, research psychologists, and other medical professionals they developed a simple, standardized procedure for recognizing drug influence and impairment, which led to the first DRE program. In the early 1980s, the National Highway Traffic Safety Administration (NHTSA) took notice of the LAPD's DRE program. The two agencies collaborated to develop a standardized DRE protocol, which led to the DEC program. During the ensuing years, NHTSA and various other agencies and research groups examined the DEC program. Their studies demonstrated that a properly trained DRE could successfully identify drug impairment and accurately determine the category of drugs causing such impairment. Recent studies conducted by NHTSA have established the value of DRE programs.

The DRE comes into a case at the request of the arresting officer. A typical scenario: An officer initiates a traffic stop and subsequently conducts a DUI investigation. The officer makes a determination that the driver is impaired; however, there is either no evidence of alcohol consumption or a subsequent breath test result is not consistent with the level of impairment. At this point, the officer requests a DRE evaluation. The DRE follows a 12-step systematic and standardized process utilized by all DREs regardless of agency. The DRE uses a drug classification system based on the premise that each drug within a category produces similar signs and symptoms. It is a pattern of effects rather than a specific effect that is unique to the category.

Without proper training and adequate resources, the average law enforcement officer will find that convicting the drug-impaired driver is almost infinitely more difficult than convicting the alcohol-impaired driver. The presence of DREs in Alabama will affect both the highway and the courtroom.

A continuation and expansion of this program will enable law enforcement officers to better detect, apprehend, assess, document, and subsequently help the prosecutor prove, in court, the defendant was under the influence of a drug while driving (or committing any other improper act, e.g., domestic violence and homicide). There are also community outreach programs in place that utilize certified DREs such as Drug Impairment Training for the Educational Professional (DITEP) in which DREs go into school systems and teach educators observable signs and effects of drug impairment.

AIDPC acknowledges the fact that many courts are not familiar with program. Major efforts will be integrated into the training to focus on community outreach and informing judges, lawyers, and law enforcement officers on the structure of the DRE program and its benefits.

Action Items:

- Increase the number of DREs by at least six per year over the next four years. See Section 4.7.1.3.
- Under the oversight of the AIDPC, establish a special task force to study methods for the better implementation of the DRE program, especially to promote its value so that state and local agencies will take advantage of the DRE training opportunities.
- Determine if legislation or other state policies might be needed in support of the DRE program.

4.2.2 Intensive Focused Impaired Driving Enforcement Effort

Appendix A demonstrates the data-driven, evidenced-based approach that the State is taking to addressing its Impaired Driving problems. It consists of the following:

- Table of the impaired driving hotspots listed by ADECA. This shows how this distribution has changed over the years since the FY2009 (criteria for hotspots remaining constant).
- FY2018 23 Interstate hotspots.
- FY2018 30 State/Federal route hotspots.
- FY2018 77 intersection locations
- FY2018 30 non-mile posted segment locations

For each of these categories a distribution by region is given and then the specific locations within each of the regions is listed with further detailed data about that location. The breakdown is by CTSP region to facilitate each of the Coordinators efforts in administering this program through law enforcement agencies within their regions. The following table provides the number of hotspots determined for the past nine fiscal years, and a projection for FY2020 based on three years of data (CY2016-CY2018).

Number of Impaired Driving Hotspots for Three-Year Periods

Fiscal Year	Calendar Year Data Used	Impaired Driving Hotspots
2009	2005-2007	191
2010	2006-2008	190
2011	2007-2009	194
2012	2008-2010	143
2013	2009-2011	144
2014	2010-2012	179
2015	2011-2013	198
2016	2012-2014	176
2017	2013-2015	166
2018	2014-2016	160

In each case, a list of locations is provided for those locations. As an example, the listing that follows is for the highest ID crash locations (involving an injury or fatality) in the “mileposted Interstate” category. Locations are defined as being segments of roadway that are no longer than five miles in length. Injury (including fatal) crashes are used in order to surface the more severe crashes.

**Top 23 Mileposted Interstate Locations (5 miles in length)
in Alabama with 8 or More Impaired Driving Related Crashes
Resulting in Injury or Fatality**

Rank	County	City	Route	Beg MP	End MP	Total Crashes	Fatal Crashes	Injury Crashes	Agency ORI
1	Jefferson	Hoover	I-65	251	256	12	6	6	Hoover PD
2	Etowah	Rural Etowah	I-59	177	182	8	2	6	ALEA - Gadsden Post
3	St Clair	Rural St. Clair	I-20	161.8	166.8	8	2	6	ALEA - Birmingham Post
4	Montgomery	Montgomery	I-85	1	6	10	4	6	Montgomery PD
5	Madison	Huntsville	I-565	15	20	9	3	6	Huntsville PD
6	St Clair	Rural St. Clair	I-20	151.2	156.2	9	0	9	ALEA - Birmingham Post
7	Jefferson	Hoover	I-459	8	13	8	1	7	Hoover PD
8	Tuscaloosa	Rural Tuscaloo	I-59	68.9	73.9	11	2	9	ALEA - Tuscaloosa Post
9	Jefferson	Birmingham	I-59	130	135	19	2	17	Birmingham PD
10	Mobile	Mobile	I-65	0.5	5.5	10	2	8	Mobile PD
11	Jefferson	Birmingham	I-59	119.5	124.5	10	1	9	Birmingham PD
12	Shelby	Alabaster	I-65	233.9	238.9	8	1	7	ALEA - Birmingham Post
13	Montgomery	Montgomery	I-85	9	14	8	1	7	Montgomery PD
14	Jefferson	Fairfield	I-59	114.5	119.5	13	0	13	Fairfield PD
15	Jefferson	Hoover	I-65	246	251	9	2	7	Hoover PD
16	Mobile	Mobile	I-10	13	18	8	1	7	Mobile PD
17	Jefferson	Rural Jefferson	I-65	262.7	267.7	8	0	8	ALEA - Birmingham Post
18	Baldwin	Rural Baldwin	I-10	30	35	9	0	9	ALEA - Mobile Post
19	Mobile	Rural Mobile	I-10	5.7	10.7	8	0	8	ALEA - Mobile Post
20	Baldwin	Daphne	I-10	36.1	41.1	8	1	7	Daphne PD
21	Montgomery	Montgomery	I-65	170	175	8	0	8	Montgomery PD
22	Cullman	Rural Cullman	I-65	293.4	298.4	8	0	8	ALEA - Decatur Post
23	Jefferson	Birmingham	I-59	124.5	129.5	15	0	15	Birmingham PD

Action Items:

- Conduct the intensive ID enforcement effort as detailed in Appendix A.
- Continue to perform annual problem identifications to keep the focused enforcement efforts totally data driven and evidence based and based on this information implement these efforts throughout each year.

4.3 Publicizing High Visibility Enforcement

The plan calls for the State to communicate its impaired driving law enforcement efforts and other efforts being put forth by the criminal justice system to increase the public perception of the risks of detection, arrest, prosecution and sentencing for impaired driving. The details given below specify a year-round communications plan that: (1) provides emphasis during periods of heightened enforcement, (2) provides sustained coverage throughout the year, (3) includes both paid and earned media and (4) uses messages consistent with national campaigns. Every effort is being made to assure that the publicity is culturally relevant, appropriate to the audience, and based on market research.

Action Items:

- Promote the concept among law enforcement that their efforts are multiplied at least 100% by the use of effective PI&E.
- Study the current PI&E efforts to determine areas in which they can be improved.
- Implement improved PI&E efforts as are determined by the evaluations.

4.4 Prosecution

Impaired Driving cases are perhaps the most litigiously complex cases in the judicial system; yet the most inexperienced prosecutors routinely handle them. In recognition of this, the AIDPC calls for the State to utilize a comprehensive program to visibly, aggressively, and effectively prosecute and publicize impaired-driving-related efforts. It further recommends that the Traffic Safety Resource Prosecutor (TSRP) coordinate and deliver training and technical assistance to prosecutors handling impaired driving cases throughout the State.

Action Items:

- Continue to maintain a dedicated full time TSRP to provide ongoing support to all prosecution cases.
- Support the TSRP in conducting a number of training courses as specified in Section 4.7.
- Implement a pilot program called DUI/Drug (DUI/D) days. This will be a new program with the goal of ensuring that the courts and all other relevant persons in the criminal justice system are aware of the services provided by the Alabama Department of Forensic Sciences (ADFS), and that they are taking advantage of those services. This will also serve to reduce ADFS time out of the laboratory via effective time management and planning. The plan calls for the initiation of DUI/D days within specific courts, where a toxicologist is present to cover DUI/D specific docket for the day. This pilot should start out in some of the larger jurisdictions that have more DUI/D cases. Consideration will also be given to utilizing video conferencing testimony when available.

4.5 Adjudication

The plan calls for the State to impose effective, appropriate, and research-based sanctions, followed by close supervision and the threat of harsher consequences for continued non-compliance. Drug courts are being used to reduce recidivism among repeat and high-BAC offenders. These special courts involve all criminal justice stakeholders (prosecutors, defense attorneys, probation officers, and judges) along with alcohol and drug treatment professionals, and they use a cooperative approach to systematically change participant behavior. Every effort is used to strengthen the effectiveness of the enforcement and prosecution efforts are strengthened by knowledgeable, impartial, and consistent adjudication. The plan calls for state-of-the-art education to judges, covering Standardized Field Sobriety Test (SFST), Drug Evaluation and Classification (DEC), alternative sanctions, and emerging technologies.

The plan calls for the continued use and expansion of Drug and DUI (alcohol) Courts to improve case management and to provide access to specialized personnel, speeding up disposition and adjudication, recognizing that these courts increase access to testing and assessment to help identify impaired driving offenders (especially those with addiction problems) thus serving to prevent them from reoffending. Recognizing their value in sentence monitoring and enforcement, the plan calls for increased staffing and training for probation programs with the necessary resources, including technological resources, to monitor and guide offender behavior. Drug and DUI Courts currently only cover a limited number of jurisdictions, and their scope is limited due to funding considerations. Alabama supplements its Drug/DUI Courts with its Court Referral Officer (CRO) Program, which is a more comprehensive program that has been in existence for decades.

The AIDPC also considered the application of the *24/7 Sobriety Program* in the context of all of the programs discussed in this section. This program, which was piloted in South Dakota in 2005 and is reportedly a tremendous success to this day, is exactly as its name implies – a twenty-four hour a day and seven day a week sobriety program that has the one main goal of total sobriety for each of the defendants in the program. The program monitors total abstinence from alcohol and drugs by requiring the participant to submit to the testing of their blood, breath, urine, or other bodily samples in order to determine the presence of alcohol, marijuana, or any controlled substance in their body. Targets of the program would include persons convicted of a second or subsequent DUI as well as persons convicted of a first DUI offense with a blood-alcohol content of 0.15 or greater. Participation in the program might also be a condition of bond for persons arrested for DUI who have previously been convicted of DUI at least once. While many details would need to be resolved, it was resolved that this program should be given consideration as a treatment option in all existing remediation initiatives.

4.5.1 Court Referral Officer Program

Court Referral Officer (CRO) and Court Referral Education programs have been providing assistance to court officials and defendants in Alabama for almost 30 years. The CROs perform evaluations and develop a customized program for each defendant that can include education, treatment, self-help meetings, adult education, drug and alcohol screening, volunteerism, anger management, and other available resources, resulting in a multi-faceted plan to address the circumstances that resulted in the criminal behavior. The education programs have been providing Level I, Level II, and Youth & Juvenile Classes as needed. The Mandatory Treatment Act of 1990, signed by the late Governor Guy Hunt, requires that defendants that have been arrested or found guilty of any alcohol-related or drug-related offense follow the guidelines laid down in that Act. The goal of the Alabama Court Referral Program is to combat substance abuse by providing monitoring, drug testing, case management, and education. During FY2018, CROs evaluated 20,431 defendants that were court ordered, and performed 106,711 monitoring sessions.

The following is an excerpt from MTA §12-23-2 establishing the CRO Program:

> "To establish a specialized court referral officer program to promote the evaluation, education and rehabilitation of persons whose use or dependency on alcohol or drugs directly or indirectly contributed to the commission of an offense for which they were convicted in state or municipal courts, and to establish mandatory alcohol and drug abuse treatment programs to provide treatment and rehabilitation for these identified offenders."

The Act requires that defendants that are arrested or found guilty be ordered to an evaluation by the Court Referral Officer (CRO). Once the CRO has completed the evaluation, the defendant will know if (and what type of) education classes or treatments are recommended. The Act recognizes that not every person that gets a DUI necessarily has a drinking or drug problem, and that not all substance abuse problems are remediated by the same treatments or treatment types. Thus, educational classes and other treatment options have been made available for those that do not meet the more advanced treatment criteria. The Administrative Office of Courts (AOC) provides Level I and Level II educational classes.

The following provides the authority for courts to refer defendants to authorized education and/or treatment programs (MTA § 12-23-6):

> "In order to effect the purposes of this chapter, all courts exercising jurisdiction over alcohol and drug related offenses shall be authorized to refer a defendant to a court referral program for evaluation and referral to an appropriate education and/or treatment program. At a minimum, every defendant who is not referred directly to drug or alcohol treatment shall be required to complete an alcohol and drug education program certified by the Administrative Office of Courts."

If the CRO suspects that the defendant has a substance abuse problem, a treatment referral is recommended. CROs must refer defendants to certified treatment programs to ensure treatment quality and integrity.

The Alabama Department of Mental Health (DMH) is charged with the responsibility to develop policies, procedures, and provisions for certification (MTA § 12-23-9):

> "The Department of Mental Health shall develop policies and procedures which shall be followed in the treatment of offenders. These programs shall be certified by the Alabama Department of Mental Health or the Joint Commission on Accreditation of Health-care Organizations (JCAHO).)"

The plan calls for a standardized method including the following steps that defendants follow in their legal process:

1. Accept defendant into the program.
2. Refer the defendant to the appropriate CRO.
3. CRO performs an evaluation of the defendant that involves standardized testing, interview, and a review of past history.
4. CRO determines the level of education or treatment required.
5. CRO recommends placement into education/treatment, which is validated by the appropriate judge within the jurisdiction.
6. Monitoring (monthly or more frequent, depending on defendant's compliance) to include drug testing, checking on required self-help meetings, assisting with job opportunities, assuring payment of court costs and fines, and checks on compliance with education/treatment or any other requirements of the court. Continued guidance, encouragement, and support is offered when appropriate and needed.
7. Reports on non-compliance will require additional action by the court.
8. Upon completion, the defendant is presented with a certificate of completion.

The above process is monitored closely and defendants' actions are tracked in the Model Impaired Defendant Access System (MIDAS), which was developed as a National Model by NHTSA in the early 2000s. This system assures that a defendant will not be in the CRO program in two different jurisdictions at the same time. It also keeps track of repeat offenders and assures that all defendants are treated uniformly and fairly. It also produces data on defendants that have been used in the past to validate the assignments of defendants by CROs to the appropriate levels. For more details and recommendations regarding MIDAS, see Section 6.3.

Action Items:

- Continue to implement the CRO program as described by the various planning activities described above.
- Assure that the CRO program is well publicized throughout the judicial system and take whatever steps are necessary to assure that this program is being used universally.
- Provide additional liaison between the CRO program and newly developing Drug and DUI (Alcohol) Courts, which are described below in Sections 4.5.2 and 4.5.3.
- Continue to maintain and further modernize MIDAS so that it stays current with existing information technology developments.

4.5.2 Specialty Courts

Specialty Courts (including Adult Drug Court, Juvenile Drug Court, Mental Health Court, Veterans Treatment Court, and Family Drug Court) exist in most of the counties in Alabama. The objective of Specialty Courts is to give offenders the tools they need to defeat their addictions or overcome other negative stimuli and learn to live sober and productive lives. If this goal is achieved, the outcome will be a marked reduction in prison populations, reduced crime, and greater cost savings to Alabama taxpayers. Persons meeting certain acceptance criteria may choose to be sent to a Specialty Court in lieu of traditional justice system case processing. Specialty court participants are:

1. Provided with intensive treatment and other services they require to get and stay clean/sober;
2. Held accountable by the Specialty Court judge for meeting their obligations to the court, society, themselves, and their families;
3. Randomly and regularly tested for drug use;
4. Required to appear in court frequently so that the judge may review their progress; and
5. Rewarded for doing well or sanctioned when they do not live up to their obligations.

At this time, there are 62 Adult Drug Courts, 16 Juvenile Drug Courts, 10 Mental Health Courts, 20 Veterans Treatment Courts, and 13 Family Drug Courts.

Action Items:

- Publicize the benefits of Specialty Courts to stakeholders in the justice system, as well as members of the community;
- Assure effective liaison between Specialty Courts and the CRO Programs; and
- Consider ways that the concept of the 24/7 Sobriety Program can be integrated into the Specialty Court programs.

4.5.3 DUI (Alcohol) Courts

Currently Alabama has one DUI (Alcohol) Court (henceforth-called *DUI Court*) in Alabama. It is in the Birmingham area, and it is serving as a model for potential future expansion of these courts throughout the state. DUI Courts are analogous to Drug Courts, with the obvious exception that they deal with alcohol as opposed to other drugs. However, DUI Courts operate within a post-conviction model, as described in the excerpt from dwicourts.org, which follows:

- DUI Court is an accountability court dedicated to changing the behavior of the hardcore DUI offenders. The goal of DUI Court is to protect public safety by using the highly successful Drug Court model that uses accountability and long-term treatment.
- A DUI Court is an accountability court dedicated to changing the behavior of the *hardcore offenders* arrested for DUI.
- *Hardcore DUI offenders* are defined as individuals who drive with a BAC of 0.15 percent or greater, or who are arrested for or convicted of driving while intoxicated after a prior DUI conviction.
- The goal of DUI Court is to protect public safety by using the highly successful Drug Court model that uses accountability and long-term treatment to address the root cause of impaired driving: alcohol and other substance abuse.
- Unlike Drug Courts, however, DUI Courts operate within a post-conviction model. (Source: http://www.dwicourts.org/learn/about-dwi-court/what-dwi-court)

Action Items:

- Fully evaluate the costs and benefits in terms of both recidivism and its total impact on the criminal justice system.
- Modify the current model in any areas where deficiencies are found.
- Once validated, extend this model to at least five counties per year.
- Consider ways that the concept of the 24/7 Sobriety Program can be integrated into the DUI Court program.

4.5.4 Pardons and Paroles

The role of the Alabama Board of Pardons and Paroles is well established in the Alabama criminal justice system. As of this writing, Pardons and Paroles have approximately 181 offenders on supervision for impaired driving. These offenders include those who are currently being supervised for one or more offenses and include at least one conviction of a DUI offense. This agency is committed to providing quality adult probation and parole services for the State. These services are provided to the Board of Pardons and Paroles in matters involving paroles, pardons, restoration of voting rights, and other issues within the Board's authority and responsibility. Pre-sentence, pre-probation, youthful offender and other investigations and reports are provided to the sentencing courts throughout the state. The agency has sixty-one field offices positioned and staffed to provide these services to the courts, and supervision for those offenders placed on parole by the Board or probation by the courts. For more information, see: http://www.pardons.state.al.us/

The action items below are recommended to provide better supervision and reduce recidivism for DUI offenders currently being supervised by Pardons and Paroles (P&P).

Action Items:

- Advise probationers and parolees that impaired driving is not inclusive to only alcohol, and that individuals should be aware of their intake of narcotic and other pain medications.
- Officers should conduct evening and night home visits to help identify those offenders who are still drinking or abusing drugs.
- Establish a system such that arrest reports (details of offenses) for offenders under supervision from other agencies can be received within 72 hours of arrest for an impaired offense, and that an alert is sent out to the appropriate supervisor if/when there is any change to the offender's record. This would greatly expedite the offender being brought back before the court or officer of the board in a timely manner.
- The following may not be policy decisions within P&P, and might require legislation; they have been included in the legislative recommendations of Section 4.1:
    - Have the courts add a special condition of no alcohol for probationers convicted of impaired driving.
    - For those so sentenced, require defendants to be fitted with a Continuous Alcohol Monitoring Device that constantly measures the offender's alcohol content and communicates with P&P remotely, greatly reducing the number of visits and the amount of time the probation officers must spend meeting with impaired driving probationers. This will be a major savings in time and other resources for P&P in the area of impaired driving offender monitoring.

4.6 Administrative Sanctions and Driver License Programs

The State uses administrative sanctions, including the suspension or revocation of an offender's driver's license; the impoundment, immobilization or forfeiture of a vehicle; the impoundment of a license plate; and the use of ignition interlock devices. As resources allow, consideration will be given to other licensing activities in preventing, deterring and monitoring impaired driving, particularly among novice drivers. It is recognized that publicizing these and related efforts is part of a comprehensive communications program. Separate consideration and definition will be given to this overall category in the following areas:

- Administrative license revocation,
- Vehicle sanctions, and
- Supportive programs.

4.6.1 Administrative License Revocation

Administrative sanctions in Alabama include the State's Administrative Per Se Suspension (APS), and the use of ignition interlock devices (IIDs). This plan calls for the continued implementation of these laws and their potential modification as areas of the law are determined to need strengthening or further clarification.

The Alabama Law Enforcement Agency (ALEA) has been authorized by the Legislature to impose administrative penalties (generally called Administrative Per Se) including driver's license suspension. The procedure is as follows upon arrest for impaired driving. If a breath test indicates .08% blood-alcohol or more, or the individual refuses to submit to chemical testing, his/her driver's license is immediately confiscated the driver is issued a pink sheet of paper that serves as a formal

notice of immediate suspension and a temporary license valid for 30 days (during which the driver can obtain a hearing). After an ID arrest, the individual has ten days within which to request an administrative hearing to contest the suspension. This is called the Administrative Per Se Suspension (APS). The APS suspension is based upon Alabama's "implied consent" laws: any person driving in this state is "presumed" to imply his/her consent to chemical testing if s/he is suspected of drunk driving.

Action Items:

- The Council will rely on ALEA and council members to notify the group for any changes that need to be addressed and promoted.

4.6.2 Vehicle Sanctions

In 2011, Alabama became the 50th state to enact driving under the influence (DUI) legislation that includes the use of ignition interlock devices (IIDs). Alabama courts are required to order the installation and maintenance of IIDs for first-time offenders, if their blood alcohol levels are .15 percent or higher, and for all repeat DUI offenders. IIDs must be installed on any vehicles operated by the offender. The offender is responsible for all costs associated with the IID, including installation, monthly lease payments, service fees and removal. If the offender installs IIDs on multiple vehicles, the offender is responsible for the costs of installing and maintaining all of the IIDs. Offenders must obtain IIDs from service providers that are certified by the State of Alabama. The IID is a small device that is connected to the vehicle's ignition system. The driver is required to blow into the device to submit a breath sample. The IID measures the alcohol content of the breath sample and compares it to a pre-set limit. If the breath sample indicates an alcohol level that is above the pre-set limit, the IID prevents the vehicle from starting.

IIDs require drivers to submit random breath samples while operating vehicles. If a "rolling retest" results in a breath alcohol content that is above a pre-set limit, the IID initiates an alarm sequence that includes sounding the vehicle's horn and flashing the vehicle's lights. The alarm sequence continues until the driver turns off the vehicle or submits a clean breath sample. In some situations, the IID initiates a permanent lockout phase during which the vehicle cannot be started under any circumstances. The vehicle must be towed to the service provider to have the permanent lockout released. The offender is responsible for all costs associated with the permanent lockout, including towing and fees imposed by the service provider.

In Alabama, a first-time DUI offender is subject to a jail sentence of up to one year, a $600 to $2,100 fine and a mandatory 90-day suspension of driving privileges. If the first-time DUI conviction involves a blood alcohol content of 0.15 or higher, the court orders the installation and maintenance of an IID.

A second-time offender is subject to jail time up to one year, a $1,100 to $5,100 fine, the revocation of driving privileges for a period of one year and an ignition interlock device requirement. There is mandatory minimum sentence of 5 days to serve in county or municipal jail or community service for not less than 30 days.

A third DUI conviction within five years of the previous conviction results in jail time up to one year, a $2,100 to $10,100 fine, the revocation of driving privileges for a period of three years and

an IID requirement. The mandatory minimum jail sentence for this offense is 60 days in the county or municipal jail; there is no option for community service once you reach this level.

A fourth and subsequent DUI conviction within five years of a previous conviction is a Class C felony. The offender serves up to ten years in jail, with a minimum of 10 days to be served in the county jail, pays a $4,100 to $10,100 fine, has driving privileges revoked for a period of five years and must meet an IID requirement.

In addition to the jail time, fines, suspension or revocation of driving privileges and ignition interlock device requirements, individuals convicted of DUI in Alabama are required to pay a $100 fee to the Impaired Drivers Trust Fund for each conviction." Source of quote:
http://www.lifesafer.com/ignition-interlock-alabama-laws/

Action Items:

- Investigate (by the AIDPC or a select panel) any issues regarding the full implementation of the IID laws to assure that any bottlenecks are removed and that the law can be fully implemented.
- Conduct a study of the current IID statute to determine if a wider scope of implementation is justified, and if so, implement that extension.

4.6.3 Supportive Programs

Programs under this category reinforce and complement the State's overall program to deter and prevent impaired driving. Examples include the following types of countermeasures:

- Graduated driver licensing (GDL) for novice drivers, especially those parts of the GDL that deal with impaired driving;
- Education programs that explain alcohol's effects on driving,
- The State's zero-tolerance laws for minors, and
- Efforts to prevent individuals from using a fraudulently obtained or altered driver's license.

Action Items:

- Evaluate all current supportive programs to determine those that are most effective. Evaluations may be of existing programs within the state or similar programs in other states.
- Move forward emphasizing those programs that show the greatest promise for success in Alabama.

4.7 Training

The various training activities described in this section will be conducted through cooperation between the Traffic Safety Resource Prosecutor (TSRP) and ALEA. The TSRP provides critical support to Alabama's prosecutors, law enforcement officers, judges and other traffic safety professionals by offering competency and expertise in the area of impaired driving. The continued support for the TSRP is an essential element of this plan. The functions of this office include providing ongoing technical assistance and legal research to prosecutors on a myriad of legal issues pertaining to impaired driving prosecution. In addition to providing support and supervision for

the training described in this section, the TSRP assists and/or leads prosecutions of impaired driving cases upon request. The TSRP also monitors legislative matters that impact impaired driving laws and communicates with other state agencies involved in impaired driving cases to promote uniform enforcement and prosecution of Alabama's impaired driving laws. These activities are further described on the following website maintained by the TSRP:

http://www.alabamaduiprosecution.com/

The following categories define the following sections:

- Law enforcement training,
- Interdisciplinary training, and
- Public education training.

4.7.1 Law Enforcement Training

4.7.1.1 Standardized Field Sobriety Tests (SFSTs)

The Standardized Field Sobriety Testing (SFST) training prepares police officers and other qualified persons to administer and interpret the results of the SFST battery. This training, under the auspices and direction of the International Association of Chiefs of Police (IACP) and the National Highway Traffic Safety Administration (NHTSA), has experienced remarkable success in detecting and apprehending intoxicated drivers since its inception in the 1980s.

As in any educational training program, an instruction manual is considered a "living document" that is subject to updates and changes based on advances in research technology and science. A thorough review is made of information by the Drug Evaluation Classification Program (DECP) Technical Advisory Panel (TAP) of the Highway Safety Committee of the IACP with contributions from many sources in health care science, toxicology, jurisprudence, and law enforcement. Based on this information, any appropriate revisions and modifications in background theory, facts, examination and decision-making methods are made to improve the quality of the instruction as well as the standardization of guidelines for the implementation of the SFST Training Curriculum. The reorganized manuals are then prepared and disseminated, both domestically and internationally.

It is the responsibility of the State SFST Coordinator to work with the training section of the Alabama Peace Officers Standards and Training Commission (APOST) to ensure that any curriculum changes are disseminated to the various police academies across the state. It will also be the responsibility of the State SFST Coordinator to monitor SFST instructor training and audit academies to ensure the standardization of the SFST Training Curriculum.

4.7.1.2 Advanced Roadside Impaired Driving Enforcement (ARIDE)

The Advanced Roadside Impaired Driving Enforcement (ARIDE) program was developed by the National Highway Traffic Safety Administration (NHTSA) with input from the International Association of Chiefs of Police (IACP) Technical Advisory Panel (TAP) and the Virginia Association of Chiefs of Police. ARIDE was created to address the gap in training between the Standardized Field Sobriety Testing (SFST) and the Drug Evaluation and Classification (DEC) Program.

The SFST program trains officers to identify and assess drivers suspected of being under the influence of alcohol, while the DEC Program provides more advanced training to evaluate suspected drug impairment. The SFST assessment is typically employed at roadside, while an officer trained as a drug recognition expert (DRE) through the DEC Program conducts a drug evaluation in a more controlled environment such as at a detention facility.

ARIDE is intended to bridge the gap between these two programs by providing officers with general knowledge related to drug impairment and by promoting the use of DREs in states that have the DEC Program. One of the more significant aspects of ARIDE is its review and required student demonstration of the SFST proficiency requirements. The ARIDE program also stresses the importance of securing the most appropriate biological sample in order to identify substances likely causing impairment.

ARIDE is a 16-hour training course that can be taught by a team made up by a lead instructor who is a DRE Instructor, a DRE who is also a SFST Instructor, and assisted by a SFST Instructor for the SFST Refresher portion of the training. The planned training will be conducted under the control and approval of the DEC Program state coordinator. NHTSA and IACP highly recommend that state-qualified and IACP-credentialed DRE instructors manage this course. This requires that they (1) hold currently valid certificates as DREs; (2) have completed the joint NHTSA and IACP DRE Instructor Training Course; and (3) have completed the required delivery of both classroom and certification training, under the supervision of credentialed DRE instructors. At minimum, a qualified DRE with instructor credentials in other fields of occupational competency (not necessarily a DRE instructor) can be utilized to present ARIDE materials if instructor resources are limited and cannot be obtained without undue hardship.

A qualified SFST instructor will generally instruct the SFST Refresher portion leading to the preparation and evaluation of participants during the SFST proficiency examination. In addition to their occupational competencies, all instructors must be qualified trainers. They need to understand, and be able to apply, fundamental principles of instruction. Perhaps most importantly, they need to be competent coaches since much of the classroom training is devoted to hands-on practice. The quality of coaching will have a major impact on the success of those practice sessions. Every effort will be made to assure that as many instructors as possible are graduates of the NHTSA IACP DRE Instructor Training Course.

Certain blocks of the instruction may enlist instructors with special credentials. For example, a physician would be well qualified to assist or teach session IV that covers medical aspects of impairment, and a prosecutor might be a good choice for session VIII that deals with legal issues. The training also promotes interaction with representatives from the state's prosecution community. Part of the course is intended to be taught by a local prosecutor or the state's traffic safety resource prosecutor (TSRP).

AIDPC members determined that there is a misconception in many courts and prosecutors that Horizontal Gaze Nystagmus (HGN) is not admissible. A concerted effort will be made in the ARIDE training to extend the reach (by students as well as trainers and administrators) to educate the courts and other relevant person to have experts available when needed, and to ensure that officers are administering all tests according to standards, thus assuring the admissibility of HGN tests. The ARIDE classes will contain no more than 48 students, and they will be conducted at the

Alabama Criminal Justice Training Center in Selma. The exact timing and other details of the courses will be resolved as they are scheduled.

4.7.1.3 Drug Recognition Expert (DRE) School

Alabama is one of 49 states and the District of Columbia to implement the Drug Evaluation and Classification Program (DECP). At the heart of this program is the Drug Recognition Expert (DRE). A DRE is a law enforcement officer trained in detecting and recognizing impairment caused by substances other than alcohol. The Los Angeles Police Department originated the program in the early 1970s when officers noticed that many of the individuals arrested for driving under the influence had very low or zero alcohol concentrations. The officers reasonably suspected that the arrestees were under the influence of drugs but lacked the knowledge and skills to support their suspicions. Working with medical doctors, research psychologists, and other medical professionals they developed a simple, standardized procedure for recognizing drug influence and impairment, which led to the first DRE program. In the early 1980s, the National Highway Traffic Safety Administration (NHTSA) took notice of the LAPD's DRE program. The two agencies collaborated to develop a standardized DRE protocol, which led to the DEC program. During the ensuing years, NHTSA and various other agencies and research groups examined the DEC program. Their studies demonstrated that a properly trained DRE could successfully identify drug impairment and accurately determine the category of drugs causing such impairment. Recent studies conducted by NHTSA have established the value of DRE programs.

The DRE comes into a case at the request of the arresting officer. A typical scenario: An officer initiates a traffic stop and subsequently conducts a DUI investigation. The officer makes a determination that the driver is impaired; however, there is either no evidence of alcohol consumption or a subsequent breath test result is not consistent with the level of impairment. At this point, the officer requests a DRE evaluation. The DRE follows a 12-step systematic and standardized process utilized by all DREs regardless of agency. The DRE uses a drug classification system based on the premise that each drug within a category produces similar signs and symptoms. It is a pattern of effects rather than a specific effect that is unique to the category.

Without proper training and adequate resources, the average law enforcement officer will find that convicting the drug-impaired driver is exceedingly more difficult than convicting the alcohol-impaired driver. The presence of DREs in Alabama will affect both the highway and the courtroom.

A continuation and expansion of this program will enable law enforcement officers to better detect, apprehend, assess, document, and subsequently help the prosecutor prove, in court, the defendant was under the influence of a drug while driving (or committing any other improper act, e.g., domestic violence and homicide). There are also community outreach programs in place that utilize certified DREs such as Drug Impairment Training for the Educational Professional (DITEP) in which DREs go into school systems and teach educators observable signs and effects of drug impairment.

AIDPC acknowledges the fact that many courts are not familiar with this program. Major efforts will be integrated into the training to focus on community outreach and informing judges, lawyers, and law enforcement officers on the structure of the DRE program and its benefits. The plan calls for a training selected police officers and other approved public safety officials as drug recognition experts (DREs) through a three-phase training process:

1. Drug Recognition Expert Pre-School (16 hours)
2. Drug Recognition Expert DRE School (56 hours)
3. Drug Recognition Expert Field Certification (Approximately 40 – 60 hours)

The training relies heavily on the Standardized Field Sobriety Tests (SFST's), which provide the foundation for the DEC Program. Once trained and certified, DREs become highly effective officers skilled in the detection and identification of persons impaired by alcohol and/or drugs. Because of the complexity and technical aspects of the DRE training, not all police officers may be suited for the training. Experience has shown that training a well-defined group of officers proficient in impaired driving enforcement works well and can be very effective.

The plan is to conduct at least two (2) DRE Schools annually choosing from graduates of an approved ARIDE program and will be limited to no more than 25 students in each class and will be conducted at regional locations throughout the state.

4.7.1.4 "Cops in Court" Trial Testimony Skills Course

Designed for law enforcement officers with a wide variety of trial testimony experience, this course includes discussion and instruction on all aspects of trial preparation and courtroom testimony in an impaired driving case. Experts in the fields of law enforcement and prosecution present the curriculum to law enforcement officers, allowing the participants to learn firsthand the challenges and difficulties in impaired driving cases. This course is designed to be taught in one day and includes a mock trial presentation, with optional direct and cross-examination exercises. Additional potential topic discussed throughout the Instructor Manual are used to expand the curriculum according to student needs and interests. Segments of this training include:

- Understanding the Importance of Courtroom Testimony,
- Report Writing,
- Courtroom Preparation,
- Direct Examination,
- Cross-Examination, and
- Mock Trial.

This course will be conducted every five years at the direction of the TSRP.

4.7.2 Interdisciplinary Training

4.7.2.1 Prosecuting the Drugged Driver: A Trial Advocacy Course

The *Prosecuting the Drugged Driver* course uses a curriculum developed by the cooperative efforts of NHTSA and the National Traffic Law Center. This course is designed to create a team-building approach between prosecutors and law enforcement officers to aid in the detection, apprehension, and prosecution of impaired drivers. Prosecutors and law enforcement officers participate in interactive training classes taught by a multidisciplinary faculty.

The course begins with an overview of the drug-impaired driving problem in the United States and the substantive areas of training that police officers receive to be certified as a drug recognition expert (DRE). Learning about drug categories, signs and symptoms of drug influence, the role of

the DRE in establishing impairment, and the role of toxicology in these cases will assist the prosecutor in developing methods for effectively and persuasively presenting this information in court. The course also addresses how to qualify the DRE as an expert witness in court and how to respond to common defense challenges.

Each participant gets the opportunity to prosecute a mock case including the opportunity to conduct a direct examination of a DRE and a toxicologist. Each phase of the trial is videotaped. Participants receive critiques of the live and videotaped presentations from experienced faculty. Throughout every stage of the course, participants receive direct feedback on their courtroom skills with assistance in how to compose arguments that are more persuasive and deliver presentations that are more dynamic.

The plan calls for this course to be conducted at the direction of the Traffic Safety Resource Prosecutor (TSRP) every five years. The class would be made up of both certified DREs and prosecutors.

4.7.2.2 "Prosecuting the Impaired Driver: DUI Cases" Trial Advocacy Course

This course is designed to create a team-building approach between prosecutors and law enforcement officers to aid in the detection, apprehension, and prosecution of impaired drivers. Prosecutors and law enforcement officers participate in interactive training classes taught by a multidisciplinary faculty focusing on building skills in trying an alcohol-related impaired driving case. The course includes a discussion of the role of the prosecutor in both alcohol-impaired driving cases and community safety, and it covers standardized field sobriety tests, the pharmacology of alcohol and chemical testing. Each participant prosecutes a "case," and is critiqued on his/her live performance and given an opportunity to view him/herself on videotape. Throughout every stage of the course, participants receive direct feedback on their courtroom skills with assistance in how to compose arguments that are more persuasive and deliver presentations that are more dynamic. The plan is for this course to be conducted every five years at the direction of the TSRP.

4.7.2.3 "Lethal Weapon: DUI Homicide" Advanced Trial Advocacy Course

Vehicular fatality cases are complex, requiring prosecutors to have a working knowledge of crash reconstruction and toxicology, as well as skills to work with expert witnesses and victims. The Lethal Weapon course is focused on assisting prosecutors to develop their knowledge and skills in trying these cases. A substantial portion of this four and a half day course involves presentations on crash reconstruction, technical investigation at the scene, and toxicology. The course also provides an advanced trial advocacy component in which participants receive a case file and participate in mock trial sessions where each of them conducts every stage of the trial. A unique feature of Lethal Weapon is the opportunity for prosecutors to conduct direct and cross-examinations of actual reconstructionists and toxicologists. Specifically, this course teaches prosecutors to:

- Learn how a crash reconstructionist determines speed from skid marks and vehicle damage
- Determine how vehicle and occupant kinematics assist in cases involving driving identification
- Understand the prosecutor's role at the scene of a traffic fatality
- Calculate BAC by learning alcohol "burn-out" rates and the Widmark formula

- Improve trial advocacy skills, particularly conducting direct and cross-examination of expert witnesses

The primary participants in this training are prosecutors with a preferred experience level of four years of trying impaired driving cases. It is also of interest to prosecutors who currently handle vehicular fatality cases, and to experienced prosecutors who want to increase their understanding of the technical evidence required to prove guilt in cases involving vehicular fatalities, and at the same time improve their trial advocacy skills. The plan is for this course to be conducted every five years at the direction of the TSRP.

4.7.2.4"Protecting Lives/Saving Futures" Interactive Participant-Centered Course

This model curriculum is designed to jointly train police and prosecutors in the detection, apprehension and prosecution of alcohol and drug impaired drivers. This training is unique in two ways:

1. Experts in the fields of toxicology, optometry, prosecution and law enforcement designed and developed the curriculum; and
2. Law enforcement officers and prosecutors are trained together by the experts in their respective disciplines. The training is the first of its kind to be developed nationally and is adaptable to all local jurisdictions.

The joint-training approach allows all the involved disciplines to learn from each other inside a classroom, as opposed to the ad hoc communications outside the courtroom shortly before a trial. Each profession learns firsthand the challenges and difficulties the others face in impaired driving cases. This allows for greater understanding on the part of police officers as to what evidence prosecutors must have in an impaired driving case. Conversely, this training gives prosecutors the opportunity to learn to ask better questions in pretrial preparation, as well as in the courtroom. Both prosecutors and law enforcement officers learn firsthand from toxicologists about breath, blood and urine tests. A nationally recognized optometrist instructs police and prosecutors about the effects of alcohol and other drugs on an individual's eyes, specifically, HGN. In turn, optometrists and toxicologists gain a greater appreciation for the challenges officers face at the scene in gathering forensic evidence and the legal requirements prosecutors must meet in presenting evidence in court. This exchange of information is beneficial to all involved. Some of the key subjects of the training include:

- Initial detection and apprehension of an impaired driver;
- Standardized Field Sobriety Tests (SFSTs) and the effective documentation of observations of suspects;
- The medical background of the Horizontal Gaze Nystagmus (HGN) test, including the correlation of HGN to alcohol and other drugs;
- The scientific background of the breath/blood/urine alcohol and drug tests, and advantages and limitations of forensic testing;
- Identification of impairment due to alcohol as well as other drugs; and
- The effective presentation of evidence in court through trial preparation exercises.

AIDPC members determined that there is a misconception in many courts and prosecutors that HGN is not admissible. A concerted effort will be made in the conduct of this course to extend its reach (by students as well as trainers and administrators) to educate the courts and other relevant person to have experts available when needed, and to ensure that officers are administering all tests

according to standards, thus assuring the admissibility of HGN tests. The plan is for this course to be conducted every five years at the direction of the TSRP.

4.7.2.5 TSRP Regional Training

This course is designed each summer to address current DUI trends in Alabama. Prosecutors and law enforcement officers participate in a joint session in the morning and separate breakout sessions in the afternoon. Speakers from around the state are utilized to enhance each participant's specialization in investigating and prosecuting DUIs. The course is held throughout the state of Alabama four to five times a year.

4.7.3 Public Education Training

Drug Impairment Training for Educational Professionals (DITEP)

Generally, instructors for this course are DREs who are also SFST Instructors, DRE instructors, or DREs with other verifiable instructor training. At a minimum, the instructor must have attended the Drug Impairment Training for Educational Professionals (DITEP) orientation briefing.

The planned DITEP training lasts for two days. The first day is for all who are interested in this type of training. Day one works well for high-level administrators since it focuses on general drug impairment and policies. Day two is best suited for those who will actually conduct the hands-on evaluations, e.g., school nurses and school resource officers.

Day one of the course program outline includes the following: introduction and overview; drugs in society; policy, procedures, and rules; overview of alcohol drug identification, categories and effects; contacting the parent(s); and other reference materials. Day two incudes: the use of eye examinations; vital signs; divided attention tests; poly drugs; assessment process; and conclusions and applications.

The plans calls for a DITEP course to be conducted annually utilizing the DRE instructors from Alabama. This course would be conducted at the direction of the DRE Coordinator.

5.0 Communication

It is recognized that, in addition to the focused Public Information and Education (PI&E) efforts, every project within the impaired driving program could have some type of a communications and public relations component associated with it. It is important that these be coordinated, and for this reason, they will be collectively addressed within this planning document. The goal of the management of this comprehensive PI&E effort will be to assure that there is coordination with regard to all of the efforts being made. Thus, a comprehensive communications program will be developed that supports priority policies and program efforts and is directed at impaired driving; underage drinking; and reducing the risk of injury, death, and resulting medical, legal, social, and other costs. Therefore, while this category will overlap with efforts made in several other categories where public relations or publicity is part of the countermeasure, the purpose of breaking this out separately is to maintain coordination among these various efforts. Thus, this section will heavily reference many of the other sections of this plan.

The plan calls for a comprehensive communication program that supports priority policies and program efforts. Communication programs and material will be developed to be culturally relevant and multilingual as appropriate. These will include:

- Development and implementation of a year-round communication plan that includes
    - policy and program priorities;
    - comprehensive research;
    - behavioral and communications objectives;
    - core message platforms;
    - campaigns that are audience-relevant and linguistically appropriate;
    - key alliances with private and public partners;
    - specific activities for advertising, media relations, and public affairs;
    - special emphasis periods during high-risk times; and
    - evaluation and survey tools;
- Development and employment of a communications strategy principally focused on increasing knowledge and awareness, changing attitudes, and influencing and sustaining appropriate behavior;
- The use of traffic-related data and market research to identify specific audience segments to maximize resources and effectiveness; and
- The adoption of a comprehensive marketing approach that coordinates elements like media relations, advertising, and public affairs/advocacy.

The remainder of this chapter will be organized according to the agencies that will be involved in the communications efforts.

5.1 Alabama Department of Economic and Community Affairs (ADECA)

5.1.1 General Public Service Announcements

ADECA houses a Communications and External Affairs Division whose main focus is to share and promote activities and campaigns in which the department is involved. It is the principal contact for the news media, and the division prepares and distributes news releases about grants and other ADECA activities. This Division also develops the department's Internet web site.

ADECA has also worked with a media production group to develop Public Service Announcements (PSAs) that demonstrates creativity that has the maximum impact on Alabama drivers. Both paid and earned media support these PSAs. The following illustrate a pair of videos that were designed to be used together (although not necessarily at the same times).

http://vimeo.com/aumpg/goodbillylastcall

The idea is to demonstrate the contrast in making the right decision with that of making the wrong decision. The gap between seeing the two is anticipated to increase the effectiveness of the total package.

Action Items:

- Continue to use ADECA social media platforms and website to promote safe driving messages and awareness of Impaired Driving campaigns;
- Continue to support the year-round PSA efforts.

*5.1.2 Safe Home Alabama (**http://www.safehomealabama.gov/**)*

The SafeHomeAlabama.com traffic safety information portal is dedicated to providing comprehensive information both to the traffic safety community and to the general public, with the primary goal of reducing the number of people killed and the overall suffering and economic loss caused by traffic collisions. Being comprehensive, it has the objective of providing a communication conduit among all of those involved in traffic safety so that these efforts can be better coordinated. While it centers on efforts within Alabama, much of the information that is available has universal applicability.

The tabs on the top of the screen organize this site. Each tab contains a drop-down list of page titles that point toward specific subjects within the overall category. The following gives a brief overview of each of the tabs:

- SHA Home – recommended for those new to the site, this tab contains a drop-down of overall information about traffic safety in general and the site itself. It points to several data sources on both this site and others and gives indexes to all the pages on this site.
- Service Groups – these are private advocacy groups and charitable institutions that have special interests in traffic safety.
- Government Agencies
    - State Agencies – this is a long list of the various governmental agencies that are involved in traffic safety in Alabama, as well as some of the multi-agency programs. In addition, there is a link to traffic safety web sites in all of the other states.
    - Federal Agencies – NHTSA, FHWA, FMCSA, and USDOT Volpe Center.
- University – university-based traffic safety efforts within Alabama.
- Safety Topics – items under this tab generally refer to information and training materials generally used in public information and education efforts. The safety topic of particular concern for Impaired Driving is under the Driver Issues tab within this high-level topical tab.
- Data/Analysis – This provides information on and access to Alabama and FARS crash data (e.g., CARE and ADANCE) as well as a number of efforts that are largely data intensive, such as Impaired Driving (ID), Distracted Driving (DD), Road Improvements, the SHSP

Document and Work Zone efforts. It also contains information about the Alabama electronic crash report (eCrash) and the electronic citation issuance system (eCite).

Updates to SafeHomeAlabama.gov average at least two per workday, with the entire traffic safety community of Alabama invited to submit updates. All additions or modifications are posted by the Twitter SafeHomeAlabama account and can easily be located by #SafeHomeAL and seen by a more general audience on #TrafficSafety. Tweets are sent out as soon as updates are made informing interested parties of the most recent updates and providing them with direct links to their topics of interest.

Action Items:

- Continue to support the ongoing maintenance of the SHA web site with current topics.
- Bring the current web site up to date with a new version that assists users in finding what they are looking for on the site.

5.2 Alabama Law Enforcement Agency (ALEA)

The Alabama Law Enforcement Agency, Public Information/Education Unit is involved in many ongoing communications activities. The following provides some examples of the current efforts:

- Sends out press releases and often holds press conferences prior to major travel holiday periods to promote highway safety and highlight our enforcement efforts.
- Performs enforcement efforts that target the driver behaviors that contribute to crashes with injuries and fatalities and provides PI&E and PSAs in conjunction with these enforcement efforts.
- Partners in these communication and enforcement efforts with other traffic safety agencies in the state, such as ALDOT, ADECA and local law enforcement agencies.
- Participates in NHTSA campaigns such as Click It or Ticket, Drive Sober or Get Pulled Over, etc.
- Participates in the ADECA funded advertising campaigns by appearing in TV commercials and billboards, for Alabama as well as holding press conferences (PI/E Unit).
- Involves their Public Information Officers (PIOs) in:
    - Conducting safety programs daily to promote safe driving habits.
    - Participating in traffic safety campaigns alongside private companies. The latest push has been Texting while Driving. Recently, we participated in campaigns with AT&T and TOYOTA to promote the dangers of distracted driving.
    - Being interviewed by local media to discuss/promote ID reduction efforts.
- Involves the PI/E Unit in:
    - Participating in the ADECA funded campaigns, by appearing in TV commercials and billboards, for Alabama as well as holding press conferences.
    - Working with FMCSA on PSAs promoting commercial vehicle safety and changes/additions to the Federal Commercial Vehicle rules & regulations.
    - Working with ALEA Driver License Division to educate the public about changes/additions to the driver license laws and issues.
    - Designing and producing “rack cards” posters and other educational type material to educate the public about various safety topics, including impaired driving.

While some of these efforts might focus on areas other than impaired driving, every effort is made to leverage all of these activities to focus on what has been established as the major killers on our highways today, and one of the highest-ranking factor is that of impaired driving.

Action Items:

- Continue current communication efforts with strong coordination with ADECA, ALDOT and local agencies.
- Continue to leverage current activities to deal with impaired driving; an example is the addition of an impaired driving cause to the weekly news releases being sponsored in part by ALDOT to include the number caused by impaired driving. Currently only the number of fatalities that were not properly restrained is being publicized.
- Evaluate current PSA and PI&E efforts to establish strengths and weaknesses and move forward accordingly.

5.3 ALDOT Highway Safety Marketing Outreach Program

This is an ongoing effort by the Alabama Department of Transportation (ALDOT) that originated with the SHSP effort in 2011 and 2012. It involves participants from the following organizations:

- Alabama Department of Transportation
- Alabama Law Enforcement Agency
- Alabama Department of Economic and Community Affairs
- Federal Highway Administration
- National Highway Traffic Safety Administration
- Alabama Department of Public Health
- Alabama Department of Education
- University of Alabama Center for Advanced Public Safety
- Operation Lifesaver
- Mothers Against Drunk Driving (MADD)
- All other traffic safety advocate groups that wish to participate.

This program consists of monthly stakeholder meetings, an active research-based highway safety marketing campaign and an expanding program of community outreach. This program, under the branding umbrella of "Drive Safe Alabama," focuses on messaging and activities related to seat belt use, speeding, distracted driving, impaired driving, work zone safety, railroad crossing safety, bicycle and pedestrian safety, and Alabama's Move Over Law.

Action Items:

- Involve the ALDOT-hosted Outreach Team in all ID planning activities by establishing a formal liaison between the Outreach Team and the AIDPC.
- Enlist the support of the Outreach Team in assuring that the ID Plan is integrated into the forthcoming update to the SHSP as an appendix.

5.4 Traffic Safety Resource Prosecutor (TSRP)

The Office of Prosecution Services, which is a state agency, employs the Traffic Safety Resource Prosecutor (TSRP). A website (http://alabamaduiprosecution.com) maintained by the TSRP provides general ongoing information on courses and addressing the many issues that prosecutors of ID cases face. Prosecutors are tasked with making a number of decisions in every case; chief among them involves determining which witnesses to call in order to lay the proper foundation for the admission of evidence. For example, in impaired driving cases involving a blood draw and a subsequent analysis of the blood, it is essential to establish that a qualified person drew the blood. Beyond that, the officer's testimony should be sufficient to establish the chain of custody of the blood evidence from the moment of the blood draw to the point where the officer places it in the evidence locker at the police station or delivers it to the Alabama Department of Forensic Sciences via U.S. mail or hand delivery. In addition to other information provided, the TSRP maintains a Facebook & Twitter account designed to improve the ability of Alabama prosecutors and law enforcement to effectively communicate with the TSRP.

The TSRP also maintains liaison with the Alabama Drug Abuse Task Force (ADATF), which is a statutorily created multi-agency and private sector entity (Legislative Act 2012-237). Its charter is to comprehensively study the drug abuse problem and to report the findings and recommendations to the Alabama Legislature and to the people of Alabama.

Action Items:

- Maintain support for the TSRP and promote and enlarge upon the communication efforts that are being made through the website and social media.
- Provide additional publicity to the ADATF and their reports so that all members of the AIDPC and the traffic safety community in general is aware of the ongoing findings.

5.5 Alabama Department of Public Health

The Alabama Department of Public Health, Injury Prevention Branch is involved in several ongoing communications activities. The following provides some examples of the current efforts:

- The Injury Prevention Branch website (http://www.adph.org/injuryprevention/) includes links to more detailed information on Motor Vehicle, Prescription Drug, and other injury topics and is periodically updated with new reports, press releases, infographics, etc. from CDC and other partners.
- The Alabama Child Death Review System (ACDRS) reviews all non-medical child (<18yo) deaths in Alabama and does in-depth local multidisciplinary reviews of several categories, including vehicular deaths. ACDRS publishes its findings, trend analysis, and prevention recommendations in annual reports. This effort also has developed and maintains a website (http://www.adph.org/cdr/) with all of this information and more, as well as links to state and national partners.
- ACDRS maintains a separate website (http://www.adph.org/teendriving/) and original publications, media ads, and social media content as part of a multifaceted Teen Driving Safety Campaign that focuses, along with other risk topics, on the dangers of impaired driving. In its first year, this campaign was individually singled out for recognition by the U.S. Secretary of Transportation.

- The Alabama Child Passenger Restraint Program (CPRP) disseminates information, conducts Car Seat Clinics, and distributes literature in support of its efforts.
- The Alabama Violent Death Reporting System (AVDRS) is a program that was scheduled to begin in FY2017 under a new National Violent Death Reporting System grant from CDC. AVDRS will review and analyze violent deaths in Alabama across all ages and its involvement in quantifying and preventing deaths due to impaired driving at all ages will be similar to what ACDRS (above) does for children less than 18 years old.
- ADPH and the Injury Prevention Branch also frequently collaborate in communication and outreach efforts with other traffic safety partners in the state, such as ALDOT, ADPS, ADECA, and state and local law enforcement agencies.

Many of these efforts cover multiple areas of fatality and injury risks but, due to the known prevalence, high risk, and compounding effect of impaired driving, it remains a primary focus in reviews, recommendations, and prevention strategies.

Action Items:

- Continue current/ongoing education, outreach, and prevention campaigns that address risks and trends of impaired driving.
- Use ACDRS/AVDRS findings to inform and support all appropriate impaired driving prevention efforts.
- Continue current communication efforts with strong coordination with ALDOT, ALEA, ADECA, and other partners.

6.0 Substance Abuse: Screen, Assessment, Treatment and Rehabilitation

This plan recognizes that impaired driving frequently is a symptom of a larger alcohol or other drug problem. Many first-time impaired driving offenders and most repeat offenders have alcohol or other drug abuse or dependency problems. Without appropriate assessment and treatment, these offenders are more likely to repeat their crimes. In addition, alcohol use leads to other injuries and health care problems. Frequent visits to emergency departments present an opportunity for intervention, which might prevent future arrests or motor vehicle crashes, and result in decreased alcohol consumption and improved health.

This part of the plan has the goal of encouraging employers, educators, and health care professionals to implement systems to identify, intervene, and refer individuals for appropriate substance abuse treatment. This effort will be organized according to the following components:

- Screening and assessment
    - Within the criminal justice system
    - Within medical and health care settings
- Treatment and Rehabilitation
- Monitoring of Identified Past Impaired Drivers.

6.1 Screening and Assessment

This plan calls for employers, educators, and health care professionals to have a systematic program to screen and/or assess drivers to determine whether they have an alcohol (or other drug) abuse problem and, as appropriate, briefly intervene or refer them for appropriate treatment. A marketing campaign will be developed for each of these to promote year-round screening and brief intervention to medical, health, and business partners and to other pertinent audiences. Special emphasis on screening and assessment will be given to that occurring within the criminal justice system and within medical and health care settings.

6.1.1 Criminal Justice System

The plan calls for the development of a system whereby people convicted of an impaired driving offense will be assessed to determine whether they have an alcohol/drug abuse problem, and to effectively determine what treatment they need. One objective is to make this assessment required by law and completed prior to sentencing or reaching a plea agreement.

Action Items:

- See Sections 4.5.1 (Court Referral Officer Program)

6.1.2 Medical and Health Care Settings

To the extent possible, the medical and health care industry will be involved in screening. The plan calls for professionals within medical or health care settings to screen any adults or adolescents who they see to determine whether they may have an alcohol or drug abuse problem. If the person is found to have an alcohol/drug abuse or dependence problem, a brief intervention should

be conducted and, if appropriate, the person should be referred for assessment and further treatment. While this approach is the ideal, it is recognized that issues of privacy and medical record confidentiality may prevent this ideal from being reached.

The Alabama Department of Public Health (ADPH) has established the Prescription Drug Monitoring Program (PDMP) to promote the public health and welfare by detecting diversion, abuse, and misuse of prescription medications classified as controlled substances under the Alabama Uniform Controlled Substances Act. PDMP monitors the distribution of prescription medications classified as controlled substances under the Alabama Uniform Controlled Substances Act. Under the Code of Alabama, 1975, § 20-2-210, which has enabled ADPH to establish, create, and maintain a controlled substances prescription database program. This law requires anyone who dispenses Class II, III, IV, V controlled substances to report the dispensing of these drugs to the database. PDMP goals include:

- To provide a source of information for practitioners and pharmacists regarding the controlled substance usage of a patient;
- To reduce prescription drug abuse by providers and patients;
- To reduce time and effort to explore leads and assess the merits of possible drug diversion cases; and
- To educate physicians, pharmacists, policy makers, law enforcement, and the public regarding the diversion, abuse, and misuse of controlled substances.

Action Items:

- Establish liaison between the AIDPC and the PDMP efforts in order to improve awareness all involved.
- If warranted augment the AIDPC with an appropriate representative from ADPH.

6.2 Treatment and Rehabilitation

Screening is of no value unless it is followed up by effective treatment and rehabilitation. The plan calls for a coordinated effort among health care professionals, public health departments, and third-party providers to establish and maintain treatment programs for persons referred through the criminal justice system, medical or health care professionals, and other entities. The goal is to ensure that offenders with alcohol or other drug dependencies begin appropriate treatment and complete recommended treatment, if appropriate as a condition for their licenses to be reinstated.

Action Items:

- See Section 4.5.1 (Court Referral Officer Program).

6.3 Monitoring of Identified Past Impaired Drivers

The State established a program called the Model Impaired Driver Access and System (MIDAS) well over a decade ago to facilitate close monitoring of identified impaired drivers. Continued controlled input and access to, and maintenance/enhancements of, this impaired driver tracking system, with appropriate security protections, is essential. Monitoring functions are currently housed in the Administrative Office of the Courts (AOC), and it is recognized that this system and

the information generated by it needs to be made more readily available to driver licensing, judicial, corrections, and treatment agencies. MIDAS can determine the status of all offenders in meeting their sentencing requirements for sanctions and/or rehabilitation and it has the capability to alert courts of noncompliance. Additional efforts may be required to assure that monitoring requirements are established by law to assure compliance with sanctions by offenders and responsiveness of the judicial system so that noncompliant offenders are handled swiftly either judicially or administratively. It is critical that local drug courts also use MIDAS to monitor ID offenders.

Action Items:

- Maintain the Court Referral Officer (CRO) Program as described in Section 4.5.1.
- Enhance and modernize MIDAS to take advantage of the many advances in technology that have occurred since its development.

7.0 Program Evaluation and Data Collection

The State currently has easy access through the Critical Analysis Reporting Environment (CARE) to reliable data sources (e.g., crash reports and citations) that are being analyzed for problem identification and program planning. Several different types of evaluations are being performed to effectively measure progress, to determine program effectiveness, to plan and implement new program strategies, and to ensure that resources are allocated appropriately. CARE has been set up to process FARS and several other data sources. If it is seen to be essential to problem identification or evaluation, it will be extended to process other available data sources (e.g., Census or CODES) to fully support the ID program and planning efforts. A statewide Traffic Records Coordinating Committee (TRCC) has been established to represent the interests of all public and private sector stakeholders and the wide range of disciplines that need the information to guide the development and the use of records system for all phases of traffic safety. CARE is used on a daily basis to satisfy requests from the wide variety of interests in the traffic safety community.

The MIDAS system discussed above is maintained by AOC to: (1) identify impaired drivers; (2) maintain a complete driving history of impaired drivers; (3) receive timely and accurate arrest and conviction data from law enforcement agencies and the courts; and (4) provide timely and accurate driver history records to law enforcement and the courts. The plan calls for MIDAS data to be enhanced so that it can be subjected to further analysis by CARE (see Section 6.3).

This section will continue with discussions of the problem identification and evaluation current activities and future plans.

7.1 Problem Identification Process

Table 7.1 provides the context for the problem identification results summarized in this section. This table is sorted so that the crash type category with the highest number of fatal crashes (fatalities in the case of occupant restraints) is listed first, descending to the crash type category with the lowest number of fatal crashes listed last.

The categories given in Table 7.1 are not mutually exclusive (e.g., you could have unrestrained passengers in an alcohol/drug crash that involved speeding). However, they still tend to demonstrate the relative criticality of each of the particular categories. Clearly impaired driving is one of the most critical factors in fatality causation. For this reason, the State has put considerable emphasis on impaired driving countermeasures, and extensive analyses (exemplified by Appendixes A and B) have been performed in an effort to determine the best approaches to combatting this problem.

Table 7.1: Crash Data Organized by Top Fatality Causes – CY2018

Crash Type (Causal Driver)	Fatal Number	Fatal %	Injuries	Injury %	PDO No.	PDO %	Total
1. Seat Belt Restraint Fault*	372	3.67%	4,073	40.14%	5,703	56.20%	10,148
2. Speed Involved	199	1.94%	3,259	31.85%	6,774	66.20%	10,232
3. ID/DUI All Substances	169	3.05%	2,135	38.59%	3,228	58.35%	5,532
4. Hit Obstacle on Roadside	124	1.87%	2,126	32.14%	4,365	65.99%	6,615
5. Pedestrian, Bicycle, School Bus	117	7.04%	939	56.53%	605	36.42%	1,661
6. Fail to Yield or "Ran …" (All)	114	0.37%	7,676	24.92%	23,010	74.71%	30,800
7. Mature (65 or Older) Causal	112	0.75%	3,249	21.76%	11,567	77.49%	14,928
8. Pedestrian Involved	106	13.97%	621	81.82%	32	4.22%	759
9. License Deficiency Causal Driver	103	1.59%	2,018	31.22%	4,342	67.18%	6,463
10. Wrong Way Items	99	2.10%	1042	22.06%	3,582	75.84%	4,723
11. Youth (16-20) Causal Driver	86	0.37%	5,110	21.91%	18,129	77.72%	23,325
12. Motorcycle Involved	76	4.93%	1,065	69.02%	402	26.05%	1,543
13. Aggressive Operation	70	2.44%	856	29.89%	1,938	67.67%	2,864
14. Distracted Driving	43	0.29%	3208	21.93%	11,380	77.78%	14,631
15. Drowsy Driving	38	1.05%	1383	38.04%	2,215	60.92%	3,636
16. Large Truck Involved	36	0.52%	1,432	20.49%	5521	79.00%	6,989
17. Utility Pole	29	1.15%	877	34.90%	1,607	63.95%	2,513
18. Workzone Related	27	0.72%	770	20.50%	2,959	78.78%	3,756
19. Vehicle Defects – All	12	0.36%	690	20.70%	2,631	78.94%	3,333
20. Vision Obscured	10	0.84%	320	26.87%	861	72.29%	1,191
21. Bicycle	9	3.53%	206	80.78%	40	15.69%	255
22. Railroad Trains	4	7.69%	23	44.23%	25	48.08%	52
23. Child Restraint Fault*	4	0.84%	207	43.49%	265	55.67%	476
24. Roadway Defects – All	3	2.34%	28	21.88%	97	75.78%	128
25. School Bus Involved	2	0.31%	112	17.31%	533	82.38%	647

* All categories list the number of crashes except for the “Restraint Deficient” and “Child Restraint Deficient” categories. The restraint categories cannot accurately be measured by number of crashes so they list number of unrestrained persons for each severity classification.

** Grants Management Solution Suite

As discussed above, there is also a very strong argument that impaired driving is under-reported on the crash reports. Even in the category of "officers' opinion," which theoretically does not have to be proven in a court of law, many law enforcement officers have indicated their reluctance to indicate this unless they can prove it in court. A comparison of the average Alabama impaired driving fatality estimates from the 2016-2018 crash reports against the FARS estimate, which is generated based on other dependent variables provided by the State, Alabama had listed only about 77.5% of the fatalities estimated by FARS for the most recent three years (average of 2016-2018) for which FARS and Alabama data are available. Using this as a scaling factor, the 169 fatal crash number in the table above would be adjusted up to an estimate of 218 fatal crashes.

Given that reducing impaired driving crashes is so important to fatality and injury reduction in general, the next step in the problem identification process is to determine the "who, what, where, when and why" of crashes involving impaired drivers, and thus to determine the best approaches for countermeasure implementation (i.e., the "how"). This starts by determining those types of crashes that are going to be targeted for impaired driver countermeasure implementation.

For the data-driven enforcement program, specific locations were identified where there were concentrations of crashes involving impaired drivers. Once the hotspots were defined and the locations were found using the Critical Analysis Reporting Environment (CARE) software, the Community Traffic Safety Program (CTSP/LEL) Coordinators from across the state were given information on the hotspot locations for the state as a whole. They were also provided detailed hotspot reports specific to their region to assist them in their focused efforts. Using the reports and maps developed for each region, the CTSP/LEL Coordinators will further develop their plans, including the time schedule and work assignments, for their region that focuses on the hotspot locations. The goals set on a regional basis will be in line with the goals and strategies laid out statewide. More details of these processes are given in Section and Appendixes A and B.

Action Items:

- Continue to support a data-driven evidence-based approach to all countermeasures to which analytical improvement might apply (e.g., locations, PI&E/PSA targeting, etc.).
- Evaluate the processes being used to identify hot spots and other key indicators for decision-making and determine of the problem identification process itself might be improved.
- Continue to improve both the process and the results of the process recognizing value of the Deming approach of "continuous improvement forever."

7.2 Evaluation Process

Evaluations generally fall into two categories: administrative and effectiveness. *Administrative evaluations* determine if what was planned in a given project was actually performed, independent of what effects it might have had. These types of evaluations will be part of the reporting process that is required of all projects funded through ADECA, with special emphasis upon meeting all of the NHTSA requirements in this regard.

Effectiveness evaluations strive to determine the crash or severity reductions that result from any given countermeasure project. The plan calls for the use of CARE to provide effectiveness evaluations on as many of the countermeasures given in this plan as resources will allow. These will be performed on a prioritized basis depending upon the resources consumed and the criticality of

the countermeasure project. CARE has the ability to get down to specific locations on a before and after basis and compare test areas against control areas. However, it must be recognized that to perform a scientific evaluation on many of the proposed projects would cost as much (if not more in some cases) as the projects themselves. Where NHTSA and other federal agencies have supported evaluations in the past, these studies will not be repeated if it is seen that the results are transferable to the State.

In those cases where evaluations are warranted, CARE will be used to hone in on specific subsets of the crash or citation records in order to assure that the evaluations are as precise as possible.

Action Items:

- Define those areas that are most critical to the decision-making process for which analytical studies will be cost-beneficial.
- Provide support for those evaluation efforts determined to be most critical.

APPENDIXES

This document contains the following appendixes:

Appendix A. Specific Location Problem Identification Results

Appendix B. General Problem Identification Results

Appendix C. State Drug Courts

Appendix A. Specific Location Problem Identification Results

This appendix demonstrates the data-driven evidenced-based approach that the State is taking to addressing its Impaired Driving problems. It consists of the following:

- Table of Impaired Driving hotspots. This shows how this distribution has changed over the years since FY2009 (criteria for hotspots remaining constant).
- Top 11 Interstate hotspots.
  - Distribution by region
  - Listing of location
- Top 18 State/Federal route hotspots.
  - Distribution by region
  - Listing of location
- Top 291 intersection locations
  - Distribution by region
  - Listing of location
- Top 30 non-mile posted segment locations
  - Distribution by region
  - Listing of location

In the following table the hotspots for a given fiscal year's selective enforcement is based on the most recent closed-out data that is available the previous complete calendar years; as an example, FY2020 was estimated based on CY2016-2018 data.

Number of Impaired Driving Hotspots for Three-Year Periods

Fiscal Year	Calendar Year Data Used	Impaired Driving Hotspots
2009	2005-2007	191
2010	2006-2008	190
2011	2007-2009	194
2012	2008-2010	143
2013	2009-2011	144
2014	2010-2012	179
2015	2011-2013	198
2016	2012-2014	176
2017	2013-2015	166
2018	2014-2016	160
2019	2015-2017	350

FY2020 Top 11 Mileposted Interstate Locations (5 miles in length) in Alabama with 8 or More Impaired Driving Related Crashes Resulting in Injury or Fatality

Rank	County	City	Route	Beg MP	End MP	Total Crashes	Fatal Crashes	Injury Crashes	S/CRS	C/MVM	MVM	ADT	Agency ORI
1	Madison	Huntsville	I-565	11	16	8	1	7	20	0.01	669.93	73417	Huntsville PD
2	Mobile	Mobile	I-65	5.5	10.5	12	1	11	19.17	0.02	649.65	71194	Mobile PD
3	Jefferson	Birmingham	I-59	116.3	121.3	9	0	9	17.78	0.01	698.84	76585	Birmingham PD
4	Jefferson	Birmingham	I-59	126.5	131.5	11	0	11	16.36	0.01	1161.98	127340	Birmingham PD
5	Jefferson	Homewood	I-65	252	257	10	0	10	16	0.01	1090.61	119519	Homewood PD
6	Mobile	Mobile	I-65	0.2	5.2	19	0	19	15.79	0.02	804.08	88118	Mobile PD
7	Jefferson	Birmingham	I-59	121.5	126.5	21	1	20	15.24	0.02	1194.59	130914	Birmingham PD
8	Shelby	Alabaster	I-65	237	242	8	0	8	13.75	0.01	650.87	71328	Alabaster PD
9	Montgomery	Montgomery	I-85	1.2	6.2	14	0	14	12.86	0.01	933.61	102313	Montgomery PD
10	Madison	Huntsville	I-565	16	21	8	0	8	12.5	0.01	598.44	65582	Huntsville PD
11	Jefferson	Birmingham	I-65	258	263	14	0	14	12.14	0.01	1104.58	121050	Birmingham PD

FY2020 Top 18 Mileposted State and Federal Route Locations (5 Miles in Length) in Alabama with 8 or More Impaired Driving Related Crashes Resulting in Injury or Fatality

Rank	County	City	Route	Beg MP	End MP	Total Crashes	Fatal Crashes	Injury Crashes	S/CRS	C/MVM	MVM	ADT	Agency ORI
1	Russell	Rural Russell	S-8	210.6	215.6	8	0	8	21.25	0.04	209.67	22978	Phenix City PD
2	Russell	Phenix City	S-1	114.2	119.2	8	0	8	20	0.03	238.97	26189	Phenix City PD
3	Shelby	Rural Shelby	S-38	9.4	14.4	8	0	8	20	0.02	370.09	40558	ALEA - Birmingham Post
4	Russell	Phenix City	S-1	109.2	114.2	10	0	10	19	0.04	279.57	30638	Phenix City PD
5	Marshall	Boaz	S-1	278	283	8	0	8	18.75	0.04	210.29	23045	Boaz PD
6	Morgan	Decatur	S-67	38	43	8	0	8	17.5	0.03	267.44	29308	Decatur PD
7	Tuscaloosa	Tuscaloosa	S-13	194.4	199.4	8	0	8	17.5	0.02	421.96	46242	Tuscaloosa PD
8	Tuscaloosa	Northport	S-6	43.9	48.9	15	0	15	16.67	0.05	316.16	34648	Northport PD
9	Houston	Dothan	S-210	7	12	12	0	12	16.67	0.05	226.68	24842	Dothan PD
10	Morgan	Decatur	S-3	354.2	359.2	8	0	8	16.25	0.03	276.2	30268	Decatur PD
11	Houston	Dothan	S-12	206.8	211.8	8	0	8	15	0.03	230.63	25275	Dothan PD
12	Shelby	Rural Shelby	S-38	3.2	8.2	8	0	8	13.75	0.01	642.6	70422	Mountain Brook PD
13	Elmore	Wetumpka	S-9	119.7	124.7	12	0	12	13.33	0.06	213.46	23393	Wetumpka PD
14	Houston	Dothan	S-1	12.7	17.7	11	0	11	12.73	0.08	144.4	15825	Dothan PD
15	Tuscaloosa	Tuscaloosa	S-6	50.1	55.1	15	0	15	12.67	0.05	327.95	35940	Tuscaloosa PD
16	Tuscaloosa	Tuscaloosa	S-7	80.3	85.3	9	0	9	12.22	0.05	186.41	20429	Tuscaloosa PD
17	Houston	Dothan	S-210	0	5	18	0	18	11.67	0.06	304.53	33373	Dothan PD
18	Tuscaloosa	Rural Tuscaloosa	S-69	140.1	145.1	8	0	8	10	0.02	335.67	36786	ALEA - Tuscaloosa Post

FY2020 Top 291 Intersection Locations Statewide with 3 or More Total Impaired Driving Related Crashes

Rank	County	City	Total Crashes	Fatal Crashes	Injury Crashes	Severity	Node 1	Route	Location	Agency ORI
1	Montgomery	Montgomery	3	0	2	16.67	4308	8058	CR-626 at BELL RD	Montgomery PD
2	Mobile	Mobile	3	0	3	16.67	8352	1342	NO DESCRIPTION AVAILABLE	Mobile PD
3	Mobile	Mobile	5	0	3	14	1989	5985	DAUPHIN ST at I-65	Mobile PD
4	Russell	Phenix City	3	0	2	13.33	655	5672	CRAWFORD RD at OPELIKA RD	Phenix City PD
5	Jefferson	Birmingham	3	0	2	13.33	920	3462	AVENUE S at ENSLEY 5 POINTS W AVE	Birmingham PD
6	Jefferson	Birmingham	3	0	3	13.33	1984	6392	25TH ST N at FINLEY BLVD	Birmingham PD
7	Madison	Huntsville	3	0	2	13.33	5835	1042	BOB WADE LN NW at NORTHGATE DR NW	Huntsville PD
8	Mobile	Mobile	3	0	2	13.33	3252	5002	FAIRWAY DR at HALLS MILL RD	Mobile PD
9	Montgomery	Montgomery	3	0	2	13.33	3178	8058	FIELDCREST DR at PERRY HILL RD	Montgomery PD
10	Montgomery	Montgomery	4	0	3	12.5	1456	8192	AL-8 at ATLANTA HWY	Montgomery PD
11	Montgomery	Montgomery	4	0	3	10	5096	8062	AL-53 at AL-6	Montgomery PD
12	Tuscaloosa	Tuscaloosa	3	0	1	10	5030	1185	25TH AVE NE at JACK WARNER PKY NE	Tuscaloosa PD
13	Jefferson	Birmingham	3	0	1	10	1160	4352	10TH AVE S at 20TH ST S	Birmingham PD
14	Mobile	Mobile	3	0	2	10	40120	1359	COTTAGE HILL RD at MOSS CREEK CT	Mobile PD
15	Lee	Auburn	3	0	2	10	449	5046	E SAMFORD AVE at NO DESCRIPTION AVAILABLE	Auburn PD
16	Morgan	Decatur	3	0	2	10	118	5037	CEDAR LAKE RD SW at SPRING AVE SW	Decatur PD
17	Jefferson	Birmingham	3	0	3	10	1876	6849	22ND ST N at 8TH AVE N	Birmingham PD
18	Mobile	Mobile	3	0	2	10	15961	8860	NO DESCRIPTION AVAILABLE	Mobile PD
19	Montgomery	Montgomery	3	0	1	10	4600	S-6	AL-21 at AL-6	Montgomery PD
20	Jefferson	Homewood	3	0	1	10	35025	2714	I-65 at LAKESHORE PKY	Homewood PD
21	Madison	Huntsville	3	0	2	10	619	6178	AL-1 at AL-2	Huntsville PD
22	Jefferson	Birmingham	3	0	2	10	4679	S-7	PARKWAY E at NO DESCRIPTION AVAILABLE	Birmingham PD
23	Jefferson	Trussville	3	0	1	10	7781	1229	CR-10 at CHALKVILLE RD	Trussville PD
24	Madison	Huntsville	3	0	1	10	3199	S-53	AL-20 at AL-53	Huntsville PD
25	Madison	Huntsville	3	0	3	10	3858	6178	MASTIN LAKE RD NW at PULASKI PIKE NW	Huntsville PD

FY2020 Top 291 Intersection Locations Statewide with 3 or More Total Impaired Driving Related Crashes – (Continued)

Rank	County	City	Total Crashes	Fatal Crashes	Injury Crashes	Severity	Node 1	Route	Location	Agency ORI
26	Montgomery	Montgomery	7	0	3	8.57	4370	S-6	AL-21 at AL-53	Montgomery PD
27	Mobile	Mobile	5	0	2	8	1979	6235	DAUPHIN ST at E I-65 SERVICE RD N	Mobile PD
28	Madison	Huntsville	9	0	4	7.78	2065	7219	DRAKE AVE SW at TRIANA BLVD SW	Huntsville PD
29	Montgomery	Montgomery	8	0	3	7.5	1378	5844	ATLANTA HWY at EAST BLVD SER RD	Montgomery PD
30	Mobile	Mobile	4	0	2	7.5	1842	5253	GAYLARK RD N at SUNNYVALE LN W	Mobile PD
31	Jefferson	Bessemer	4	0	1	7.5	13917	1027	NO DESCRIPTION AVAILABLE	Bessemer PD
32	Lee	Opelika	4	0	2	7.5	237	5580	AL-14 at AL-38	Opelika PD
33	Montgomery	Montgomery	4	0	3	7.5	10607	8192	AL-271 at AL-8	Montgomery PD
34	Mobile	Mobile	9	0	4	6.67	2217	1346	CR-56 at AIRPORT BLVD	Mobile PD
35	Montgomery	Montgomery	6	0	4	6.67	3124	S-8	AL-21 at AL-53	Montgomery PD
36	Madison	Huntsville	3	0	1	6.67	1710	5500	AIRPORT RD SW at HOSPITAL DR SW	Huntsville PD
37	Madison	Madison	3	0	1	6.67	190	1005	GILLESPIE RD at WALL TRIANA HWY	Madison PD
38	Madison	Huntsville	3	0	1	6.67	2214	1907	MARTIN RD SW at ZIERDT RD SW	Huntsville PD
39	Geneva	Rural Geneva	3	0	1	6.67	7523	1287	CR-44 at CR-85	ALEA - Dothan Post
40	Montgomery	Montgomery	3	0	2	6.67	15231	1726	BELL CREEK CT at MILL RIDGE DR	Montgomery PD
41	Jefferson	Bessemer	3	0	1	6.67	14271	5358	CR-36 at 15TH ST N	Bessemer PD
42	Lee	Opelika	3	0	1	6.67	568	5215	S 10TH ST at AVENUE B	Opelika PD
43	Montgomery	Montgomery	3	0	1	6.67	596	6365	BILTMORE AVE at COLISEUM BLVD	Montgomery PD
44	Baldwin	Fairhope	3	0	1	6.67	175	1066	CR-48 at CR-98-SCENIC	Fairhope PD
45	Lauderdale	Florence	3	0	1	6.67	316	5074	W DR HICKS BLVD at S PINE ST	Florence PD
46	Jefferson	Birmingham	3	0	2	6.67	4639	S-7	AL-7 at 1ST AVE N	Birmingham PD
47	Jefferson	Trussville	3	0	2	6.67	7786	1229	NO DESCRIPTION AVAILABLE	Trussville PD
48	Morgan	Decatur	3	0	1	6.67	3426	5052	BELTLINE ACCESS RD at CARRIDALE ST	Decatur PD
49	Montgomery	Montgomery	3	0	1	6.67	4002	8017	E EDGEMONT AVE at NORMAN BRIDGE RD	Montgomery PD
50	Lee	Auburn	3	0	1	6.67	693	1137	AL-267 at CR-137	Auburn PD

FY2020 Top 291 Intersection Locations Statewide with 3 or More Total Impaired Driving Related Crashes – (Continued)

Rank	County	City	Total Crashes	Fatal Crashes	Injury Crashes	Severity	Node 1	Route	Location	Agency ORI
51	Montgomery	Montgomery	3	0	2	6.67	6112	S-8	AL-21 at AL-53	Montgomery PD
52	Lauderdale	Florence	3	0	1	6.67	9998	5486	NO DESCRIPTION AVAILABLE	Florence PD
53	Colbert	Muscle Shoals	3	0	2	6.67	42	1216	AL-13 at AL-157	Muscle Shoals PD
54	Russell	Phenix City	3	0	2	6.67	361	5671	MARTIN LUTHER KING JR PKY S	Phenix City PD
55	Madison	Huntsville	3	0	1	6.67	110	S-53	GOVERNORS DR SR-53 at MEMORIAL PKWY	Huntsville PD
56	Mobile	Mobile	3	0	2	6.67	7114	S-42	I-65 SERVICE RD E SIDE at MOFFAT RD	Mobile PD
57	Jefferson	Birmingham	3	0	1	6.67	971	4345	AL-149 at 14TH ST S	UAB PD
58	Mobile	Mobile	3	0	1	6.67	4801	5985	DAUPHIN ST at N FLORIDA ST	Mobile PD
59	Montgomery	Montgomery	3	0	2	6.67	4282	5845	EASTERN BLVD at YOUNG BARN RD	Montgomery PD
60	Jefferson	Birmingham	3	0	2	6.67	570	3949	CR-18 at DENNISON AVE SW	Birmingham PD
61	Madison	Huntsville	3	0	1	6.67	5697	6298	BLUE SPRING RD NW at SPARKMAN DR NW	Huntsville PD
62	Autauga	Prattville	3	0	1	6.67	7472	1138	AL-14 at CR-75	Prattville PD
63	Mobile	Mobile	5	0	1	6	1595	1842	GRELOT RD at HILLCREST RD	Mobile PD
64	Colbert	Muscle Shoals	7	0	3	5.71	314	5448	AVALON AVE at JOHN R ST	Muscle Shoals PD
65	Montgomery	Montgomery	7	0	4	5.71	5745	S-8	AL-21 at AL-53	Montgomery PD
66	Montgomery	Montgomery	7	0	3	5.71	4718	S-6	INTERSTATE 65 at SOUTH BLVD INTERCHANGE	Montgomery PD
67	Dallas	Selma	7	0	3	5.71	168	5316	AL-14 at AL-8	Selma PD
68	Jefferson	Birmingham	9	0	4	5.56	4685	7675	AL-7 at AL-75	Birmingham PD
69	Jefferson	Birmingham	4	0	1	5	1109	2714	3RD CT N at CENTER ST N	Birmingham PD
70	Montgomery	Montgomery	4	0	2	5	10611	S-6	AL-21 at AL-6	Montgomery PD
71	Madison	Huntsville	4	0	1	5	2004	7228	DRAKE AVE at PATTON RD	Huntsville PD
72	Jefferson	Birmingham	4	0	1	5	4660	S-7	AL-7 at 1ST AVE N	Birmingham PD
73	Madison	Huntsville	4	0	1	5	209	1305	AL-1 at AL-2	Huntsville PD
74	Jefferson	Fairfield	4	0	1	5	562	5065	NO DESCRIPTION AVAILABLE	Fairfield PD
75	Tuscaloosa	Tuscaloosa	4	0	2	5	9844	1191	AL-69 S at AL-69	Tuscaloosa PD

FY2020 Top 291 Intersection Locations Statewide with 3 or More Total Impaired Driving Related Crashes – (Continued)

Rank	County	City	Total Crashes	Fatal Crashes	Injury Crashes	Severity	Node 1	Route	Location	Agency ORI
76	Madison	Madison	4	0	1	5	41	1005	AL-20 at MADISON BLVD	Madison PD
77	Mobile	Mobile	4	0	1	5	1196	1359	COTTAGE HILL RD at UNIVERSITY BLVD S	Mobile PD
78	Mobile	Mobile	4	0	1	5	9783	5993	MONDAY ST at PERSIMMON ST	Mobile PD
79	Autauga	Prattville	5	0	1	4	890	1002	CR-75 at E MAIN ST	Prattville PD
80	Madison	Huntsville	5	0	1	4	773	6298	ANDREW JACKSON WAY at U S HWY 72 E	Huntsville PD
81	Montgomery	Montgomery	5	0	2	4	138	8189	AL-21 at AL-53	Montgomery PD
82	Madison	Madison	5	0	2	4	1697	5163	AL-20 at HUGHES RD	Madison PD
83	Calhoun	Oxford	5	0	1	4	156	5130	AL-1 at AL-21	Oxford PD
84	Montgomery	Montgomery	5	0	1	4	8534	S-8	AL-21 at AL-53	Montgomery PD
85	Montgomery	Montgomery	9	0	2	3.33	1463	8192	AL-8 at ATLANTA HWY	Montgomery PD
86	Montgomery	Montgomery	6	0	2	3.33	4286	S-8	AL-21 at AL-53	Montgomery PD
87	Montgomery	Montgomery	3	0	1	3.33	4396	S-6	AL-21 at AL-6	Montgomery PD
88	Madison	Huntsville	3	0	1	3.33	8116	1005	MCCRARY RD at WALL TRIANA HWY	Huntsville PD
89	Mobile	Mobile	3	0	1	3.33	7061	5884	RIDGEWOOD PL at NO DESCRIPTION AVAILABLE	Mobile PD
90	Montgomery	Montgomery	3	0	1	3.33	4599	5089	CLOVER HILL DR at OAK ST	Montgomery PD
91	Lauderdale	Florence	3	0	1	3.33	1844	S-133	AL-133 at CR-32	Florence PD
92	Mobile	Mobile	3	0	1	3.33	40245	7146	NO DESCRIPTION AVAILABLE	Mobile PD
93	Jefferson	Birmingham	3	0	1	3.33	279	3611	17TH ST SW at PEARSON AVE SW	Birmingham PD
94	Madison	Huntsville	3	0	1	3.33	4762	6020	CHURCH ST NW at MONROE ST NW	Huntsville PD
95	Tuscaloosa	Tuscaloosa	3	0	1	3.33	331	5188	21ST AVE at 9TH ST	Tuscaloosa PD
96	Calhoun	Anniston	3	0	1	3.33	1232	5022	W 10TH ST at E 10TH ST	Anniston PD
97	Mobile	Mobile	3	0	1	3.33	4235	7005	ST FRANCIS ST at N WATER ST	Mobile PD
98	Jefferson	Birmingham	3	0	1	3.33	4387	4017	NO DESCRIPTION AVAILABLE	Birmingham PD
99	Mobile	Mobile	3	0	1	3.33	9715	1359	MENAS AVE at DEAD END	Mobile PD
100	Madison	Huntsville	3	0	1	3.33	48	S-20	DECATUR HWY SR-20 at ZIERDT RD AT H'VILLE CL	Huntsville PD

FY2020 Top 291 Intersection Locations Statewide with 3 or More Total Impaired Driving Related Crashes – (Continued)

Rank	County	City	Total Crashes	Fatal Crashes	Injury Crashes	Severity	Node 1	Route	Location	Agency ORI
101	Jefferson	Birmingham	3	0	1	3.33	4441	4248	1ST AVE S at 57TH ST S	Birmingham PD
102	Mobile	Mobile	3	0	1	3.33	17047	5568	CHANDLER ST at HILLCREST RD	Mobile PD
103	Jefferson	Birmingham	3	0	1	3.33	4180	5149	6TH AVE N at 86TH ST N	Birmingham PD
104	Madison	Huntsville	3	0	1	3.33	8094	1023	NO DESCRIPTION AVAILABLE	Huntsville PD
105	Madison	Huntsville	3	0	1	3.33	2313	6017	AL-53 at HOLMES AVE NW	Huntsville PD
106	Jefferson	Homewood	3	0	1	3.33	180	S-149	NO DESCRIPTION AVAILABLE	Homewood PD
107	Madison	Huntsville	3	0	1	3.33	8024	1033	AL-53 at ARDMORE HWY	Huntsville PD
108	Mobile	Mobile	3	0	1	3.33	2239	5194	AIRPORT BLVD at CODY RD AT MOBILE CL	Mobile PD
109	Jefferson	Homewood	3	0	1	3.33	226	3011	AL-149 at GREEN SPRINGS HWY	Homewood PD
110	Calhoun	Oxford	3	0	1	3.33	490	5022	AL-4 at BARRY ST	Oxford PD
111	Jefferson	Birmingham	3	0	1	3.33	974	S-149	AL-149 at 18TH ST S	Birmingham PD
112	Mobile	Mobile	3	0	1	3.33	6778	5194	CODY RD at ZEIGLER BLVD	Mobile PD
113	Montgomery	Montgomery	3	0	1	3.33	7762	S-110	MINNIE BROWN RD at RYAN RD	Montgomery PD
114	Madison	Huntsville	3	0	1	3.33	5573	6211	BLUE SPRING RD NW at SHAWMONT DR NW	Huntsville PD
115	Montgomery	Montgomery	3	0	1	3.33	1059	8204	ANN ST at MADISON AVE	Montgomery PD
116	Montgomery	Montgomery	7	0	1	2.86	4323	8058	AL-271 at CR-626	Montgomery PD
117	Madison	Huntsville	8	0	1	2.5	9584	1026	NO DESCRIPTION AVAILABLE	Huntsville PD
118	Montgomery	Montgomery	4	0	1	2.5	5936	8192	AL-8 at ATLANTA HWY	Montgomery PD
119	Montgomery	Montgomery	4	0	1	2.5	10608	S-3	NO DESCRIPTION AVAILABLE	Montgomery PD
120	Lauderdale	Florence	4	0	1	2.5	1881	S-2	AL-13 at AL-2	Florence PD
121	Jefferson	Birmingham	4	0	1	2.5	677	S-5	AL-4 at AL-5	Birmingham PD
122	Jefferson	Birmingham	4	0	1	2.5	4247	4388	19TH AVE N at 6TH ST N	Birmingham PD
123	Madison	Huntsville	4	0	1	2.5	62610	S-2	NO DESCRIPTION AVAILABLE	Huntsville PD
124	Mobile	Mobile	4	0	1	2.5	9709	8860	ENGLISH ST at PECAN ST	Mobile PD
125	Jefferson	Birmingham	4	0	1	2.5	4844	S-75	AL-75 at PARKWAY E	Birmingham PD

FY2020 Top 291 Intersection Locations Statewide with 3 or More Total Impaired Driving Related Crashes – (Continued)

Rank	County	City	Total Crashes	Fatal Crashes	Injury Crashes	Severity	Node 1	Route	Location	Agency ORI
126	Montgomery	Montgomery	4	0	1	2.5	4287	8058	CR-626 at EASTERN BLVD	Montgomery PD
127	Mobile	Prichard	4	0	1	2.5	1234	1234	AMBER ST at BEAR FORK RD	Prichard PD
128	Montgomery	Montgomery	4	0	1	2.5	4450	S-6	AL-21 at AL-6	Montgomery PD
129	Lauderdale	Florence	4	0	1	2.5	1523	1653	AL-133 at COX CREEK PKY	Florence PD
130	Montgomery	Montgomery	4	0	1	2.5	526	S-8	AL-21 at AL-53	Montgomery PD
131	Montgomery	Montgomery	4	0	1	2.5	4481	S-6	AL-21 at AL-6	Montgomery PD
132	Montgomery	Montgomery	4	0	1	2.5	435	6365	COLISEUM BLVD at L DICKERSON DR	Montgomery PD
133	Mobile	Mobile	4	0	1	2.5	2005	1346	CR-56 at AIRPORT BLVD	Mobile PD
134	Montgomery	Montgomery	4	0	1	2.5	4483	1171	NARROW LANE RD at E SOUTH BLVD	Montgomery PD
135	Jefferson	Birmingham	4	0	1	2.5	4148	S-38	37TH AVE N at 65TH ST N	Birmingham PD
136	Madison	Huntsville	4	0	1	2.5	4047	S-2	RIDEOUT RD SR-255 at BRIDGE UNIVERSITY DR	Huntsville PD
137	Madison	Huntsville	10	0	1	2	1711	5500	AIRPORT DR SE at AIRPORT RD SW	Huntsville PD
138	Jefferson	Birmingham	5	0	1	2	1137	S-3	AL-149 at CLAIRMONT AVE S	Birmingham PD
139	Madison	Huntsville	5	0	1	2	2707	6298	SPARKMAN DR at UNIVERSITY DR	Huntsville PD
140	Mobile	Mobile	5	0	1	2	45140	5031	NO DESCRIPTION AVAILABLE	Mobile PD
141	Mobile	Mobile	5	0	1	2	9705	1359	PATTON AVE at PEACAN ST	Mobile PD
142	Montgomery	Montgomery	5	0	1	2	1150	8192	FEDERAL DR at MADISON AVE	Montgomery PD
143	Lee	Opelika	5	0	1	2	1505	5592	AL-38 at GATEWAY DR	Opelika PD
144	Mobile	Mobile	5	0	1	2	4162	7005	GOVERNMENT ST at S WATER ST	Mobile PD
145	Madison	Huntsville	6	0	1	1.67	8017	1305	MOORES MILL RD at WINCHESTER RD NE	Huntsville PD
146	Mobile	Mobile	6	0	1	1.67	1939	1346	AIRPORT BLVD at I-65	Mobile PD
147	Montgomery	Montgomery	6	0	1	1.67	4449	1254	AL-21 at AL-6	Montgomery PD
148	Mobile	Mobile	6	0	1	1.67	30035	5884	N UNIVERSITY BLVD at ZEIGLER BLVD	Mobile PD
149	Madison	Huntsville	7	0	1	1.43	5860	S-2	AL-2 at ENTERPRISE WAY NW	Huntsville PD
150	Madison	Huntsville	8	0	1	1.25	8087	S-2	AL-2 at SLAUGHTER RD	Huntsville PD

FY2020 Top 291 Intersection Locations Statewide with 3 or More Total Impaired Driving Related Crashes – (Continued)

Rank	County	City	Total Crashes	Fatal Crashes	Injury Crashes	Severity	Node 1	Route	Location	Agency ORI
151	Mobile	Mobile	10	0	1	1	2139	1346	CR-56 at AIRPORT BLVD	Mobile PD
152	Jefferson	Birmingham	8	0	0	0	35549	S-38	AL-38 at COLONNADE DR	Birmingham PD
153	Mobile	Mobile	7	0	0	0	1587	5253	CR-37 at CODY RD S	Mobile PD
154	Mobile	Mobile	7	0	0	0	9795	1346	SHORT at DAVIDSON	Mobile PD
155	Tuscaloosa	Tuscaloosa	7	0	0	0	283	5558	15TH ST at HACKBERRY LN	Tuscaloosa PD
156	Montgomery	Montgomery	7	0	0	0	3122	8648	AL-21 at AL-53	Montgomery PD
157	Madison	Huntsville	6	0	0	0	1363	5932	OAKWOOD AVE NW at PULASKI PIKE NW	Huntsville PD
158	Madison	Huntsville	6	0	0	0	1746	5614	DRAKE AVE SW at L AND N DR SW	Huntsville PD
159	Mobile	Mobile	6	0	0	0	2061	6215	DAUPHIN ST at MCGREGOR AVE S	Mobile PD
160	Shelby	Alabaster	5	0	0	0	1720	6068	NO DESCRIPTION AVAILABLE	Alabaster PD
161	Montgomery	Montgomery	5	0	0	0	2748	5955	ARBA ST at S UNION ST	Montgomery PD
162	Jefferson	Birmingham	5	0	0	0	4249	S-149	19TH AVE N at CARVER AVE	Birmingham PD
163	Madison	Huntsville	5	0	0	0	8161	1088	HENDERSON RD at HENDERSON RD 1395	Huntsville PD
164	Jefferson	Birmingham	5	0	0	0	4613	7036	AL-4 at CRESTWOOD BLVD	Birmingham PD
165	Madison	Huntsville	5	0	0	0	3181	5420	DRAKE AVE SE at DRAKE AVE SW	Huntsville PD
166	Mobile	Mobile	5	0	0	0	1091	S-16	AL-16 at AZALEA RD	Mobile PD
167	Jefferson	Birmingham	5	0	0	0	44813	S-38	NO DESCRIPTION AVAILABLE	Birmingham PD
168	Tuscaloosa	Tuscaloosa	5	0	0	0	591	1365	AL-6 at MCFARLAND BLVD NE	Tuscaloosa PD
169	Montgomery	Montgomery	5	0	0	0	4345	S-6	AL-21 at AL-53	Montgomery PD
170	Mobile	Prichard	5	0	0	0	2222	1111	NO DESCRIPTION AVAILABLE	Prichard PD
171	Houston	Dothan	5	0	0	0	351	1276	FORTNER ST at ROSS CLARK CIR	Dothan PD
172	Shelby	Pelham	5	0	0	0	167	1300	NO DESCRIPTION AVAILABLE	Pelham PD
173	Montgomery	Montgomery	5	0	0	0	7740	S-271	INTERSTATE 85 at CITY LIMIT	Montgomery PD
174	Madison	Huntsville	5	0	0	0	2356	S-53	AL-2 at AL-53	Huntsville PD
175	Jefferson	Birmingham	5	0	0	0	1875	4353	21ST ST N at 8TH AVE N	Birmingham PD

FY2020 Top 291 Intersection Locations Statewide with 3 or More Total Impaired Driving Related Crashes – (Continued)

Rank	County	City	Total Crashes	Fatal Crashes	Injury Crashes	Severity	Node 1	Route	Location	Agency ORI
176	Mobile	Mobile	5	0	0	0	1346	5732	AZALEA RD at PACE LN	Mobile PD
177	Jefferson	Birmingham	4	0	0	0	1758	S-4	AL-4 at AL-5	Birmingham PD
178	Madison	Huntsville	4	0	0	0	41081	S-53	AL-255 at AL-53	Huntsville PD
179	Jefferson	Birmingham	4	0	0	0	4698	S-75	AL-75 at PARKWAY E	Birmingham PD
180	Jefferson	Birmingham	4	0	0	0	38001	S-38	AL-38 at GRANDVIEW PKY	Birmingham PD
181	Jefferson	Birmingham	4	0	0	0	2800	S-3	AL-3 at 12TH AVE N	Birmingham PD
182	Jefferson	Hoover	4	0	0	0	846	5067	LORNA RD at PATTON CHAPEL RD	Hoover PD
183	Elmore	Prattville	4	0	0	0	922	1140	AL-6 at COBBS FORD RD	Prattville PD
184	Jefferson	Birmingham	4	0	0	0	656	3462	BESSEMER RD at ENSLEY AVE	Birmingham PD
185	Mobile	Mobile	4	0	0	0	2241	5194	CODY RD at OLD SHELL RD	Mobile PD
186	Jefferson	Birmingham	4	0	0	0	149	4294	CR-18 at DOWNEY ST	Birmingham PD
187	Montgomery	Montgomery	4	0	0	0	3470	6012	W FAIRVIEW AVE at GOODE ST	Montgomery PD
188	Madison	Huntsville	4	0	0	0	2856	5718	AL-1 at GALLATIN ST SW	Huntsville PD
189	Montgomery	Montgomery	4	0	0	0	9739	8058	CENTRAL PKY at VAUGHN RD	Montgomery PD
190	Jefferson	Birmingham	4	0	0	0	663	S-5	AL-5 at AL-7	Birmingham PD
191	Montgomery	Montgomery	4	0	0	0	15366	S-271	NO DESCRIPTION AVAILABLE	Montgomery PD
192	Montgomery	Montgomery	4	0	0	0	3014	6009	ANN ST at I-85 INTERCHANGE	Montgomery PD
193	Jefferson	Birmingham	4	0	0	0	15582	S-38	NO DESCRIPTION AVAILABLE	Birmingham PD
194	Mobile	Mobile	4	0	0	0	8525	1346	AIRPORT BLVD at I-65 SER RD WEST SIDE	Mobile PD
195	Jefferson	Homewood	4	0	0	0	9926	2714	NO DESCRIPTION AVAILABLE	Homewood PD
196	Russell	Phenix City	4	0	0	0	878	1430	CR-427 at DOBBS DR	Phenix City PD
197	Lee	Auburn	4	0	0	0	834	5198	AL-147 at AL-267	Auburn PD
198	Russell	Phenix City	4	0	0	0	606	5268	13TH ST at BROAD ST	Phenix City PD
199	Mobile	Mobile	4	0	0	0	5983	1346	NO DESCRIPTION AVAILABLE	Mobile PD
200	Madison	Huntsville	4	0	0	0	10162	S-2	CROMWELL CIR at DEAD END	Huntsville PD

FY2020 Top 291 Intersection Locations Statewide with 3 or More Total Impaired Driving Related Crashes – (Continued)

Rank	County	City	Total Crashes	Fatal Crashes	Injury Crashes	Severity	Node 1	Route	Location	Agency ORI
201	Jefferson	Vestavia Hills	4	0	0	0	15612	5690	NO DESCRIPTION AVAILABLE	Vestavia Hills PD
202	Lee	Auburn	4	0	0	0	75	6077	AL-14 at OPELIKA RD	Auburn PD
203	Jefferson	Birmingham	3	0	0	0	903	3293	AVENUE T at PIKE RD	Birmingham PD
204	Jefferson	Birmingham	3	0	0	0	4378	4392	NO DESCRIPTION AVAILABLE	Birmingham PD
205	Montgomery	Montgomery	3	0	0	0	3020	6009	ANN ST at POPLAR ST	Montgomery PD
206	Jefferson	Bessemer	3	0	0	0	1870	2714	AL-150 at LAKESHORE PKY	Bessemer PD
207	Jefferson	Birmingham	3	0	0	0	4248	971	19TH AVE N at 84TH ST N	Birmingham PD
208	Cullman	Cullman	3	0	0	0	5	5023	AL-69 at CHEROKEE AVE SW	Cullman PD
209	Jefferson	Birmingham	3	0	0	0	4350	4243	NO DESCRIPTION AVAILABLE	Birmingham PD
210	Madison	Huntsville	3	0	0	0	2593	6298	SPARKMAN DR NW at TECHNOLOGY DR NW	Huntsville PD
211	Madison	Rural Madison	3	0	0	0	8045	2455	CAPSHAW RD at JEFF RD NW	ALEA - Huntsville Post
212	Lee	Auburn	3	0	0	0	337	5148	E GLENN AVE at N ROSS ST	Auburn PD
213	Mobile	Mobile	3	0	0	0	9022	S-42	AL-42 at BAY SHORE AVE	Mobile PD
214	Lauderdale	Florence	3	0	0	0	362	5128	AL-13 at AL-157	Florence PD
215	Shelby	Alabaster	3	0	0	0	7502	1301	COUNTY ROAD 264 at MONTEVALLO RD SR-119	Alabaster PD
216	Jefferson	Homewood	3	0	0	0	191	5054	OXMOOR RD at W OXMOOR BLVD	Homewood PD
217	Jefferson	Birmingham	3	0	0	0	2515	6491	20TH ST N at 5TH AVE N	Birmingham PD
218	Jefferson	Birmingham	3	0	0	0	2325	S-4	AL-4 at 3RD AVE S	Birmingham PD
219	Dallas	Selma	3	0	0	0	766	5213	BROAD ST at SELMA AVE	Selma PD
220	Russell	Phenix City	3	0	0	0	890	5349	LAKEWOOD DR at S RAILROAD ST	Phenix City PD
221	Madison	Huntsville	3	0	0	0	1810	5420	SPRINGHOUSE RD SE at TEAKWOOD DR SW	Huntsville PD
222	Mobile	Mobile	3	0	0	0	4173	S-16	AL-16 at AL-42	Mobile PD
223	Jefferson	Birmingham	3	0	0	0	2398	S-7	AL-7 at 1ST AVE N	Birmingham PD
224	Jefferson	Birmingham	3	0	0	0	391	3378	BRIGHTON RD at DANIEL DR	Birmingham PD
225	Jefferson	Fairfield	3	0	0	0	474	5158	37TH ST at RICHARD M SCRUSHY PKY	Fairfield PD

FY2020 Top 291 Intersection Locations Statewide with 3 or More Total Impaired Driving Related Crashes – (Continued)

Rank	County	City	Total Crashes	Fatal Crashes	Injury Crashes	Severity	Node 1	Route	Location	Agency ORI
226	Tuscaloosa	Tuscaloosa	3	0	0	0	846	1185	GREENSBORO AVE at JACK WARNER PKY	Tuscaloosa PD
227	Tuscaloosa	Rural Tuscaloosa	3	0	0	0	7331	1201	CR-66 at BEAR CREEK RD E	ALEA - Tuscaloosa Post
228	Shelby	Birmingham	3	0	0	0	3086	3086	AL-3 at 11TH AVE N	Birmingham PD
229	Madison	Madison	3	0	0	0	89	1352	MILL RD at SULLIVAN ST	Madison PD
230	Montgomery	Montgomery	3	0	0	0	10925	8192	AL-8 at ATLANTA HWY	Montgomery PD
231	Jefferson	Birmingham	3	0	0	0	4921	4392	22ND ST S at HIGHLAND AVE S	Birmingham PD
232	Madison	Huntsville	3	0	0	0	3727	5420	FOUR MILE POST RD SE at WHITESBURG DR S	Huntsville PD
233	Madison	Huntsville	3	0	0	0	4769	5868	CHURCH ST NW at PRATT AVE NW	Huntsville PD
234	Jefferson	Birmingham	3	0	0	0	649	S-5	AL-5 at AL-7	Birmingham PD
235	Madison	Huntsville	3	0	0	0	3730	5420	VINCENT RD SE at WHITESBURG DR S	Huntsville PD
236	Jefferson	Homewood	3	0	0	0	416	5033	NO DESCRIPTION AVAILABLE	Homewood PD
237	Jefferson	Birmingham	3	0	0	0	1044	4107	6TH AVE S at 8TH ST S	Birmingham PD
238	Madison	Huntsville	3	0	0	0	7740	1305	NO DESCRIPTION AVAILABLE	Huntsville PD
239	Mobile	Saraland	3	0	0	0	317	1665	NO DESCRIPTION AVAILABLE	Saraland PD
240	Montgomery	Montgomery	3	0	0	0	10785	S-8	AL-21 at AL-53	Montgomery PD
241	Madison	Huntsville	3	0	0	0	92	S-1	AL-1 at AL-20	Huntsville PD
242	Madison	Huntsville	3	0	0	0	41240	7608	NO DESCRIPTION AVAILABLE	Huntsville PD
243	Tuscaloosa	Tuscaloosa	3	0	0	0	354	6148	AL-13 at AL-69	Tuscaloosa PD
244	Lee	Auburn	3	0	0	0	315	5047	MAGNOLIA AVE at SR 147 COLLEGE ST	Auburn PD
245	Tuscaloosa	Northport	3	0	0	0	905	1356	AL 13 US 43 at CITY ST 1356 & CL	Northport PD
246	Mobile	Mobile	3	0	0	0	7106	7991	5A at SPRING HILL AVE	Mobile PD
247	Madison	Huntsville	3	0	0	0	1231	5932	AL-53 at JORDAN LN NW	Huntsville PD
248	Tuscaloosa	Tuscaloosa	3	0	0	0	65	5970	AL-6 at 37TH ST E	Tuscaloosa PD
249	Mobile	Mobile	3	0	0	0	2340	5884	CR-70 at OLD SHELL RD	Mobile PD
250	Madison	Huntsville	3	0	0	0	5854	3122	BAILEY COVE RD SE at CARL T JONES DR SE	Huntsville PD

FY2020 Top 291 Intersection Locations Statewide with 3 or More Total Impaired Driving Related Crashes – (Continued)

Rank	County	City	Total Crashes	Fatal Crashes	Injury Crashes	Severity	Node 1	Route	Location	Agency ORI
251	Madison	Huntsville	3	0	0	0	3277	S-53	DRAKE AVE at MEMORIAL PKWY S	Huntsville PD
252	Jefferson	Homewood	3	0	0	0	344	S-3	INDEPENDENCE DR at MONTGOMERY HWY	Homewood PD
253	Jefferson	Homewood	3	0	0	0	185	5033	256B at I-65	Homewood PD
254	Shelby	Hoover	3	0	0	0	8230	1250	INTERSTATE 65 at VALLEYDALE RD	Hoover PD
255	Madison	Huntsville	3	0	0	0	4241	5537	AL-53 at GOVERNORS DR SW	Huntsville PD
256	Montgomery	Montgomery	3	0	0	0	4540	8017	AL-21 at AL-6	Montgomery PD
257	Montgomery	Montgomery	3	0	0	0	1271	8192	ATLANTA HWY at JEFFERSON DAVIS HWY	Montgomery PD
258	Lauderdale	Florence	3	0	0	0	1671	S-133	AL-13 at AL-133	Florence PD
259	Jefferson	Hoover	3	0	0	0	10640	7000	AL-150 at GALLERIA BLVD	Hoover PD
260	Madison	Huntsville	3	0	0	0	2161	1028	AL-2 at PULASKI PIKE NW	Huntsville PD
261	Madison	Huntsville	3	0	0	0	8150	1001	ROCKHOUSE RD SW at SWANCOTT RD SW	Huntsville PD
262	Madison	Madison	3	0	0	0	200	1005	AL-2 at WALL TRIANA HWY	Madison PD
263	Mobile	Mobile	3	0	0	0	5985	1989	NO DESCRIPTION AVAILABLE	Mobile PD
264	Shelby	Alabaster	3	0	0	0	1721	5012	NO DESCRIPTION AVAILABLE	Alabaster PD
265	Jefferson	Birmingham	3	0	0	0	11850	9600	11TH PL S at GREEN SPRINGS AVE S	Birmingham PD
266	Shelby	Birmingham	3	0	0	0	8671	S-38	74TH ST S at ROME AVE	Birmingham PD
267	Montgomery	Montgomery	3	0	0	0	5554	S-6	AL-271 at AL-53	Montgomery PD
268	Coffee	Enterprise	3	0	0	0	140	5119	AL-12 at AL-167	Enterprise PD
269	Montgomery	Montgomery	3	0	0	0	4663	S-6	AL-21 at AL-6	Montgomery PD
270	Mobile	Mobile	3	0	0	0	9874	S-17	PLEASANT AVE at ALA 17 & ST STEPHENS RD	Mobile PD
271	Baldwin	Fairhope	3	0	0	0	7760	1066	CR-27 at CR-48	Fairhope PD
272	Madison	Huntsville	3	0	0	0	2467	S-255	BRADFORD BLVD at RIDEOUT RD	Huntsville PD
273	Jefferson	Birmingham	3	0	0	0	4388	S-149	NO DESCRIPTION AVAILABLE	Birmingham PD
274	Madison	Huntsville	3	0	0	0	212	S-1	AL-1 at AL-2	Huntsville PD
275	Madison	Huntsville	3	0	0	0	8057	1088	SHANEY DR at TERRICA DR	Huntsville PD

FY2020 Top 291 Intersection Locations Statewide with 3 or More Total Impaired Driving Related Crashes – (Continued)

Rank	County	City	Total Crashes	Fatal Crashes	Injury Crashes	Severity	Node 1	Route	Location	Agency ORI
276	Baldwin	Fairhope	3	0	0	0	108	1055	AL-42 at CR-46	Fairhope PD
277	Montgomery	Montgomery	3	0	0	0	1471	S-8	AL-21 at AL-53	Montgomery PD
278	Montgomery	Montgomery	3	0	0	0	6344	8192	AL-8 at ATLANTA HWY	Montgomery PD
279	Jefferson	Birmingham	3	0	0	0	17927	S-38	AL-38 at PERIMETER PARK S	Birmingham PD
280	Jefferson	Birmingham	3	0	0	0	3084	3084	NO DESCRIPTION AVAILABLE	Birmingham PD
281	Madison	Huntsville	3	0	0	0	55626	8130	TANTALLON DR SE at WHISTLER LN SE	Huntsville PD
282	Etowah	Gadsden	3	0	0	0	1044	5659	AL-291 at AL-759	Gadsden PD
283	Lee	Auburn	3	0	0	0	8006	S-147	SR 147 COLLEGE ST at SR 267	Auburn PD
284	Mobile	Mobile	3	0	0	0	8860	1346	GOV BLVD SER RDat GOV BLVD	Mobile PD
285	Mobile	Mobile	3	0	0	0	10905	1346	CR-56 at AIRPORT BLVD	Mobile PD
286	Baldwin	Gulf Shores	3	0	0	0	316	1144	AL-59 at CR-4	Gulf Shores PD
287	Jefferson	Birmingham	3	0	0	0	2831	6741	AL-79 at TALLAPOOSA ST	Birmingham PD
288	Mobile	Mobile	3	0	0	0	8945	5985	DAUPHIN ST at N SAGE AVE	Mobile PD
289	Madison	Huntsville	3	0	0	0	1708	5500	AIRPORT RD SW at QUEENSBURY DR SW	Huntsville PD
290	Montgomery	Montgomery	3	0	0	0	3165	S-8	AL-21 at AL-53	Montgomery PD
291	Jefferson	Birmingham	3	0	0	0	960	4294	AL-149 at CR-18	Birmingham PD

FY2020 Top 30 Segment Locations Statewide with 3 or More Total Impaired Driving Related Crashes

Rank	County	City	Total Crashes	Fatal Crashes	Injury Crashes	Severity	Node 1	Node 2	Route	Location	Agency ORI
1	Montgomery	Montgomery	3	0	2	13.33	5745	3122	S-8	AL-21 at AL-53 and AL-21 at AL-53	Montgomery PD
2	Russell	Phenix City	6	0	2	6.67	606	1426	5268	13TH ST at BROAD ST and 13TH ST at 3RD AVE	Phenix City PD
3	Mobile	Mobile	3	0	1	6.67	2061	2067	5985	DAUPHIN ST at MCGREGOR AVE S and ASHLEY DR	Mobile PD
4	Jefferson	Birmingham	3	0	2	6.67	1244	4919	4392	21ST PL S at HIGHLAND AVE S and 21ST WAY S	Birmingham PD
5	Mobile	Mobile	3	0	1	6.67	1794	1509	1842	GRELOT RD at UNIVERSITY BLVD S and GRELOT RD	Mobile PD
6	Houston	Dothan	6	0	2	5	1250	1259	5488	AL-12 at ENTERPRISE HWY and AL-1 at AL-53	Dothan PD
7	Montgomery	Montgomery	4	0	1	5	4323	10712	8058	AL-271 at CR-626 and CR-626 at LAURELWOOD LN	Montgomery PD
8	Madison	Huntsville	4	0	1	5	1711	1809	5420	AIRPORT RD SW and WHITESBURG DR S at WHITESPORT DR SW	Huntsville PD
9	Shelby	Hoover	4	0	1	5	8230	8815	1250	INTERSTATE 65 at VALLEYDALE RD and SOUTHLAKE PARKWAY	Hoover PD
10	Mobile	Mobile	3	0	1	3.33	2340	2406	6200	CR-70 at OLD SHELL RD and CR-70 at COSGROVE DR	Mobile PD
11	Madison	Huntsville	3	0	1	3.33	404	1744	5536	AIRPORT RD SW at MEMORIAL PKY SW and DRAKE AVE SW	Huntsville PD
12	Montgomery	Montgomery	3	0	1	3.33	327	210	S-152	JACKSON FERRY RD and LOWER WETUMPKA RD	Montgomery PD
13	Autauga	Prattville	3	0	1	3.33	892	917	1002	MAIN ST E at PROP. RD CS 5121 and COBBS FORD RD	Prattville PD
14	Montgomery	Montgomery	3	0	1	3.33	5745	10785	S-8	AL-21 at AL-53 and AL-21 at AL-53	Montgomery PD
15	Tuscaloosa	Tuscaloosa	3	0	1	3.33	533	532	5558	AL-6 at CR-37 and 7TH AVE E at HARGROVE RD E	Tuscaloosa PD
16	Montgomery	Montgomery	3	0	1	3.33	1463	8523	8192	AL-8 at ATLANTA HWY and AL-8 at ATLANTA HWY	Montgomery PD
17	Lee	Opelika	3	0	1	3.33	406	240	5580	AL-14 at PEPPERELL PKY and AL-14 at N 20TH ST	Opelika PD
18	Autauga	Prattville	4	0	1	2.5	1050	867	1002	GLYNWOOD DR at E MAIN ST and GREYSTONE WAY at E MAIN ST	Prattville PD
19	Mobile	Mobile	7	0	0	0	9783	9709	8860	MONDAY ST at PERSIMMON ST and ENGLISH ST at PECAN ST	Mobile PD
20	Mobile	Mobile	6	0	0	0	9795	56742	8860	SHORT at DAVIDSON and NO DESCRIPTION AVAILABLE	Mobile PD
21	Montgomery	Montgomery	4	0	0	0	15366	7740	S-271	INTERSTATE 85 at CITY LIMIT	Montgomery PD
22	Jefferson	Birmingham	4	0	0	0	15582	44813	S-38	NO DESCRIPTION AVAILABLE	Birmingham PD
23	Mobile	Mobile	3	0	0	0	2217	2214	1346	CR-56 at AIRPORT BLVD and CR-56 at AIRPORT BLVD	Mobile PD
24	Mobile	Mobile	3	0	0	0	10230	10429	5985	NORTHGATE DR and DAUPHIN ST at DAUPHIN SQ CONN	Mobile PD
25	Morgan	Decatur	3	0	0	0	2764	326	1205	SPRING AVE SW at SPRINGVIEW ST SW and MODAUS RD	Decatur PD

FY2020 Top 30 Segment Locations Statewide with 3 or More Total Impaired Driving Related Crashes – (Continued)

Rank	County	City	Total Crashes	Fatal Crashes	Injury Crashes	Severity	Node 1	Node 2	Route	Location	Agency ORI
26	Talladega	Sylacauga	3	0	0	0	49	436	1618	AL-38 at AL-53 and CR-511 at JAMES PAYTON BLVD	Sylacauga PD
27	Jefferson	Homewood	3	0	0	0	820	185	5033	AL-149 at GREEN SPRINGS HWY and 256B at I-65	Homewood PD
28	Montgomery	Montgomery	3	0	0	0	2996	10484	6022	ANN ST at ZELDA RD and F SCOTT DR at ZELDA RD	Montgomery PD
29	Jefferson	Birmingham	3	0	0	0	1760	1762	S-4	MORGAN ST at PIEDMONT AVE and MORGAN ST at OZARK AVE	Birmingham PD
30	Shelby	Hoover	3	0	0	0	86	93	1250	LITTLE VALLEY CT at VALLEYDALE RD and RIVERCHASE PKWY E	Hoover PD

Appendix B. General Problem Identification Results

Introduction

As part of the ongoing AOHS problem identification efforts, UA-CAPS compared FY2018 Impaired Driving (ID) crashes against FY2016-2017 ID crashes to determine any significant changes that have occurred in FY2018 from the previous two fiscal years. Impaired Driving (ID) includes both alcohol and all other drugs, and the goal was to pinpoint common factors and assess strategies that could be used to combat any growing issues. A review was also conducted of the current legislation in Alabama regarding ID laws and penalties. The findings were then taken into consideration when planning enforcement campaigns, as well as training programs to fund in the upcoming fiscal year.

This section also presents the results of a comparison of ID crashes compared to non-ID crashes in the most recent five-year period for which data are available (CY2014-2018). An over-represented value of an attribute is a situation found where that attribute has a greater share of ID crashes than would be expected if it were the same as that attribute in non-ID crashes. That is, the non-ID crashes are serving as a control to which the ID crashes are being compared. In this way anything different about ID crashes surfaces and can be subjected to further analyses.

The analytical technique employed to generate most of the displays below is called Information Mining Performance Analysis Control Technique (IMPACT). For a detailed description of the meaning of each element of the IMPACT outputs, see:

http://www.caps.ua.edu/software/care/

The first section below will compare FY2017 ID crashes against FY2015-2016 ID crashes to determine any significant changes that have occurred in FY2017 from the previous two fiscal years. After this, the comparison between ID and non-ID crashes will be presented under the following headings:

- Geographic Factors
- Time Factors
- Factors Affecting Severity
- Driver and Vehicle Demographics

The final section will present the State's Judicial Analysis.

Overall Crashes by Year

This section will compare ID crashes that occurred in FY2018 with those that occurred in the previous two fiscal years (FY2016-2017). The goal of this comparison is to surface factors that have undergone a significant change in the FY2018 time frame. A comparison by severity gives the highest level overview.

Before getting into the ID subset, it is good to get a feel for the overall difference in the crash frequencies over the past years. The following table gives a comparison of total crashes over

CY2014-2018 by severity. We conclude from considering the percentage numbers at the bottom of the table that 2018 was not significantly different in total crashes from 2016 or 2017, there being only a 1.9% difference. However, it is clear from looking at the low total frequencies in 2014 and 2015, that there is a significant increase in the trend over the five years. Fatal crashes had a dramatic increase in 2016, while there has been a regression to the mean 2017 and 2018, fatal crashes in these years is still higher than in 2014 and 2015. With regard to interpreting the remainder of the findings, we should view 2018 as quite comparable in number to 2017, and thus, retaining the increase over 2015. However, we shall see that the frequency of fatal crashes was significantly lower in 2017 and 2018 than in 2016, and that a major factor in this reduction was the reduction in the ID fatal crashes.

Crashes by Severity for Calendar Years 2015-2018

	2014	2015	2016	2017	2018	TOTAL
Fatal Injury	742	800	**996**	860	866	4264
Incapacitating Injury	6016	6530	6109	5580	5225	29460
Non-Incapacitating Inju	10027	11155	11604	11676	11870	56332
Possible Injury	12056	13681	14945	15003	15077	70762
Property Damage Only	100688	113556	118614	119478	122401	574737
Unknown	4130	4156	4069	4507	4216	21078
TOTAL	133659	149878	156337	157104	159655	**756633**

Location Analysis

Below is an example of the location analysis conducted in the state.

FY 2020 Top Impaired Driving Statewide Locations

FY2020 - Impaired Driving	Hotspots
Mileposted Interstate Locations	7
State and Federal Routes	3
Intersections	130
Segments	11
TOTAL	151

FY2020 Top 7 Mileposted Interstate Locations (5 miles in length) in Alabama with 8 or More Impaired Driving Related Crashes Resulting in Injury or Fatality

Rank	County	Route	Beg MP	End MP	Total Crashes	Fatal Crashes	Injury Crashes	S/CRS	C/MVM	ADT	Agency ORI
1	Jefferson	I-59	114.5	119.5	8	1	7	27.5	0.01	62703	ALEA - Birmingham Post
2	Jefferson	I-59	123	128	19	1	18	15.79	0.01	144624	Birmingham PD
3	Jefferson	I-59	128	133	9	0	9	27.78	0.01	103205	Birmingham PD
4	Jefferson	I-59	133	138	8	3	5	35	0.02	48251	Birmingham PD
5	Jefferson	I-65	250	255	11	4	7	30	0.01	116205	Hoover PD
6	Jefferson	I-65	256.6	261.6	10	0	10	19	0.01	126803	Birmingham PD
7	Blount	I-65	283.9	288.9	8	0	8	17.5	0.02	41275	ALEA - Decatur Post

FY2020 Top 18 Mileposted State and Federal Route Locations (5 Miles in Length) in Alabama with 3 or More Impaired Driving Related Crashes Resulting in Injury or Fatality

Rank	County	Route	Beg MP	End MP	Total Crashes	Fatal Crashes	Injury Crashes	S/CRS	C/MVM	ADT	Agency ORI
1	Russell	S-1	110.6	115.6	9	0	9	24.44	0.03	34231	Phenix City PD
2	Madison	S-1	331	336	9	0	9	16.67	0.02	59785	Huntsville PD
3	Madison	S-1	339	344	9	0	9	18.89	0.03	28249	Huntsville PD

Impaired Driving (ID) Update for FY2018

A summary of findings is given after these analyses are presented below. The first category is a general comparison of 2018 against 2014-2017. All of the other categories below this (e.g., Geographical Factors, etc.) are obtained from a comparison of ID vs. Non-ID crashes for all five years (2014-2018).

- **General Comparison of 2018 against 2014-2017**
  - Overall crash frequencies for 2018 were 10,410 crashes higher than the average per year totals for 2014-2017. Total crashes in 2018 were only about 2551 more than in 20167, but the increase from 2014 to 2018 was almost 26,000.
  - In a comparison over the five years, overall fatal crashes were down slightly, with 2018 having about 42 (1.2%) fewer fatal crashes than would be expected from the previous four-year average.
  - A similar a comparison of the calendar years of ID fatal crashes showed and overall decrease in ID fatal crashes from 198 in 2014 to 169 in 2018, ad decrease of 29 fatal crashes, a decrease of nearly 15%. The highest severity crash (Incapacitating Injury) was also down from 670 to 596, a reduction of 74 (11,0%).

- Considering the overall percentage of ID fatalities to total fatalities, the results for each year from 2014 through 2018 were 3.3%; 3.2%; 3.9%; 3.2% and 3.0%, which was fairly stable with the exception of 2016.

- **Geographical Factors**
  - County - Generally, the over-represented counties are those with combined large population centers and large rural areas, as opposed to the highly urbanized counties or the extremely rural counties. One reason that the highly urbanized counties are under-represented is the large number of low severity crashes that occur there separate and apart from ID crashes. See the rural-urban comparison below. Placed in Max Gain order, the ones with the highest potential for reduction were: Baldwin, Cullman, Marshall, Madison, Blount, Elmore, Limestone, and St Claire.
  - City Comparisons of ID crashes to Non-ID Crash Frequency. There is little surprise in this output, which tracks the areas by population. Traffic safety professionals should look for any locations that fall counter to this trend. The county rural areas (virtual cities) with max gains in excess of 160 ID crashes over their expected numbers are: Rural Mobile, Rural Madison, Rural Cullman, Rural Tuscaloosa, Rural Baldwin, Rural Blount, Rural Elmore, Rural Marshall, Rural Limestone, Rural Houston, Rural Lauderdale, and Rural Lee. [Expected numbers (or expectations) here and below are obtained from the proportion for non-ID crashes.]
  - Overall Area Comparisons Conclusions – Generally those rural areas that are adjacent to (or contain) significant urbanized areas are over-represented, since their urban areas generate more traffic even in the rural areas. Possible factors for relatively fewer severe ID crashes within urban areas include:
    - Less need for motor vehicle travel and shorter distances to the drinking establishments;
    - Larger police presence in the metropolitan areas; and
    - Lower speeds in rural areas.
  - Severity of Crash by Rural-Urban – While only about 42% of crashes occur in rural areas, nearly 69% of the fatal crashes occur there. Similar results are found for the highest severity non-fatal crashes. This is obviously the result of higher impact speeds in the rural areas. Note that additional causes of increased severity are given in the Factors Affecting Severity Section, below.
  - Rural/Urban ID Crash Frequency – Not only are impaired driving crashes more severe in rural areas, but the frequency of ID crashes in rural areas is quite high, despite the much lower population and traffic volumes. ID crashes occurred in about 42% rural as compared to about 58% urban. While only 21.76% of the crashes are expected in the rural areas, the ID proportion of crashes in the rural areas is 42.15%, or about double its expected value (significant odds ratio = 1.937).

- Highway Classifications – County roads had 2.16 times their expected proportion of crashes, and State routes had about 5% more than expected. All other roadway classifications were under-represented. County road characteristics no doubt contribute to the crash frequency. County roads are also known to be less "crashworthy" (i.e., they result in more severe crashes at comparable impact speeds).
- Locale – Reflecting the rural over-representation, open country and residential roadways show a high level of over-representation (1.672 and 1.315 odds ratios, respectively) as compared with the more urbanized area types, especially Shopping or Business, which only has about half of its expected proportion.

- **Time Factors**
  - Year – The earlier years (2014 and 2015) are the most over-represented. Odds ratios come down almost linearly each year, with 2018 being the most under-represented for ID crashes. The total number of non-ID crashes has increased dramatically from 127,692 in 2014 to 153,956 in 2018. Reported ID crashes comparing these two years have decreased from 5,967 in 2014 to 5,699 in 2018.
  - Month – There only significant over-representations by month were in March, July and February, indicating that the number of ID crashes correlated fairly well with the other crashes during the rest of the months, with the exception of September and August, which were significantly under-represented.
  - Day of the Week – This analysis is not only useful for the typical work week, but it also reflects the typical "holiday weekend" patterns. The days can be classified as follows:
    - Typical work weekday (Monday through Thursday) – these days are under-represented in ID crashes due to the need for many to go to work the following day.
    - Friday – this pattern is also reflected in the day before a weekend (or holiday), i.e., before a day off. The high ID frequency on this day is due to those who are getting an early substance abuse start to the weekend, recognizing that they have no work responsibilities the following day. However, the large numbers of non-ID crashes on Fridays causes Friday to be under-represented.
    - Saturday – the "Saturday" pattern is the worse for ID crashes in that it has both an early morning component (like Sunday) and a late night component (like Friday). So, it could be viewed as a combination of the typical Friday and Sunday.
    - Sunday – since this is the last day of a holiday sequence or weekend, its over-representation comes mainly from those who start on Saturday night and do not complete their use of alcohol/drugs until after midnight. Sunday is the most over-represented day with over twice it expected number of ID crashes; however, the low number of non-ID crashes on Sunday also contributes to this over-representation.

- "Holiday Weekends" – these can be viewed as a sequence of the weekend-pattern sequence. For example, the Wednesday before Thanksgiving would follow the Friday pattern assuming that most are at work on Wednesday. The Thursday, Friday and Saturday would follow the Saturday pattern, and the Sunday at the end of the weekend would follow the typical Sunday pattern. This is the reason that long holiday events (i.e., several days off) can be much more prone to ID crashes than the typical weekend. Three-day weekends typically give Monday off, so that Monday would behave like the typical Sunday, and both the Saturday and Sunday would follow the Saturday pattern.
- Time of Day – The extent to which night-time hours are over-represented is quite striking. Optimal times for ID enforcement would start immediately following any rush hour details, and would continue through at least 3:00 to 3:59 AM (odds ratio 5.839). The 4-5 and 5-6 AM hours are also significantly over-represented with odds ratios of 3.606 and 1.543, respectively.
- Time of Day by Day of the Week – This quantifies the extent of the crash concentrations on Friday nights, Saturday mornings and Saturday nights and early Sunday mornings. This is a very useful summary for deploying selective enforcement details, especially during the weekend hours.

- **Factors Affecting Severity**
  - ID Crash Severity -- The rate of injuries and fatalities are consistently higher in ID crashes than that of non-ID crashes. Fatality crashes are nearly 7.4 times their expected proportion, while the two highest non-fatal injury classifications have over twice their expected values when compared with non-ID crashes The odds ratio is over three (3.184) for the highest non-fatal classification, Incapacitation Injury. The other attributes analyzed in this section give the reasons for this disparity.
  - Speed at Impact – All impact speeds above 45 MPH (with the sole exception of 66-70 MPH) are dramatically over-represented with odds ratios above 2.00. See the next attribute. The over-representations increase, as expected, with increased speed with 46-50 MPH having an odds ratio or 2.173 and 96-100 MPH being 10.922. Past analyses have found the general rule of thumb that for every 10 MPH increase in speeds, the probability of the crash being fatal doubles. This was validated in the discussion of the cross-tabulation of impact speeds by severity.
  - Restraint Use by Impaired Drivers – The impaired drivers are close to 8 times more likely to be unrestrained than the non-ID causal drivers. Clearly ID drivers lose a good part of their concept of risk when they are willing to drive while impaired.
  - Fatality Crashes by Restraint Use for Impaired Drivers – A comparison of the probability of a fatal crash indicates that a fatality is almost three (2.82) times

more likely if the impaired driver is not using proper restraints. Generally, one in 30 ID crashes are fatal; but without restraints, the fatal crash ratio is 1 in about 11. So the combined effect of lower restraint use and higher speeds is a devastating combination that accounts for much of the high lethality of ID crashes.

- Number Injured (Including Fatalities) – Not only are ID crashes generally more severe to the driver, but the number of multiple injuries in these ID crashes is over-represented as well. This might have something to do with the preference of those going out to socialize to take some of their friends with them. All of the multiple injury categories are over-represented in the ID crashes, as is the single injury classification. All of the multiple injury classifications above 4 injuries had at least twice their expectations, and the 1, 2 and 3 injuries all had about twice their expectations.
- Police Arrival Delay – ID crashes generally had longer police arrival delays; in this case all arrival delays over 31 minutes were over-represented. There can be little doubt that this has to do with the rural nature of these crashes and the potential that the late night occurrence might not be discovered for some time. Delay times of over 60 minutes all had over twice their expected proportions.
- EMS Arrival Delay – Higher EMS delays were over-represented for impaired driving injury crashes in all categories above ten minutes, and dramatically (over twice the expected) for the very longer times of 61 minutes and above. This obviously contributes to the severity of crashes and the chances that the crash results in one or more fatalities. As for the very long times, these might be due to the delay in discovering the crash as much as their generally over-represented rural locations.

- **Driver and Vehicle Demographics**
  - Driver Age – Younger (16-20 year old) drivers have a very serious problem in crash causation even in the absence of impairment. However, these crashes are not generally caused by ID up until ages 19 and 20, and even at these ages they are under-represented. At 22, the first age over-representation takes place and continues on to age 55. There is a bi-modal distribution in the 21-54 year olds; 21 through about 41, and a second group from 42 to 56. Generally, the first of these might be classified as largely social drinkers; while it is inescapable that the middle aged caused ID crashes would be largely attributed to problem drinkers or those addicted to drugs.
  - Impaired Driver Gender – Males are a far greater issue in ID crashes, and if there are countermeasures that can be directed toward them, doing so would be much more cost-effective than those that are not gender based, all other things being equal. The ration of male to female causal ID drivers is over 3 to 1.
  - Causal Vehicle Type – Pick-ups had a significant over-representation and came out at the top of the Max Gain order because of their large number of ID involvements. Motorcycles were also highly over-represented. Also of interest is the proportion of pedestrians that involve ID, which is close to three times their expected number. ATVs had the highest over-representation (Odds Ratio = 4.445),

perhaps because drivers do not believe that the ID laws apply to them as long as they are not on the public highways. In order of their number of over-represented crashes, the following had significant odds ratios: Pick-Up (Four-Tire Light Truck), Passenger Car, Motorcycle, Pedestrian, and 4-Wheel Off Road ATV.

- Driver License Status – ID crashes are very highly over-represented in causal drivers without legitimate licenses challenging the effectiveness of license suspension and revocations as a traffic safety countermeasure, at least after the fact. There is no way to estimate its deterrent value. Revoked is over-represented for the ID causal drivers by close to eight times its expected proportion (compared to non-ID crashes). The following gives the highest over-represented categories along with the number of *additional* crashes (in parenthesis) that were attributed to the over-representation: Suspended (1845), Revoked (1788), Not Applicable or Unlicensed (1535), and Expired (252).
- Driver Employment Status –ID driver unemployment rate at 37.74%, and its proportion is about 78% higher than expected. This factor will be watched carefully going forward.

Judicial Analysis

The State has enacted many laws that have proven to be sound, rigorous, and easy to enforce and administer. However, it is clear that efforts must continue, both in strengthening existing laws and in passing new laws that address issues that are developing within our society. Every attempt is being made to assure that these laws clearly define offenses, contain provisions that facilitate effective enforcement, and establish effective punitive measures for deterrence. Legislative efforts have been, and will continue to have goals of defining illegal activities and remedies, which include:

- Driving while impaired by alcohol or other drugs (whether illegal, prescription or over-the-counter) and treating both offenses in a comparable matter with similar punitive and remedial programs;
- Driving with a blood alcohol concentration (BAC) limit of .08 grams per deciliter, making it illegal "per se" to operate a vehicle at or above this level without having to prove impairment;
- Driving with a high BAC (i.e., .15 BAC or greater) with enhanced sanctions above the standard impaired driving offense;
- Zero Tolerance for underage drivers, making it illegal "per se" for people under age 21 to drive with any measurable amount of alcohol in their system (i.e., .02 BAC or greater);
- Repeat offender increasing sanctions for each subsequent offense;
- BAC test refusal with sanctions at least as strict, or stricter, than a high BAC offense;
- Driving with a license suspended or revoked for impaired driving, with vehicular homicide or causing personal injury while driving impaired as separate offenses with additional sanctions;
- Open container laws, prohibiting possession or consumption of any open alcoholic beverage in the passenger area of a motor vehicle located on a public highway or right-of-way;

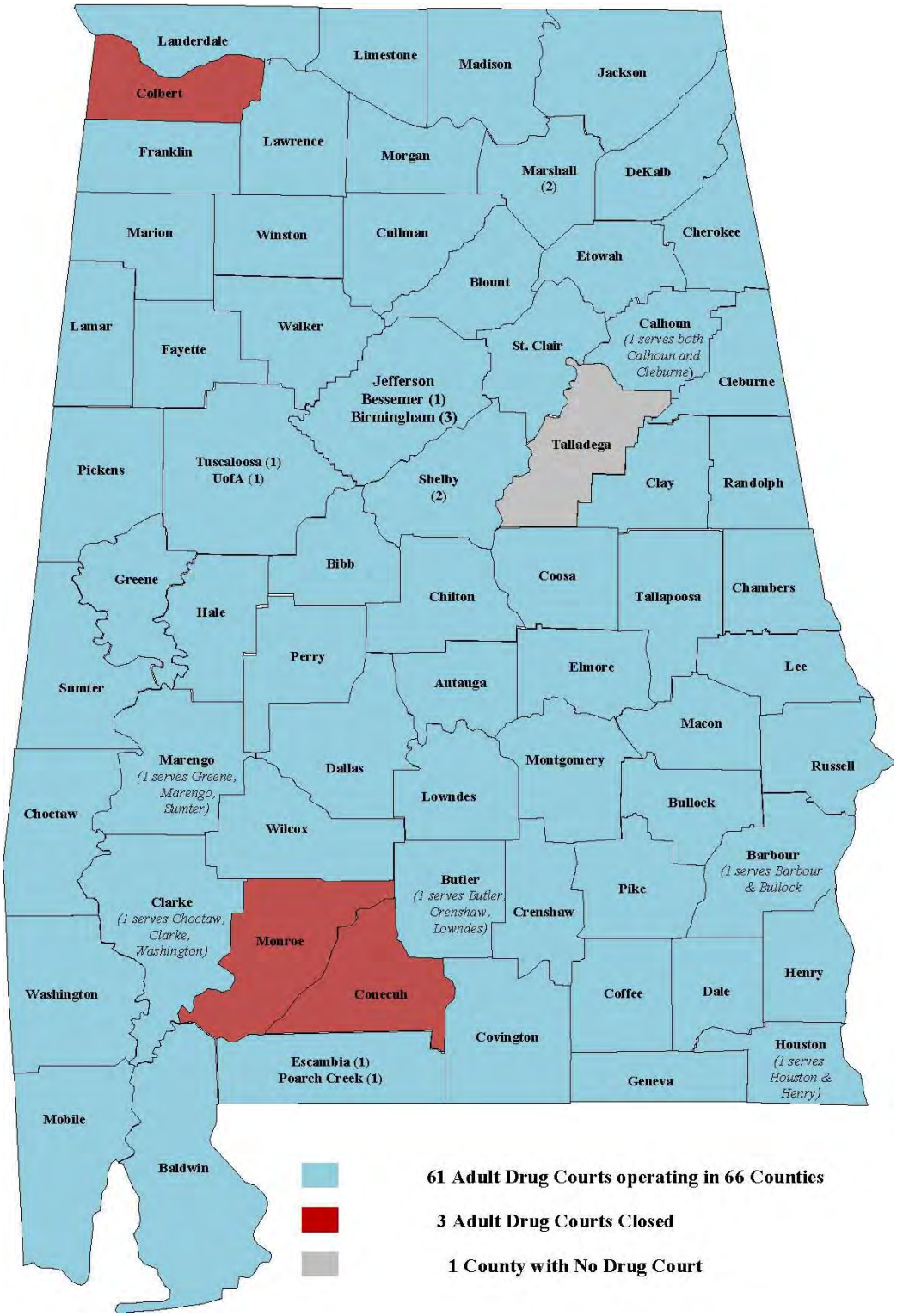
- Authorization of law enforcement agencies to conduct sobriety checkpoints, (i.e., stop vehicles on a nondiscriminatory basis to determine whether operators are driving while impaired by alcohol or other drugs);
- Authorization of law enforcement to use passive alcohol sensors to improve the detection of alcohol in drivers;
- Authorization of law enforcement to obtain more than one chemical test from an operator suspected of impaired driving, including preliminary breath tests, evidential breath tests, and screening and confirmatory tests for alcohol or other impairing drugs; and
- Requiring law enforcement to conduct mandatory BAC testing of drivers involved in fatal crashes.

While most of the above provisions have been implemented in the State, they continue to be listed above since many of them require either strengthening or clarification.

In addition to the above general structure for the laws themselves, the following structure is part of the plan for establishing effective penalties:

- Administrative license suspension or revocation for failing or refusing to submit to a BAC or other drug test;
- Prompt and certain administrative license suspension of at least 90 days for first-time offenders determined by chemical test(s) to have a BAC at or above the State's "per se" level or of at least 15 days followed immediately by a restricted, provisional or conditional license for at least 75 days, if such license restricts the offender to operating only vehicles equipped with an ignition interlock;
- Enhanced penalties for BAC test refusals, high BAC, repeat offenders, driving with a suspended or revoked license, driving impaired with a minor in the vehicle, vehicular homicide, or causing personal injury while driving impaired, including longer license suspension or revocation; installation of ignition interlock devices; license plate confiscation; vehicle impoundment, immobilization or forfeiture; intensive supervision and electronic monitoring; and threat of imprisonment;
- Assessment for alcohol or other drug abuse problems for all impaired driving offenders and, as appropriate, treatment, abstention from use of alcohol and other drugs, and frequent monitoring; and
- Driver license suspension for people under age 21 for any violation of law involving the use or possession of alcohol or illicit drugs.

Appendix C. Adult Drug Court Map



Appendix B to Part 1300 – Application Requirements for Section 405 and Section 1906 Grants

[*Each fiscal year, to apply for a grant under 23 U.S.C. 405 or Section 1906, Pub. L. 109-59, as amended by Section 4011, Pub. L. 114-94, the State must complete and submit all required information in this appendix, and the Governor's Representative for Highway Safety must sign the Certifications and Assurances.*]

State: Alabama Fiscal Year: 2023

Instructions: Check the box for each part for which the State is applying for a grant, fill in relevant blanks, and identify the attachment number or page numbers where the requested information appears in the HSP. Attachments may be submitted electronically.

■ PART 1: OCCUPANT PROTECTION GRANTS (23 CFR 1300.21)

[*Check the box above **only** if applying for this grant.*]

All States:

[*Fill in **all** blanks below.*]

- The lead State agency responsible for occupant protection programs will maintain its aggregate expenditures for occupant protection programs at or above the average level of such expenditures in fiscal years 2014 and 2015. (23 U.S.C. 405(a)(9))

- The State's occupant protection program area plan for the upcoming fiscal year is provided in the HSP at page 88 - Occupant Protection (location).

- The State will participate in the Click it or Ticket national mobilization in the fiscal year of the grant. The description of the State's planned participation is provided in the HSP at page 155- Alabama Planned Participation in Click It or Ticket Mobilization (location).

- Countermeasure strategies and planned activities demonstrating the State's active network of child restraint inspection stations are provided in the HSP at page 96- Countermeasure Strategy: Child Restraint System Inspection Station(s) (location). Such description includes estimates for: (1) the total number of planned inspection stations and events during the upcoming fiscal year; and (2) within that total, the number of planned inspection stations and events serving each of the following population categories: urban, rural, and at-risk. The planned inspection stations/events provided in the HSP are staffed with at least one current nationally Certified Child Passenger Safety Technician.

- Countermeasure strategies and planned activities, as provided in the HSP at page 96- Countermeasure Strategy: Child Restraint System Inspection Station(s) (location), that include estimates of the total number of classes and total number of technicians to be trained in the upcoming fiscal year to ensure coverage of child passenger safety inspection stations and inspection events by nationally Certified Child Passenger Safety Technicians.

Lower Seat Belt Use States Only:

[*Check **at least 3 boxes** below and fill in **all** blanks under those checked boxes.*]

☐ The State's **primary seat belt use law**, requiring all occupants riding in a passenger motor vehicle to be restrained in a seat belt or a child restraint, was enacted on _____ (date) and last amended on _____ (date), is in effect, and will be enforced during the fiscal year of the grant.
Legal citation(s):_____.

☐ The State's **occupant protection law**, requiring occupants to be secured in a seat belt or age-appropriate child restraint while in a passenger motor vehicle and a minimum fine of $25, was enacted on _____ (date) and last amended on _____ (date), is in effect, and will be enforced during the fiscal year of the grant.
Legal citations:

- _____ Requirement for all occupants to be secured in seat belt or age appropriate child restraint;

- _____ Coverage of all passenger motor vehicles;
-
- _____ Minimum fine of at least $25;

- _____ Exemptions from restraint requirements.

☐ The countermeasure strategies and planned activities demonstrating the State's **seat belt enforcement plan** are provided in the HSP at _____ (location).

☐ The countermeasure strategies and planned activities demonstrating the State's **high risk population countermeasure program** are provided in the HSP at _____ (location).

□ The State's **comprehensive occupant protection program** is provided as follows:

- Date of NHTSA-facilitated program assessment conducted within 5 years prior to the application date_____ (date);

  _____

- Multi-year strategic plan: HSP at _____(location);
- The name and title of the State's designated occupant protection coordinator is

  _____.

- List that contains the names, titles and organizations of the Statewide occupant protection task force membership: HSP at _____ (location).

□ The State's NHTSA-facilitated **occupant protection program assessment** of all elements of its occupant protection program was conducted on _____ (date) (within 3 years of the application due date);

_____

■ PART 2: STATE TRAFFIC SAFETY INFORMATION SYSTEM IMPROVEMENTS GRANTS (23 CFR 1300.22)

[*Check the box above **only** if applying for this grant.*]

All States:

- The lead State agency responsible for traffic safety information system improvement programs will maintain its aggregate expenditures for traffic safety information system improvements programs at or above the average level of such expenditures in fiscal years 2014 and 2015. (23 U.S.C. 405(a)(9))

[*Fill in **all** blank for each bullet below.*]

- A list of at least 3 TRCC meeting dates during the 12 months preceding the application due date is provided in the HSP at page 160- Traffic records coordinating committee (TRCC) (location).

- The name and title of the State's Traffic Records Coordinator is Mr. Terry Henderson, Director of the East Central Highway Safety Office

- A list of the TRCC members by name, title, home organization and the core safety database represented is provided in the HSP at page 162- TRCC members by name, title, home organization... (location).

- The State Strategic Plan is provided as follows:

    - Description of specific, quantifiable and measurable improvements at page 167- Traffic Records for Model Performance Measures (location);

    - List of all recommendations from most recent assessment at: page 165- Traffic Records Assessment Recommendations (location);

    - Recommendations to be addressed, including countermeasure strategies and planned activities and performance measures at page 166-Traffic Records Assessment (TRA) Responses that will be addressed in FY2023 (location);

    - Recommendations not to be addressed, including reasons for not implementing: HSP at page 169- Reason for not implementing the TRA Quality Control Recommendations for All Modules (location).

- Written description of the performance measures, and all supporting data, that the State is relying on to demonstrate achievement of the quantitative improvement in the preceding 12 months of the application due date in relation to one or more of the significant data program attributes is provided in the HSP at AL_FY23_405c_Interim Report (location).

- The State's most recent assessment or update of its highway safety data and traffic records system was completed on January 30, 2020 (date).

■ PART 3: IMPAIRED DRIVING COUNTERMEASURES (23 CFR 1300.23(D)-(F))

[*Check the box above **only** if applying for this grant.*]

All States:

- The lead State agency responsible for impaired driving programs will maintain its aggregate expenditures for impaired driving programs at or above the average level of such expenditures in fiscal years 2014 and 2015.

- The State will use the funds awarded under 23 U.S.C. 405(d) only for the implementation of programs as provided in 23 CFR 1300.23(j).

Mid-Range State Only:

[*Check **one box** below and fill in **all** blanks under that checked box.*]

□ The State submits its Statewide impaired driving plan approved by a Statewide impaired driving task force on _____(date). Specifically –

- HSP at _____ (location) describes the authority and basis for operation of the Statewide impaired driving task force;
- HSP at _____(location) contains the list of names, titles and organizations of all task force members;
- HSP at_____(location) contains the strategic plan based on Highway Safety Guideline No. 8 – Impaired Driving.

■ The State has previously submitted a Statewide impaired driving plan approved by a Statewide impaired driving task force on March 5, 2020 (date) and continues to use this plan.

High-Range State Only:

[*Check **one box** below and fill in **all** blanks under that checked box.*]

□ The State submits its Statewide impaired driving plan approved by a Statewide impaired driving task force on _____ (date) that includes a review of a NHTSA-facilitated assessment of the State's impaired driving program conducted on _____ (date). Specifically, –

- HSP at _____(location) describes the authority and basis for operation of the Statewide impaired driving task force;
- HSP at _____(location) contains the list of names, titles and organizations of all task force members;
- HSP at _____(location) contains the strategic plan based on Highway Safety Guideline No. 8 – Impaired Driving;
- HSP at_____ (location) addresses any related recommendations from the assessment of the State's impaired driving program;
- HSP at _____(location) contains the planned activities, in detail, for spending grant funds;
- HSP at _____(location) describes how the spending supports the State's impaired driving program and achievement of its performance targets.

□ The State submits an updated Statewide impaired driving plan approved by a Statewide impaired driving task force on _____ (date) and updates its assessment review and spending plan provided in the HSP at_____ (location).

□ PART 4: ALCOHOL-IGNITION INTERLOCK LAWS (23 CFR 1300.23(G))

[*Check the box above **only** if applying for this grant.*]

[*Fill in **all** blanks.*]

The State provides citations to a law that requires all individuals convicted of driving under the influence or of driving while intoxicated to drive only motor vehicles with alcohol-ignition interlocks for a period of 6 months that was enacted on _____ (date) and last amended on _____ (date), is in effect, and will be enforced during the fiscal year of the grant.

Legal citation(s):

_____

_____.

□ PART 5: 24-7 SOBRIETY PROGRAMS (23 CFR 1300.23(H))

[*Check the box above **only** if applying for this grant.*]

[*Fill in **all** blanks.*]

The State provides citations to a law that requires all individuals convicted of driving under the influence or of driving while intoxicated to receive a restriction on driving privileges that was enacted on _____ (date) and last amended on _____ (date), is in effect, and will be enforced during the fiscal year of the grant.

Legal citation(s):

_____

_____.

[*Check **at least one of the boxes** below and fill in **all** blanks under that checked box.*]

□ *Law citation.* The State provides citations to a law that authorizes a Statewide 24-7 sobriety program that was enacted on _____ (date) and last amended on _____ (date), is in effect, and will be enforced during the fiscal year of the grant.

Legal citation(s):

_____

_____.

□ *Program information.* The State provides program information that authorizes a Statewide 24-7 sobriety program. The program information is provided in the HSP at _____ (location).

□ PART 6: DISTRACTED DRIVING GRANTS (23 CFR 1300.24)

[*Check the box above **only** if applying for this grant and fill in **all** blanks.*]

Comprehensive Distracted Driving Grant

- The State provides sample distracted driving questions from the State's driver's license examination in the HSP at _____ (location).

- **Prohibition on Texting While Driving**

  The State's texting ban statute, prohibiting texting while driving and requiring a minimum fine of at least $25, was enacted on _____ (date) and last amended on _____ (date), is in effect, and will be enforced during the fiscal year of the grant.

  Legal citations:

  - _____ Prohibition on texting while driving;
  - _____ Definition of covered wireless communication devices;
  - _____ Minimum fine of at least $25 for an offense;
  - _____ Exemptions from texting ban.

- **Prohibition on Youth Cell Phone Use While Driving**

  The State's youth cell phone use ban statute, prohibiting youth cell phone use while driving, driver license testing of distracted driving issues and requiring a minimum fine of at least $25, was enacted on _____ (date) and last amended on _____ (date), is in effect, and will be enforced during the fiscal year of the grant.

  Legal citations:

  - _____ Prohibition on youth cell phone use while driving;
  - _____ Definition of covered wireless communication devices;
  - _____ Minimum fine of at least $25 for an offense;
  - _____ Exemptions from youth cell phone use ban.

- The State has conformed its distracted driving data to the most recent Model Minimum Uniform Crash Criteria (MMUCC) and will provide supporting data (i.e., NHTSA-developed MMUCC Mapping spreadsheet) within 30 days after notification of award.

□ PART 7: MOTORCYCLIST SAFETY GRANTS (23 CFR 1300.25)

[*Check the box above **only** if applying for this grant.*]

[*Check **at least 2 boxes** below and fill in **all** blanks under those checked boxes **only**.*]

□ Motorcycle riding training course:

- The name and organization of the head of the designated State authority over motorcyclist safety issues is _____.

- The head of the designated State authority over motorcyclist safety issues has approved and the State has adopted one of the following introductory rider curricula: [*Check at least one of the following boxes below and fill in any blanks.*]

  □ Motorcycle Safety Foundation Basic Rider Course;
  □ TEAM OREGON Basic Rider Training;
  □ Idaho STAR Basic I;
  □ California Motorcyclist Safety Program Motorcyclist Training Course;
  □ Other curriculum that meets NHTSA's Model National Standards for Entry-Level Motorcycle Rider Training and that has been approved by NHTSA.

- In the HSP at _____ (location), a list of counties or political subdivisions in the State where motorcycle rider training courses will be conducted during the fiscal year of the grant AND number of registered motorcycles in each such county or political subdivision according to official State motor vehicle records.

□ Motorcyclist awareness program:

- The name and organization of the head of the designated State authority over motorcyclist safety issues is _____.

- The State's motorcyclist awareness program was developed by or in coordination with the designated State authority having jurisdiction over motorcyclist safety issues.

- In the HSP at _____(location), performance measures and corresponding performance targets developed for motorcycle awareness that identify, using State crash data, the counties or political subdivisions within the State with the highest number of motorcycle crashes involving a motorcycle and another motor vehicle.

- In the HSP at _____ (location), the countermeasure strategies and planned activities demonstrating that the State will implement data-driven programs in a majority of counties or political subdivisions

where the incidence of crashes involving a motorcycle and another motor vehicle is highest, and a list that identifies, using State crash data, the counties or political subdivisions within the State ranked in order of the highest to lowest number of crashes involving a motorcycle and another motor vehicle per county or political subdivision.

□ **Reduction of fatalities and crashes involving motorcycles:**

- Data showing the total number of motor vehicle crashes involving motorcycles is provided in the HSP at _____ (location).

- Description of the State's methods for collecting and analyzing data is provided in the HSP at _____ (location).

□ **Impaired driving program:**

- In the HSP at _____ (location), performance measures and corresponding performance targets developed to reduce impaired motorcycle operation.

- In the HSP at _____ (location), countermeasure strategies and planned activities demonstrating that the State will implement data-driven programs designed to reach motorcyclists and motorists in those jurisdictions where the incidence of motorcycle crashes involving an impaired operator is highest (i.e., the majority of counties or political subdivisions in the State with the highest numbers of motorcycle crashes involving an impaired operator) based upon State data.

□ **Reduction of fatalities and accidents involving impaired motorcyclists:**

- Data showing the total number of reported crashes involving alcohol-impaired and drug-impaired motorcycle operators is provided in the HSP at _____ (location).

- Description of the State's methods for collecting and analyzing data is provided in the HSP at _____ (location).

□ **Use of fees collected from motorcyclists for motorcycle programs:**

[*Check **one box only** below and fill in **all** blanks under the checked box **only**.*]

□ Applying as a Law State –

- The State law or regulation requires all fees collected by the State from motorcyclists for the purpose of funding motorcycle training and safety programs are to be used for motorcycle training and safety programs. **AND**

- The State's law appropriating funds for FY ____ demonstrates that all fees collected by the State from motorcyclists for the purpose of funding motorcycle training and safety programs are spent on motorcycle training and safety programs.
  Legal citation(s):_____
  _____.

□ Applying as a Data State –

- Data and/or documentation from official State records from the previous fiscal year showing that **all** fees collected by the State from motorcyclists for the purpose of funding motorcycle training and safety programs were used for motorcycle training and safety programs is provided in the HSP at
  _____ (location).

□ PART 8: STATE GRADUATED DRIVER LICENSING INCENTIVE GRANTS (23 CFR 1300.26)

[*Check the box above **only** if applying for this grant.*]

[*Fill in **all** applicable blanks below.*]

The State's graduated driver's licensing statute, requiring both a learner's permit stage and intermediate stage prior to receiving an unrestricted driver's license, was last amended on _____ (date), is in effect, and will be enforced during the fiscal year of the grant.

Learner's Permit Stage –

Legal citations:

- _____ Applies prior to receipt of any other permit, license, or endorsement by the State if applicant is younger than 18 years of age and has not been issued an intermediate license or unrestricted driver's license by any State;
- _____ Applicant must pass vision test and knowledge assessment;
- _____ In effect for at least 6 months;
- _____ In effect until driver is at least 16 years of age;
- _____ Must be accompanied and supervised at all times;
- _____ Requires completion of State-certified driver education or training course or at least 50 hours of behind-the-wheel training, with at least 10 of those hours at night;
- _____ Prohibits use of personal wireless communications device;
- _____ Extension of learner's permit stage if convicted of a driving-related offense;
- _____ Exemptions from learner's permit stage.

Intermediate Stage –

Legal citations:

- _____ Commences after applicant younger than 18 years of age successfully completes the learner's permit stage, but prior to receipt of any other permit, license, or endorsement by the State;
- _____ Applicant must pass behind-the-wheel driving skills assessment;

- _____ In effect for at least 6 months;
- _____ In effect until driver is at least 17 years of age;
- _____ Must be accompanied and supervised between hours of 10:00 p.m. and 5:00 a.m. during first 6 months of stage, except when operating a motor vehicle for the purposes of work, school, religious activities, or emergencies;
- _____ No more than 1 nonfamilial passenger younger than 21 years of age allowed;
- _____ Prohibits use of personal wireless communications device;
- _____ Extension of intermediate stage if convicted of a driving-related offense;
- _____ Exemptions from intermediate stage.

□ PART 9: NONMOTORIZED SAFETY GRANTS (23 CFR 1300.27)

*[Check the box above **only** if applying for this grant AND **only** if NHTSA has identified the State as eligible because the State annual combined pedestrian and bicyclist fatalities exceed 15 percent of the State's total annual crash fatalities based on the most recent calendar year final FARS data.]*

The State affirms that it will use the funds awarded under 23 U.S.C. 405(h) only for the implementation of programs as provided in 23 CFR 1300.27(d).

□ PART 10: RACIAL PROFILING DATA COLLECTION GRANTS (23 CFR 1300.28)

[*Check the box above **only** if applying for this grant.*]

[*Check one box **only** below and fill in **all** blanks under the checked box **only**.*]

□ In the HSP at _____(location), the official document(s) (i.e., a law, regulation, binding policy directive, letter from the Governor or court order) demonstrates that the State maintains and allows public inspection of statistical information on the race and ethnicity of the driver for each motor vehicle stop made by a law enforcement officer on all public roads except those classified as local or minor rural roads.

□ In the HSP at _____(location), the State will undertake countermeasure strategies and planned activities during the fiscal year of the grant to maintain and allow public inspection of statistical information on the race and ethnicity of the driver for each motor vehicle stop made by a law enforcement officer on all public roads except those classified as local or minor rural roads.

In my capacity as the Governor's Representative for Highway Safety, I hereby provide the following certifications and assurances –

- I have reviewed the above information in support of the State's application for 23 U.S.C. 405 and Section 1906 grants, and based on my review, the information is accurate and complete to the best of my personal knowledge.

- As condition of each grant awarded, the State will use these grant funds in accordance with the specific statutory and regulatory requirements of that grant, and will comply with all applicable laws, regulations, and financial and programmatic requirements for Federal grants.

- I understand and accept that incorrect, incomplete, or untimely information submitted in support of the State's application may result in the denial of a grant award.

I understand that my statements in support of the State's application for Federal grant funds are statements upon which the Federal Government will rely in determining qualification for grant funds, and that knowing misstatements may be subject to civil or criminal penalties under 18 U.S.C. 1001. I sign these Certifications and Assurances based on personal knowledge, and after appropriate inquiry.

Signature Governor's Representative for Highway Safety

Date 4/30/22

William M. Babington

Printed name of Governor's Representative for Highway Safety