Interim Report #2
Alabama 2040 Statewide Transportation Plan

Prepared for

Alabama Department of Transportation
Bureau of Transportation Planning and Modal Programs

Prepared by

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SECTION 1: PURPOSE AND ORGANIZATION

The Alabama Department of Transportation (ALDOT) Bureau of Transportation Planning and Modal Programs is undertaking a one-year effort to update the long-range Alabama Statewide Transportation Plan (SWTP) to reflect conditions through a horizon year of 2040. It is important to recognize that the Statewide Plan is not intended as a list of programmed future improvements, but rather as policy guidance for future investments given current and projected needs and priorities.

Interim Report #2 is the second deliverable developed as part of the SWTP update process. This document provides an overview of transportation needs throughout the state and an assessment of the projects currently planned to meet those needs. Therefore, this report contains an in depth assessment of funding currently in the ALDOT work program throughout the state.

The remainder of this report is organized as follows:

- Section 2 – Provides an overview of the travel demand modeling process utilized to identify needs and priorities along the roadway network.
- Section 3 – Describes the outreach activities undertaken and input received to date.
- Section 4 – Summarizes current roadway related needs with regard to capacity, maintenance, safety, Intelligent Transportation Systems (ITS), and freight mobility.
- Section 5 – Describes non-roadway transportation needs based on review of relevant policy and plan documents.
- Section 6 – Identifies historical and projected transportation funding from federal and state sources.
- Section 7 – Describes projects within ALDOT's current work program.
- Section 8 – Compares identified needs against the current work program.
- Section 9 – Summarizes next steps to conclude and finalize the SWTP effort.

In closing out the SWTP effort, future deliverables will include:

- Travel Demand Modeling Documentation Report – A report detailing the development, calibration and utilization of the statewide travel demand model, which is described at a higher level in Section 2.
- Draft and Final Statewide Transportation Plan – The final report will contain statewide policy and work program recommendations based on the activities and results documented in the previous deliverables. The report will also summarize outreach and coordination activities and input received throughout the update process.

SECTION 2: TRAVEL DEMAND MODELING PROCESS

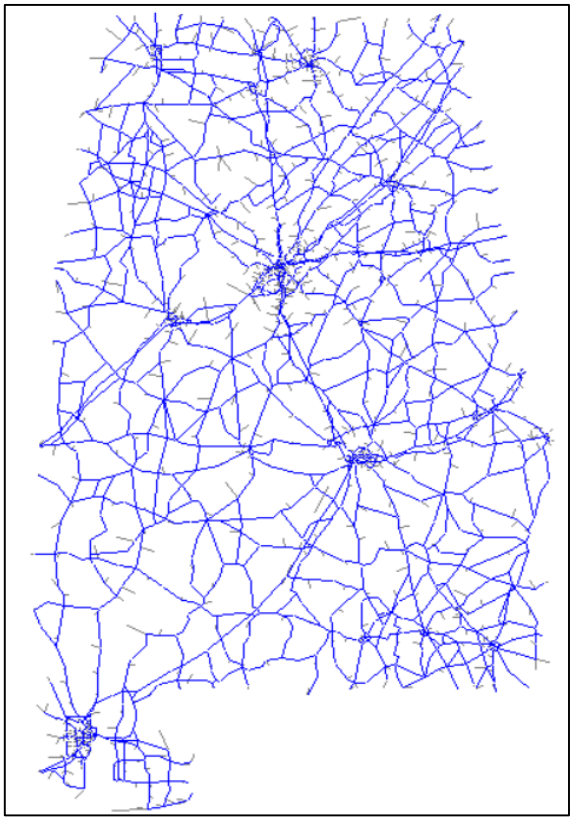
The statewide travel demand model is an important tool for determining existing and future congestion levels across the entire network. To forecast overall travel demand, the model assigns trips to the roadway network based on existing and projected socioeconomic data related population and employment. The information derived from the statewide model is key to identifying projected needs and developing an overall statewide investment strategy. A more detailed approach to the modeling process was provided in Interim Report #1.

This section presents a summary of initial activities undertaken to update the statewide travel demand model. More detail on the entire travel demand modeling process and results will be contained in the travel demand modeling documentation deliverable produced at the completion of plan update activities.

2.1 Development of Statewide Model Network

The statewide model's roadway network includes Interstates, US routes, and State routes (as defined by ALDOT) and was developed through coordination between ALDOT, Metropolitan Planning Organizations (MPOs) and Regional Councils (RCs) throughout the state. The National Highway System (NHS) is an important component of roadway network maintained by ALDOT and is also contained within the statewide model. Where necessary to allow for connectivity between roadway links and centroids, some additional roadways were inserted, primarily in urban areas. The model network maintains certain attributes for each roadway link, including speed limit and capacity. The network is shown in Figure 2-1.

Figure 2-1: Statewide Travel Demand Model Roadway Network



2.2 Population and Employment Projections

The distribution of population and employment across the state is a key component to the travel demand model. Socioeconomic (SE) data for the statewide travel demand model was obtained for base year 2010 and forecast year 2040.

- Base year 2010 SE data were obtained from the US Census Bureau and included households, household income, and employment (retail and non-retail).
- Forecast year 2040 projected household and employment values were developed using data from the MPOs (for urban areas only) and the University of Alabama Center for Business and Economic Research (CBER). County growth percentages were applied to each traffic analysis zone (TAZ) in the statewide model.

2.3 Modeling Scenarios

Three scenarios were developed for the modeling process:

1. Base year 2010 model with 2010 SE data and network. This model run reflects existing congestion and capacity needs. The results of this run are discussed in more detail in Section 4.
2. Future year 2040 No-Build Alternative, with the 2010 network and 2040 SE data. This model run reflects the baseline for future capacity needs and is also discussed in more detail in Section 4.
3. Future year 2040 with existing and committed (E+C) projects and 2040 SE data. This reflects capacity needs remaining after construction of capacity improvements through 2040 and is described in Section 8.

SECTION 3: PUBLIC AND STAKEHOLDER INPUT

Public and stakeholder input regarding statewide transportation system needs and issues has been solicited in several forums. Primary among these have been regional meetings with stakeholders and the public, Study Coordination Committee (SCC) meetings, and coordination with Alabama's Tribes and Tribal Organizations.

3.1 Regional Meetings

A series of regional outreach meetings was conducted in five locations around the state in late September 2016. The meetings presented the background and general content of the SWTP; the update schedule, status and next steps; statewide planning emphasis areas and draft SWTP goals; general existing conditions data for each mode in the transportation system; and ways to learn more and provide comments. The locations and dates were as follows:

- Huntsville – Tuesday, September 20, 2016
- Tuscaloosa – Wednesday, September 21, 2016
- Hoover – Thursday, September 22, 2016
- Mobile – Tuesday, September 27, 2016
- Montgomery – Wednesday, September 28, 2016

Two separate meetings were held in each location. The first was a Region Engineer's Briefing. At these meetings, each Region Engineer and his selected staff and stakeholders were given a presentation of the materials to be included in that evening's public and stakeholder meeting. Additional detailed discussions of the region's existing conditions, deficiencies and needs across all transportation modes were also conducted.

The public and stakeholder meetings were held in the evening. The 1.5-hour meeting followed an open house format with a formal slideshow presentation midway during the meeting. Attendees were provided several handouts, including a copy of the presentation slides, a fact sheet, and a comment sheet. Comment sheets were collected at the meeting or could be sent later via email or mail. Attendees who chose to provide their contact information were added to the study's contact list for future notifications of draft materials for review and meetings.

A compilation was prepared of all verbal and written comments received during each Region Engineer's briefing and the public and stakeholder meetings. Any comments specific to a particular location or project were also forwarded to the Region Engineer responsible for that area to ensure that all appropriate personnel received the comment. In addition, all meeting materials and the comment summaries were posted on ALDOT's webpage for the Statewide Transportation Plan (http://www.dot.state.al.us/oeweb/statewideTransportationPlan.html). Additional study materials, including interim documents and mapping, are also provided on this website.

3.2 Study Coordination Committee Meetings

SCC meetings remain the key group forum for gathering system data and information available from ALDOT's various bureaus and offices. The second SCC meeting was held on December 13, 2016. The purpose of the meeting was to provide an update of key baseline conditions, review input received during

the initial round of public and stakeholder outreach, and gather comment on the outline and content of this interim report.

A key item of discussion included the coordination with other ongoing ALDOT efforts. There are several significant planning activities underway that should be reflected in the SWTP to the greatest degree possible. These include:

- Transportation Asset Management Plan (TAMP) – which will set the overall priorities with respect to bridge and pavement maintenance needs.
- Strategic Highway Safety Plan (SHSP) – which will set priorities for safety practices, policies, and improvements.
- Statewide Bicycle and Pedestrian Plan – which will guide statewide policy regarding the implementation of bicycle and pedestrian improvements.

All of the items above are being developed by members of the SCC in their respective roles at ALDOT. The SWTP team will continue coordination activities to ensure synergy between the SWTP and these efforts.

3.3 Coordination with Tribes and Tribal Organizations

In follow-up to the general public and stakeholder meetings, the study team conducted an individual meeting with a representative of the Poarch Band of Creek Indians. During this meeting, the study team was apprised of ongoing efforts at the federal level to more fully incorporate Tribes and Tribal Organizations in the planning process. Recently FHWA convened a rulemaking committee for the Tribal Transportation Self-Governance Program (TTSGP) in order to develop a detailed interpretation of how and when Tribes should be fully involved in federal processes and programs. In the meantime, ALDOT is continuing its efforts towards more fully incorporating the Tribes into its planning processes. With regard to the SWTP, ALDOT is coordinating to receive relevant transportation and socioeconomic data and information, particularly with regard to travel demand modeling and projected growth.

The State of Alabama recognizes nine Tribes: Poarch Band of Creek Indians, Echota Cherokee Tribe of Alabama, Cherokee Tribe of Northeast Alabama, Ma-Chis Lower Creek Indian Tribe of Alabama, Southeastern Mvskoke Nation, Cher-O-Creek Intra Tribal Indians, MOWA Band of Choctaw Indians, Piqua Shawnee Tribe, and United Cherokee Ani-Yun-Wiya Nation. One is also federally recognized: the Poarch Band of Creek Indians.

SECTION 4: ROADWAY NETWORK CONDITIONS AND NEEDS

This section provides an overview of current and projected conditions and associated needs of the roadway network throughout the state. The information was derived from the baseline conditions described in Interim Report #1, the travel demand modeling process described in Section 2, and information from other sources, including various other ALDOT plan and policy documents. The roadways within this analysis only include those that are along the State roadway system and/or are of statewide significance due to their volumes and/or connectivity. A more detailed description of the State roadway system is provided in Interim Report #1. It should be noted that the analysis as part of the SWTP update is at a more macro level than required for a regional MPO Long Range Transportation Plan (LRTP). The roadway needs described in this section consist of:

- Existing and projected traffic volumes and congestion (roadway capacity needs)
- Pavement condition (resurfacing needs)
- Bridge condition and age
- Safety strategies
- Intelligent Transportation Systems (ITS) strategies

4.1 Existing Roadway Volumes and Congestion

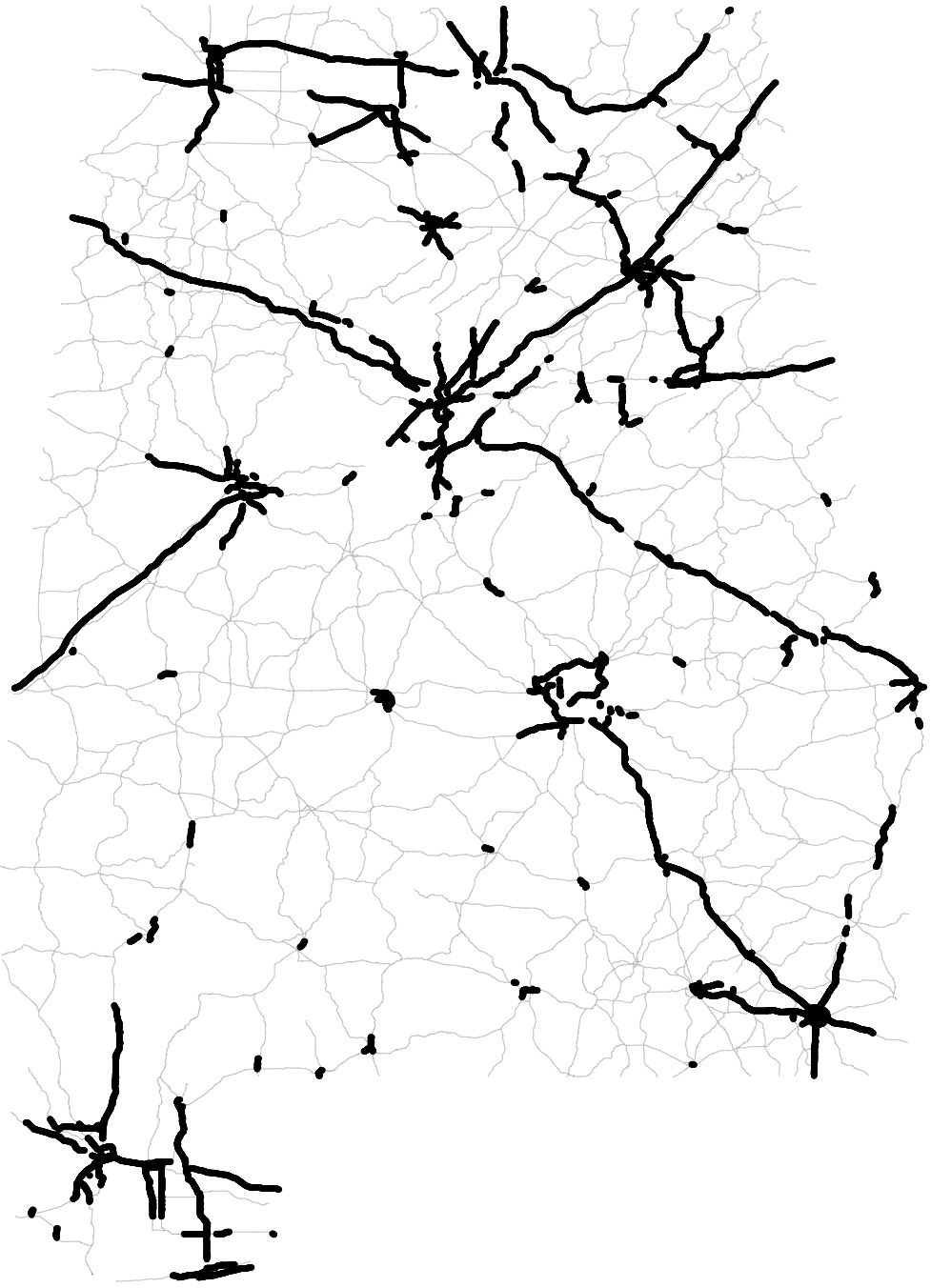
4.1.1 Existing Roadway Volumes

Roadway volumes not only reflect travel patterns, but also indicate where maintenance needs are likely to arise. Annual Average Daily Traffic (AADT) for the roadway network is reflected in Figure 4-1. Not surprisingly, the heaviest traffic volumes are seen along the interstate system. Furthermore, the Birmingham metropolitan area experiences by far the heaviest volumes of any urban area in the state. Interstate segments with volumes exceeding 60,000 AADT can be found along:

- I-20/59 in Birmingham
- I-459 in Birmingham
- I-85 from US 231 to I-65 in Montgomery
- I-65 from SR 14 to US 80 in Montgomery
- I-10 from Baldwin County through Mobile
- I-65 through Mobile
- I-165 from I-65 to I-10 in Mobile
- I-565 in downtown Huntsville

Considering non-interstate facilities, most arterials with higher volumes are found in the larger urban areas. However, some arterials connecting cities within rural areas have volumes ranging from 10,000 to 30,000 AADT. These include:

- US 280 from Columbus to Montgomery
- US 231 from Dothan to Montgomery
- Segments of US 431 from I-20 to Huntsville
- US 72 between the Huntsville and Muscle Shoals areas



- I-10 and US 98 in Mobile
- I-65, I-459, I-22 and US 280 in Birmingham
- US 98 and US 90 in Baldwin County
- US 231, US 431, and SR 53 in Huntsville
- US 280 and SR 193 between Phenix City and the Auburn-Opelika areas

A more detailed discussion of congestion levels with the completion of the planned projects through 2040 in the E+C scenario is provided in Section 8.

4.3 Maintenance Needs

A major consideration in the statewide planning process is maintaining transportation infrastructure. The two aspects of maintenance assessed in the SWTP are pavement condition and bridge condition.

4.3.1 Pavement Condition

ALDOT maintains approximately 29,400 lane-miles of roadway. Information from ALDOT's Bureau of Materials and Tests was obtained to complete the pavement condition assessment. The following factors are considered in developing pavement condition ratings (PCR):

- Roughness, which is usually a sign of public perception
- Structure, or cracking of the surface
- Rutting, which presents safety issues
- Age of the overlay

Pavement ratings are reported as follows:

- New (either the pavement has been awarded but not accepted, or accepted but not tested)
- Good: PCR ≥ 70
- Fair: 55 < PCR <70
- Marginal: PCR ≤ 55
- CBT (Concrete, Bridge, or Tunnel) – Refers to overlays that are concrete, thin overlays (1 inch) over concrete, major bridge sections (that are their own overlay), and tunnels
- Incomplete – Represents segments where more data is needed

Table 4-1 presents the pavement condition by roadway network as of December 31, 2015.

Table 4-1: Pavement Condition

Condition	Interstate		Non-Interstate NHS		Non-NHS		ALDOT-Maintained Network	
	Miles	%	Miles	%	Miles	%	Miles	%
New	176.87	17.7%	329.00	10.4%	784.48	11.7%	1,290.35	11.9%
Good	420.27	42.0%	1,862.42	58.8%	2,962.85	44.2%	5,245.54	48.2%
Fair	152.69	15.2%	512.65	16.2%	1,133.29	16.9%	1,798.63	16.6%
Marginal	91.37	9.1%	456.75	14.4%	1,804.14	26.9%	2,352.26	21.6%
CBT	157.69	15.7%	8.09	0.2%	10.62	0.2%	176.40	1.6%
Incomplete	2.59	0.3%	0.67	0.0%	7.82	0.1%	11.08	0.1%
TOTAL	**1,001.48**	**100.0%**	**3,169.59**	**100.0%**	**6,703.20**	**100.0%**	**10,874.26**	**100.0%**

	Lane Miles	%	Lane Miles	%	Lane Miles	%	Lane Miles	%
New	777.14	17.0%	1,048.23	10.1%	1,682.41	11.7%	3,507.78	11.9%
Good	1,921.70	42.1%	6,067.51	58.5%	6,375.00	44.1%	14,364.21	48.9%
Fair	701.51	15.4%	1,706.65	16.4%	2,441.41	16.9%	4,849.57	16.5%
Marginal	405.14	8.9%	1,510.70	14.6%	3,889.53	26.9%	5,805.37	19.8%
CBT	744.35	16.3%	38.87	0.4%	30.38	0.2%	813.61	2.8%
Incomplete	14.98	0.3%	2.60	0.0%	25.69	0.2%	43.27	0.1%
TOTAL	**4,564.82**	**100.0%**	**10,374.55**	**100.0%**	**14,444.43**	**100.0%**	**29,383.80**	**100.0%**

Source: ALDOT Bureau of Materials and Tests, December 2015

4.3.2 Bridge Condition and Age

Beginning with the Federal-Aid Highway Act of 1968, FHWA established National Bridge Inspection Standards (NBIS) for the proper safety inspection and evaluation of all highway bridges. The NBIS regulations apply to all publicly-owned highway bridges longer than 20 feet located on public roads. The states establish criteria for inspection level and frequency, with the routine frequency generally not to exceed every 24 months.[1] Among the many items inspected as part of the National Bridge Inventory (NBI), the key elements in bridge condition ratings include the bridge Deck (Item 58), Superstructure (Item 59) and Substructure (Item 60), as well as culverts (Item 62).

As noted in Section 2, FHWA is in the process of developing performance measures for a number of roadways characteristics, including bridge condition. The latest FHWA guidance classifies bridges and culverts as Good, Fair, or Poor based on the following criteria for any of the NBI items:

- Good: Lowest rating is 7, 8, or 9
- Fair: Lowest rating is 5 or 6
- Poor: Lowest rating is 4, 3, 2, 1, or 0

The lowest rating for any of the three NBI bridge items (Deck, Superstructure or Substructure) dictates a bridge's overall rating.

The ALDOT Maintenance Bureau reports a total of 5,752 ALDOT-maintained bridges throughout the state. Of these, slightly over half (3,101, or 54 percent) are on the NHS. Table 4-2 presents the bridge condition of non-NHS and NHS bridges throughout the state.

Table 4-2: Bridge Condition

Condition	Non-NHS Bridges		NHS Bridges		Total	
	Number	Percent	Number	Percent	Number	Percent
Good	1,081	40.8%	1,043	33.6%	2,124	36.9%
Fair	1,528	57.6%	2,007	64.7%	3,535	61.5%
Poor	42	1.6%	51	1.7%	93	1.6%
TOTAL	**2,651**	**100.0%**	**3,101**	**100.0%**	**5,752**	**100.0%**
Total Deck Area (sq. ft.)		22,709,073		60,050,035		82,759,107

Source: ALDOT Maintenance Bureau

[1] https://www.fhwa.dot.gov/bridge/inspection/, accessed 8/25/2016

Bridge condition highlights include:

- 98 percent rate in Good or Fair condition.
- 54 percent of bridges are on the NHS system, although NHS bridges comprise 73 percent of the deck area. This is logical given that NHS facilities carry more traffic and therefore include many four-lane or greater facilities.
- The comparatively lower percentage of NHS bridges rated as Good than non-NHS bridges (34 percent vs. 41 percent) may be partially attributed to their greater traffic volumes and associated wear.

Bridge age, shown in Table 4-3, is another consideration when ALDOT prioritizes bridge improvements. Over 50 percent of the state's non-NHS bridges were built prior to 1970. In contrast, slightly more than half of NHS bridges have been built since 1970. This reflects a historical trend favoring NHS facilities in project prioritization, as well as the fact that many bridges along the NHS were replaced to accommodate capacity improvements.

Table 4-3: Bridge Age

Year	Non-NHS Bridges		NHS Bridges		Total	
	Number	Percent	Number	Percent	Number	Percent
Pre-1960	1,145	43.2%	729	23.5%	1,874	32.6%
1960-1969	393	14.8%	720	23.2%	1,113	19.3%
1970-1979	187	7.1%	554	17.9%	741	12.9%
1980-1989	417	15.7%	400	12.9%	817	14.2%
1990-1999	268	10.1%	315	10.2%	583	10.1%
2000-2009	193	7.3%	284	9.1%	477	8.3%
2010-2016	48	1.8%	99	3.2%	147	2.6%
TOTAL	**2,651**	**100.0%**	**3,101**	**100.0%**	**5,752**	**100.0%**

Source: ALDOT Maintenance Bureau

4.3.3 Transportation Asset Management Plan

Each state is required to develop a risk-based asset management plan for the NHS to improve or preserve the condition of the assets and the performance of the system. The Transportation Asset Management Plan (TAMP) currently being developed by ALDOT will become an important policy document to guide maintenance improvements and priorities. It is important to note that the TAMP can address roadways beyond those on the NHS. Per FHWA requirements, a State Asset Management Plan should include:

- Summary listing of the pavement and bridge assets on the NHS, including a description of the condition of those assets
- Asset management objectives and measures
- Performance gap identification
- Lifecycle cost and risk management analysis
- Financial plan
- Investment strategies

ALDOT is currently developing its TAMP to address the items noted above. Anticipated for completion after the SWTP update, the TAMP will in essence serve as a supplemental document to the final SWTP. Until the TAMP's completion, the resurfacing and bridge projects within the current ALDOT work program will serve as the overall ALDOT strategy for addressing pavement and bridge needs across the state. More information on the bridge and repaving work program is provided in Section 7.

4.4 Safety

The *State of Alabama Strategic Highway Safety Plan*[2] (SHSP) is an FHWA required plan aimed at reducing serious accidents, injuries and fatalities on Alabama's roadways. Alabama's SHSP is currently being updated and will be available in late 2017. It is a statewide coordinated safety plan that provides a comprehensive framework for reducing highway fatalities and serious injuries on all public roads. The second edition, developed in 2011, contains historical crash data, crash causes, and strategies to mitigate crashes along Alabama's highways. Highlights of the crash statistics and trends presented in the SHSP report are included in Interim Report #1.

The recommendations resulting from the SHSP focus on needed actions in five main policy areas:

- Focus Area #1: Driver Behavioral Crashes – Strategies to curb distracted driving, specifically in the areas of speeding, alcohol/drug use while driving, cell phone use, and increasing seatbelt/restraint use. Strategies within this focus area also serve to reduce crashes from commercial vehicles, which include aggressive enforcement of commercial vehicles, improved inspection and data collection processes, additional personnel, enhanced personnel training, and public awareness/ education to reduce commercial vehicle crashes.
- Focus Area #2: Infrastructure Measures – This focus area includes strategies to improve the roadway network to alleviate accidents. Intersection strategies include signalization, realignment of atypical intersections and the addition of turn lanes. For roadway segments, multiple types of countermeasures are deployed to reduce roadway lane departure crashes and to minimize crash severity when these type crashes do occur. This includes items such as the addition of rumble strips, pavement widening, median barriers, and other safety measures.
- Focus Area #3: Legislative Initiative – Strategies include coordinating with elected officials to promote traffic safety legislation; an annual assessment of traffic data to analyze crashes and citations to identify traffic safety legislation needs; and the development and provision of educational materials to policymakers, legislators, media outlets, interested grassroots organizations, and the general public.
- Focus Area #4: Traffic Safety Information Systems – This focus area centers around the actions of the Traffic Records Coordinating Committee (TRCC), which acts as an umbrella under which safety data planning and activities occur both at the direction of the TRCC and by safety related agencies. Strategies center on the collection and dissemination to EMS and law enforcement officials. Another strategy is to continue to improve safety databases such as the CARE crash database.
- Focus Area #5: Safety Stakeholder Community – This focus area centers around raising public awareness regarding safety issues and creating more of a safety culture throughout the state.

[2] http://www.caps.ua.edu/files/2015/05/SHSP-2015.pdf

Strategies include a Traffic Safety Summit, periodic stakeholder meetings, e-newsletters, printed safety materials and a Speaker's Bureau.

The focus areas are not mutually exclusive and support one another. More information on the strategies within these focus areas can be found in the 2011 SHSP.

4.5 Intelligent Transportation Systems

The deployment and integration of ITS has enhanced ALDOT's ability to increase the productivity, mobility, safety, efficiency, and security of the state's transportation network. ITS utilizes a variety of advanced technological applications to monitor roadway conditions, relay travel information to motorists, collect and archive travel information, and modify traffic signals. These applications are a vital component of incident/emergency management and improving overall traffic conditions on a regular basis.

ITS infrastructure includes:

- Transportation Management Centers (TMC) – The base of operations and monitoring for statewide, regional or local transportation networks, TMCs provide a wide range of services, including relaying traveler information, monitoring traffic and weather conditions, and coordinating incident response. They are staffed 24 hours a day, 7 days a week.
- Field Devices – Including closed circuit televisions (CCTV), dynamic message signs (DMS) and traffic signals among others, these devices collect live traffic conditions and relay information to motorists.
- Software – Supporting TMC operations with data collected from field devices, computer applications coordinate traffic signals, collect and archive incident management information, and manage work orders to repair ITS and traffic signal infrastructure.
- Incident Management and Traveler Information Systems – Used by motorists and first responders alike, these applications relay current traffic conditions through streaming video, active dynamic message signs, incident information, and road closures.

4.5.1 Transportation Management Centers

The core of ITS architecture is the TMC. ALDOT has three regional TMCs, in Montgomery, Mobile and Birmingham, as well as a future TMC in Muscle Shoals. Each RTMC has local control of that region's field devices and is responsible for daily freeway and major arterial operations. The coverage of each RTMC is outlined below:

- Montgomery RTMC – The RTMC provides freeway and incident management for the counties of Autauga, Bullock, Butler, Dallas, Elmore, Lowndes, Macon, and Montgomery. The primary routes managed are I-65, I-85, US-80, US-82, US-31, and US-231.
- Mobile RTMC – The RTMC provides freeway and incident management for Baldwin, Conecuh, Escambia, Mobile, Clarke, Choctaw, Marengo, Monroe, Washington, and Wilcox counties. The primary routes managed are I-10, I-65, I-165, US-90, and US-98.
- Birmingham RTMC – The RTMC provides freeway and incident management for Jefferson, Shelby and Walker counties, primarily along I-20, I-59, I-65, I-459, US- 280, and I-22.
- Muscle Shoals RTMC (future) – The RTMC will provide freeway and incident management for the counties of Colbert, Franklin, Lauderdale, Lawrence, Limestone, Marion, Morgan, and Winston.

4.5.2 Incident Management

The overall planning and implementation of traffic incident management programs is another important ALDOT responsibility. ITS applications for disseminating and monitoring real-time information assist transportation agencies and their service patrols in typical operational responsibilities, including:

- Assist in incident detection and verification
- Initiate traffic management strategies on incident impacted facilities
- Protect the incident scene
- Initiate emergency medical assistance until help arrives
- Provide traffic control
- Assist motorists with disabled vehicles
- Provide motorist information
- Provide sand for absorbing small fuel and antifreeze spills
- Provide special equipment for clearing incident scenes
- Determine incident clearance and roadway repair needs
- Establish and operate alternate routes
- Coordinate clearance and repair resources
- Serve as incident commander for clearance and repair functions
- Repair transportation infrastructure

4.5.3 ITS Strategic Business Plan

ALDOT's *ITS Strategic Business Plan* was completed in 2015. Serving as the five-year plan for necessary actions and priorities to appropriately guide the ITS program, key plan elements include:

- Vision, goals and objectives for ITS deployment
- Program needs and prioritized ITS improvements
- Financial plan that highlights expenditures over the next five years

Prioritized deployment strategies fall into three primary categories:

- Interstate system improvements
- Urban area improvements
- General/statewide improvements

Interstate system projects include wireless and/or fiber optic communications, vehicle detection, surveillance cameras, and traveler information dissemination devices (ITS components or capability required for the reporting of real-time traffic and travel information). Projects also include necessary ATMS hardware, software and/or equipment upgrades at associated TMCs. Interstates scheduled for these improvements include all segments of I-65, I-20, I-59, I-10 and I-85.

Specific urban area projects include:

- Installation of ITS projects in the Birmingham region to provide real-time information on high priority/heavily congested metropolitan corridors required for compliance with CFR 511, and State-designated routes of significance. It is recommended that corridors include only State and US routes.

- Emergency management focused ITS projects along parallel routes identified as detours and emergency alternate routes to assist emergency responders to avoid congestion. Projects may include enhancements to existing traffic signals (upgraded equipment, emergency traffic signal timing plans, and adaptive traffic signal timing), transit vehicle priority and emergency vehicle pre-emption enhancements as appropriate. This is planned in the Huntsville, Mobile, Tuscaloosa and Montgomery metropolitan areas.

The remainder of projects in the work program that are not associated with a specific area or interstate facility are considered statewide projects. These various types of improvements include parallel route emergency management strategies, planning activities, and installation of equipment (DMS, CCTV, etc.) throughout the state.

4.6 Freight Mobility Needs

Freight needs included within the SWTP update were taken from the recent *Alabama Statewide Freight Plan*, which was completed in March 2016. An assessment of existing (year 2012) and projected commodity flows along key roadways identified areas where future improvements could facilitate overall freight mobility. Corridors with high commodity flow levels include:

- I-20/I-59 from west of Birmingham to the Mississippi state line
- I-65 from Decatur through Birmingham to US 84
- I-20 from I-59 to US 231
- I-59 from I-20 to US 278 in Gadsden

Highlights of the projected (2040) commodity flows by truck include:

- Steady growth is forecasted throughout the entire interstate network
- All roadway segments projected to carry more than 40,000 annual kilotons are along interstates
- The greatest freight flows (over 120,000 annual kilotons) are along:
    - I-20/59 from west of Birmingham to the Mississippi state line (especially in western Jefferson County near the Norfolk Southern Intermodal Facility and the Mercedes Plant)
    - I-65 south of Birmingham through Shelby County
    - I-65 south of Montgomery to Greenville

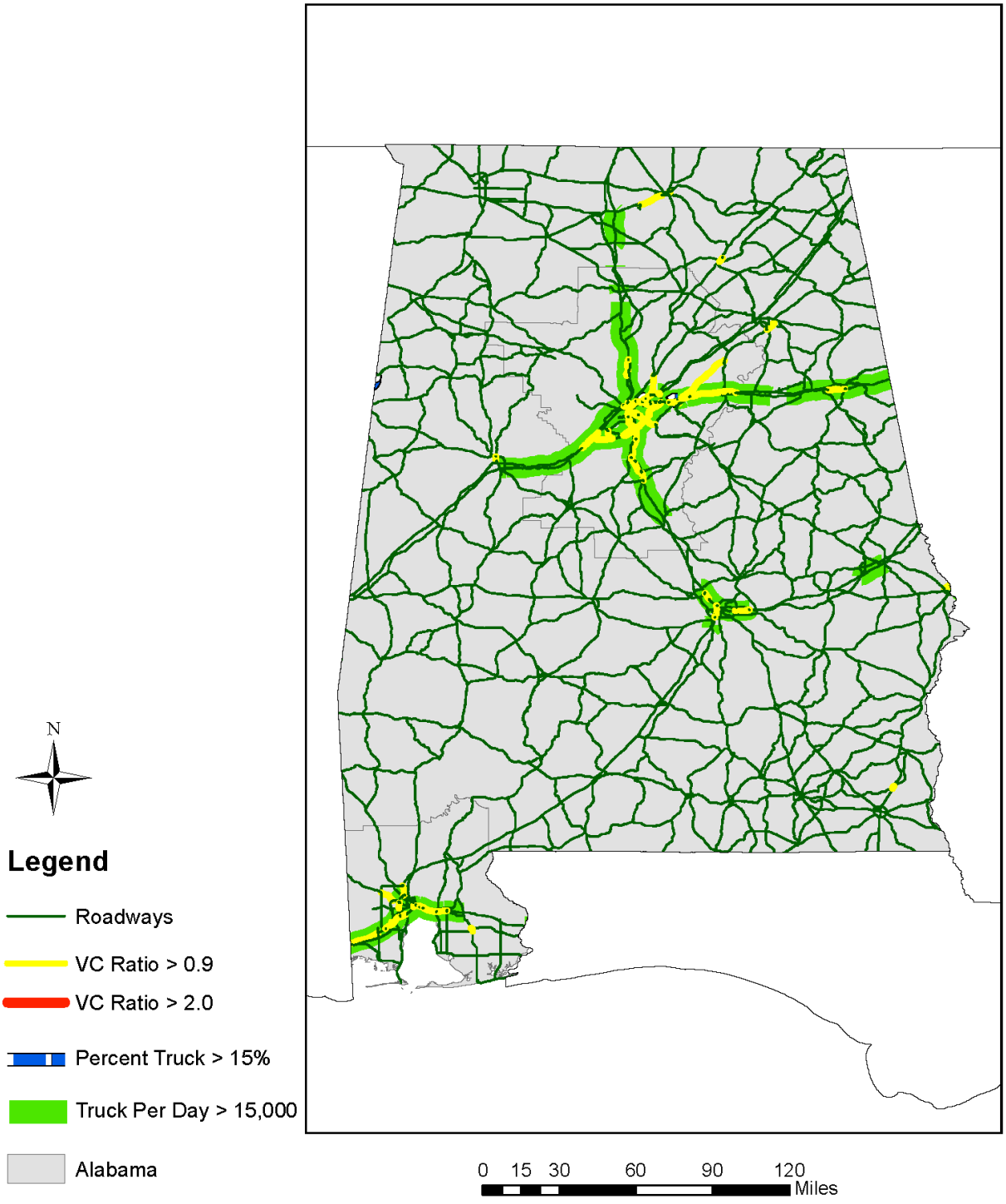
It is worth noting that much of the commodity flow volume to and from the Port of Mobile occurs by rail.

Another major consideration in the development of an overall freight investment plan involves existing and projected bottlenecks throughout the state. In many cases the bottlenecks result from general automobile traffic congestion rather than directly from freight traffic. Nevertheless, corridor congestion is a challenge to freight mobility regardless of the cause.

The locations of existing (2012) freight bottlenecks are shown on Figure 4-6. The areas include:

- All Birmingham area interstates, as well as other State system roadways such as US 11 and US 280
- In Mobile along I-10 and I-65
- In Montgomery along I-65 and I-85
- In Huntsville along I-565
- In the Anniston and Gadsden areas

Figure 4-6: 2012 Existing Bottlenecks and Freight Volumes



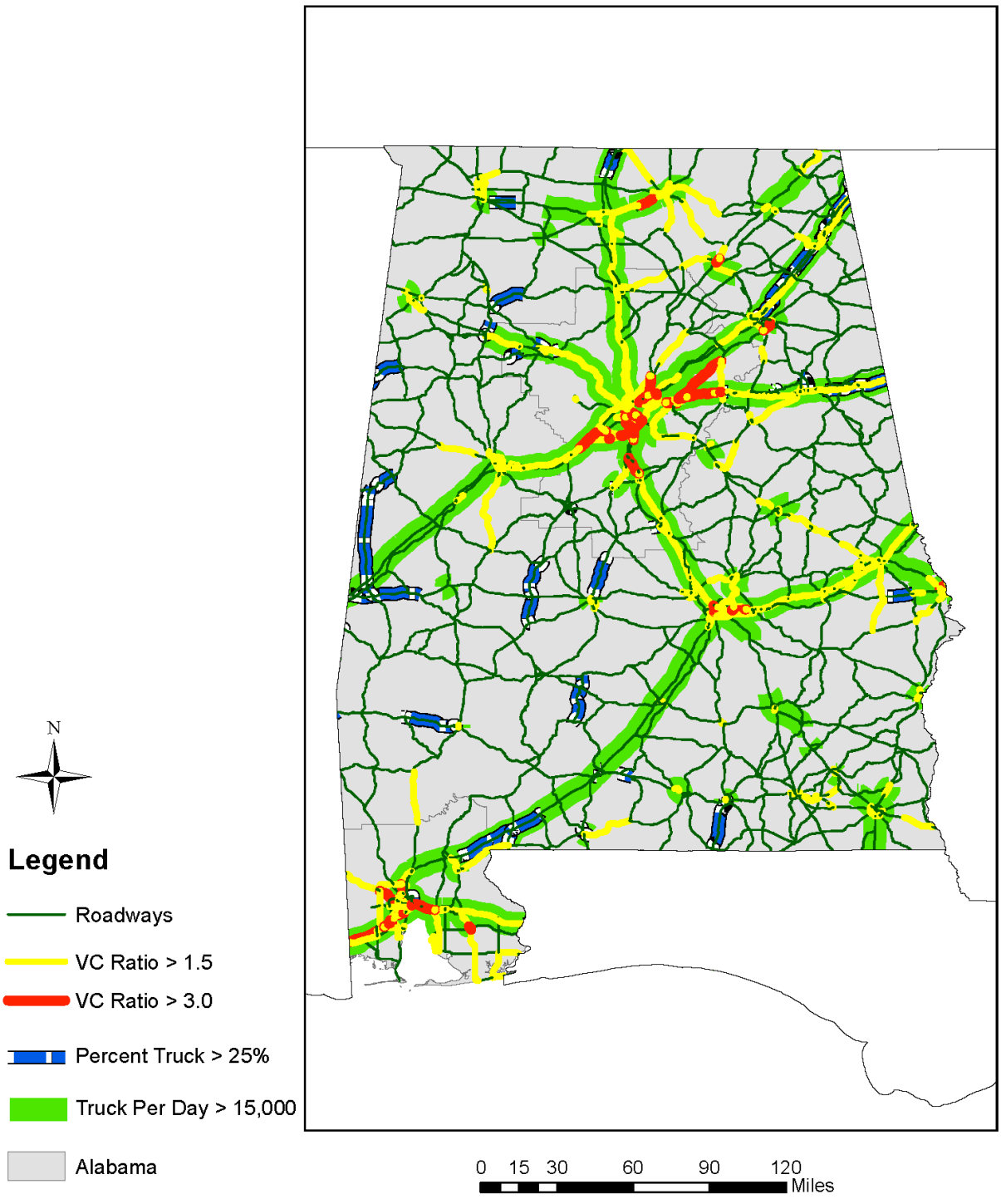
Source: ALDOT Statewide Freight Plan, 2016

With respect to the projected freight bottlenecks, the following conclusions from the Statewide Freight Plan are still applicable:

- The Birmingham area will continue to have the highest levels of congestion, occurring along its interstates and principal arterials that carry freight traffic.
- Conditions at all existing bottlenecks statewide are projected to worsen.
- Smaller pockets of bottlenecks combined with greater freight volumes are projected to occur on non-interstate facilities such US 280, US Alternate 72 and US 231.

A map of the projected freight bottlenecks is provided in Figure 4-7.

Figure 4-7: 2040 Forecasted Bottlenecks and Freight Volumes



Source: ALDOT Statewide Freight Plan, 2016

SECTION 5: NON-ROADWAY CONDITIONS AND NEEDS

The following section describes the non-roadway transportation needs throughout Alabama. Much like the roadway needs analysis, this assessment describes needs at a statewide level and not at the regional level typically included within an MPO LRTP.

5.1 Public Transportation

While ALDOT does not directly operate transit systems within the state, the SWTP is a multimodal transportation plan that recognizes statewide transit needs. To identify common needs throughout the state, a review of the following documents was conducted:

- 2040 Long Range Transportation Plan (LRTP) for each MPO in the state
- Coordinated Public Transit-Human Services Transportation Plan for each of the 12 regional commissions

The biggest public transportation need within Alabama is a lack of service. Many comments were received during the public and stakeholder regional meetings expressing the need for expanded transit services statewide in both urban and rural areas. Although some degree of public transportation, ranging from fixed route urban systems and rural demand response to specialized transportation and human services transportation, is available in each of Alabama's 67 counties, 14 Alabama counties do not have unrestricted access to public transportation services available to all residents regardless of age or ability. These counties are: Bibb, Bullock, Butler, Chambers, Crenshaw, Coffee, Dale, Elmore, Fayette, Geneva, Henry, Lamar, Limestone, and Randolph. Another three counties offer service within the primary city but not into the outlying rural areas: Mobile, Montgomery and Tuscaloosa counties.

The most significant factor limiting the provision and/or expansion of transit services throughout the state is funding availability. Federal transit programs adhere to specific formula allocations in the distribution of urban and rural transit funds. In addition, under ALDOT's current funding structure, the Department is not permitted to spend State transportation funds on transit. Therefore, the burden of funding transit falls heavily on local jurisdictions, and the lack of available local funding for transit services has a profound impact. The lower population densities and dispersed trip origins/destinations characteristic of many areas in the state result in higher operating costs, further exacerbating the funding difficulties. Nevertheless, ALDOT remains supportive of local jurisdictions funding enhanced public transportation options and continues its coordination activities within the scope of its responsibilities.

For those areas that are served by some degree of urban and/or rural services, several common needs were identified:

- Expanding service and adding routes into unserved areas, both urban and rural
- Extending service operation hours and days, especially evenings and weekends
- Decreasing headways
- Increasing opportunities for regional/intercity connections into adjacent counties

5.2 Intercity Bus

Regular (unsubsidized) intercity bus service is currently provided by Greyhound to 14 Alabama communities. In addition, subsidized rural intercity bus service began in Alabama in FY 2012. As of mid-2016, three routes were being operated by Greyhound (south and eastern portion of the state), Capital Trailways (southwestern portion), and West Alabama Rural Public Transportation (west central portion). However, in late 2016, Capital Trailways announced it would no longer participate in the program. At last report, Greyhound had expressed intentions to pick up the route being discontinued by Capital Trailways (running between Mobile and Tuscaloosa).

The Intercity Bus Service Study completed in 2014 evaluated the coverage achieved by the three existing routes, the remaining gaps in coverage, and the implications of adding another route. The primary gap in service coverage exists in the central and northern portion of western Alabama. A proposed route connecting Tuscaloosa northward to Florence was recommended.

As with general public transit service, comments received during the public and stakeholder regional meetings indicated a need for increased intercity bus services, albeit primarily on a more local scale (between adjacent and nearby counties within a region).

5.3 Passenger Rail

Passenger rail service is currently provided by Amtrak's *Crescent* route, which stops in Anniston, Birmingham and Tuscaloosa en route between New Orleans and Atlanta, Washington, DC and New York City. Re-establishing some form of passenger rail service in two previously used corridors remains a desired outcome of several ongoing efforts. The first is the Gulf Coast corridor passing east-west through Mobile en route between Florida, New Orleans and destinations further west. The second, north-south corridor would connect Birmingham and Montgomery to Mobile and ultimately Huntsville.

5.4 Bicycle and Pedestrian Mobility

At the statewide level, ALDOT is currently updating the statewide bicycle and pedestrian plan. The previous plan, completed in 2010, identified eight state bicycle routes connecting east-west and north-south through larger cities and urban areas and following existing trails and scenic routes as feasible. Most of the routes did not designate the exact roadway routing (particularly within urban areas), nor were the routes signed. The ongoing plan effort will emphasize route connectivity and the ability for facilities (bicycle in particular) to serve important transportation needs within communities. Final recommendations from that plan will be incorporated in the SWTP when available.

At the local and regional level, growing significance on bicycle and pedestrian facilities over the past two decades has resulted in increased planning, funding and construction of facilities. Within the urbanized areas, each MPO addresses bicycle and pedestrian needs within its LRTP as well as in a stand-alone bicycle and pedestrian plan. In addition, many local jurisdictions have prepared their own plans. The geographic focus of these plans and facilities is understandably at a more localized level than suitable for a statewide plan.

Increased emphasis is being placed at all levels – federal, state, regional and local – on policies that promote bicycling and walking as viable transportation alternatives. These include FHWA guidance for

the provision of bicycle and pedestrian facilities as part of road improvement projects, as well as the application of Complete Streets concepts for new construction and reconstruction.

Input from the public and stakeholder meetings confirms an increasing demand for bicycle and pedestrian facilities as alternatives to local congestion and delay. Several federal funding programs are available for bicycle and pedestrian facilities.

5.5 Aviation

Alabama has approximately 235 airport facilities, including public and privately owned airports and heliports.[3] Commercial airports exist in Muscle Shoals, Huntsville, Birmingham, Montgomery, Dothan and Mobile, with Huntsville and Birmingham being the state's two international airports. In the past, regularly scheduled commercial passenger flights also operated from Tuscaloosa Regional Airport, but they have been discontinued for a number of years. The *Alabama Statewide Airport System Plan* identifies a system of 84 publicly owned airports across the state, located in all 67 counties except Cleburne, Coosa, Houston[4], Lauderdale, Russell, and Sumter.

At the time of this report, coordination with the ALDOT Aeronautics Bureau to identify overall statewide needs is ongoing. However, review of the projects in the 2016 Airport Improvement Program (AIP) Grants from the Federal Aviation Authority (FAA) and current ALDOT work program indicates that most airport needs center around expansion and/or maintenance. Examples include:

- Construction of taxiways, aprons, runways, fuel farms and other onsite facilities
- Maintenance projects such as apron and taxiway rehabilitation, drainage improvements, and obstruction/debris removal
- Installation of guidance signs and taxiway lighting
- Acquiring land for approaches
- Conducting airport related studies and surveys

[3] http://www.dot.state.al.us/aerweb/aviation_facts.htm, accessed August 25, 2016
[4] Although owned and operated by the Dothan-Houston County Airport Authority, the Dothan Regional Airport is actually located in Dale County.

SECTION 6: PROJECTED AND HISTORICAL FUNDING

This chapter provides an overview of projected and historical funding for transportation improvements. Only transportation improvement funds received by ALDOT from FHWA, FTA and State funding sources are addressed here. Any required local matching funds for transportation improvements (such as general fund revenues, special taxes, etc.) are not addressed since their sources typically vary greatly throughout the state.

6.1 FHWA Funding Sources

An overview of projected and historical federal funding allocations for the State of Alabama follows. Federal sources provide funding for highway, transit and non-motorized transportation of all types.

6.1.1 Projected Funding Allocations

The Fixing America's Surface Transportation (FAST) Act is the latest federal transportation bill to allocate funds and dictate policy priorities for federal transportation funding. Adopted in December 2015, the FAST Act authorizes $305 billion over fiscal years 2016-2020. More detail on the FAST Act is provided in Interim Report #1. The FAST Act authorizes a single amount for each year to the following apportioned highway programs combined:

- National Highway Performance Program (NHPP) – The FAST Act provides an estimated average of $475 million to the State of Alabama to support NHS condition and performance, enable construction of new facilities on the NHS, and ensure that investments of federal-aid funds in highway construction are directed to support progress toward achieving the NHS performance targets established in the State's Asset Management Plan.
- Surface Transportation Block Grant Program (STBG, formerly Surface Transportation Program) – The FAST Act converts the long-standing Surface Transportation Program into the Surface Transportation Block Grant Program. The changes to the program were meant to increase the flexibility of funding. The FAST Act provides the State of Alabama an estimated annual average of $236 million for STBG, which is used for projects to preserve or improve conditions and performance on any federal-aid highway, bridge projects on any public road, facilities for non-motorized transportation, transit capital projects, and public bus terminals and facilities. It also has provisions for public-private partnerships (P3). Funding for Transportation Alternatives (TA) to promote transit, non-motorized transportation, and other environmental initiatives is set aside from the overall STBG funding amount.
- Highway Safety Improvement Program (HSIP) (including Railway-Highway Crossings) – The FAST Act provides estimated average annual funding of approximately $52 million to the State of Alabama. The Act also reserves a portion each year from HSIP for work zone and guardrail safety training, Operation Lifesaver, and safety clearinghouses. The FAST Act continues to require states to pursue a data-driven, strategic, and performance-focused approach to improving highway safety on all public roads, and states must still collect crash data on these roads. If the state opts out, it may not use HSIP funds on projects on such roads unless or until it collects this data. HSIP also reserves a portion of this funding for the Railway-Highway Crossings (Section 130) Program. This set-aside from the HSIP is for projects at all public crossings including roadways, bike trails

and pedestrian paths. Fifty percent of a State's Section 130 apportionment is dedicated for the installation of protective devices at crossings.

- Congestion Mitigation and Air Quality Improvement Program (CMAQ) – The CMAQ program, continued in the FAST Act at an estimated average annual funding level of nearly $12 million to the State of Alabama, provides a funding source to state and local governments for transportation projects and programs to help meet the requirements of the Clean Air Act. Under the FAST Act, a state with air-quality nonattainment or maintenance areas must use a portion of its funds to address emissions in such areas. Only the Birmingham area is in a non-attainment or maintenance area. Highlighted CMAQ eligibilities include public transit, bicycle and pedestrian facilities, travel demand management strategies, alternative fuel vehicles, facilities serving electric or natural gas-fueled vehicles, and communication equipment.
- Metropolitan Planning – The Program establishes a cooperative, continuous, and comprehensive framework for making transportation investment decisions in metropolitan areas. Once each state's combined total apportionment is calculated, funding is set aside for the state's Metropolitan Planning, with the amount of funding received for each MPO area dependent on the area population. These monies are typically used for the development of LRTPs and/or special planning projects and MPO staffing.
- National Highway Freight Program (NHFP) – The FAST Act includes an estimated average of $24 million per year, or a total of approximately $121.5 million, to the State of Alabama for the new NHFP, which focuses on improving the efficient movement of freight on the National Highway Freight Network (NHFN). Funds are distributed to states by formula for eligible activities, such as construction, operational improvements, freight planning, and performance measurement. Although the program is highway-focused, each state may use up to 10 percent of each fiscal year's NHFP funds for public or private freight rail, water facilities (including ports), and intermodal facilities. Beginning December 4, 2017, a state must have a State Freight Plan in order to obligate NHFP funds.

The projected allocations to Alabama for these funding sources from 2016-2020 are provided in Table 6-1. As shown:

- The State of Alabama is projected to receive approximately $4 billion in federal funding.
- Approximately 60 percent of funding is dedicated to the NHPP, which reflects an emphasis on improving and maintaining the NHS.
- The new NHFP reflects an increased focus on moving freight, and therefore on increasing economic development.
- As the only MPO to receive CMAQ funding, the Birmingham area is estimated to be eligible for nearly $60 million in federal funding for transit and non-motorized transportation improvements through 2020.

Table 6-1: Projected Federal FHWA Funding from the FAST Act, 2016-2020

Roadway Funding by Section	2016	2017	2018	2019
National Highway Performance Program (NHPP)	$ 455,951,217	$ 466,070,774	$ 474,932,708	$ 484,665,054
Surface Transportation Block Grant - Program	$ 209,631,313	$ 214,942,033	$ 219,553,768	$ 223,798,297
Surface Transportation Block Grant - Set Aside	$ 15,592,429	$ 15,592,429	$ 15,903,966	$ 15,903,966
Surface Transportation Block Grant - Trails	$ 1,749,787	$ 1,749,787	$ 1,749,787	$ 1,749,787
Highway Safety Improvement Program (HSIP)	$ 45,374,122	$ 46,382,630	$ 47,552,937	$ 48,104,792
Railroad-Highway Crossings	$ 4,658,949	$ 4,762,481	$ 4,866,013	$ 4,969,545
Congestion Mitgation & Air Quality (CMAQ)	$ 11,363,745	$ 11,615,956	$ 11,836,824	$ 12,053,506
Metropolitan Planning	$ 3,061,993	$ 3,123,997	$ 3,189,632	$ 3,258,116
National Freight Program	$ 22,188,355	$ 21,223,644	$ 23,153,066	$ 26,047,198
ANNUAL TOTAL	**$ 769,571,910**	**$ 785,463,731**	**$ 802,738,701**	**$ 820,550,261**

Roadway Funding by Section	2020	TOTAL	AVERAGE	PERCENTAGE
National Highway Performance Program (NHPP)	$ 494,741,953	$ 2,376,361,706	$ 475,272,341	59.1%
Surface Transportation Block Grant - Program	$ 229,079,050	$ 1,097,004,461	$ 219,400,892	27.3%
Surface Transportation Block Grant - Set Aside	$ 15,903,966	$ 78,896,756	$ 15,779,351	2.0%
Surface Transportation Block Grant - Trails	$ 1,749,787	$ 8,748,935	$ 1,749,787	0.2%
Highway Safety Improvement Program (HSIP)	$ 49,080,675	$ 236,495,156	$ 47,299,031	5.9%
Railroad-Highway Crossings	$ 5,073,078	$ 24,330,066	$ 4,866,013	0.6%
Congestion Mitgation & Air Quality (CMAQ)	$ 12,298,319	$ 59,168,350	$ 11,833,670	1.5%
Metropolitan Planning	$ 3,333,954	$ 15,967,692	$ 3,193,538	0.4%
National Freight Program	$ 28,941,332	$ 121,553,595	$ 24,310,719	3.0%
ANNUAL TOTAL	**$ 840,202,114**	**$ 4,018,526,717**	**$ 803,705,343**	**

Source: FHWA

6.1.2 Previous Funding Allocations

Federal funding allocations from 2006-2015 were subject to previous federal transportation bills:

- Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), passed in 2005
- Moving Ahead for Progress in the 21st Century Act (MAP-21), passed in 2012

Most of the funding allocation categories provided in these bills were carried forward in the FAST Act. The following programs have been consolidated and/or amended since 2006:

- Surface Transportation Program (STP) – As described above, the STP program was modified to create the STBG program.
- Interstate Maintenance – The program was established to preserve and improve Interstate highways, with authorizations distributed by formula. With the authorization of MAP-21, this funding source was merged into the STP and NHPP programs to increase the funding flexibility.
- Bridge Program – This program provided funding to improve the condition of highway bridges through replacement, rehabilitation, and systematic preventive maintenance. This funding source was also merged into the STP and NHPP programs with the authorization of MAP-21.
- Transportation Alternatives Program (TAP) – The program, initiated by MAP-21, was also rolled into the STBG program by the FAST Act.

The historical allocation of FHWA apportionments is provided in Table 6-2. As shown, Alabama's annual allocation of federal funds has increased by approximately $185 million (37 percent). The distribution of

funds between the respective programs has been relatively consistent within each of the previous transportation bills since 2006.

Table 6-2: Historical Federal FHWA Funding Formula Allocations, 2006-2015

Roadway Funding by Section	2006	2007	2008	2009	2010
Interstate Maintenance	$ 109,780,841	$ 115,109,959	$ 114,447,417	$ 108,234,405	$ 129,023,937
National Highway Performance Program (NHPP)	$ 122,360,700	$ 140,100,057	$ 128,095,257	$ 122,224,062	$ 95,440,559
Surface Transportation Program (STP)	$ 144,427,660	$ 174,402,962	$ 177,681,938	$ 236,966,673	$ 213,106,241
Bridge Funding	$ 90,913,257	$ 83,173,666	$ 79,381,316	$ 97,694,592	$ 81,647,429
Congestion Mitgation & Air Quality (CMAQ)	$ 10,054,559	$ 5,999,095	$ 8,955,730	$ 3,744,772	$ 5,719,833
Highway Safety Improvement Program (HSIP)	$ 34,158,494	$ 23,524,697	$ 24,081,031	$ 44,021,401	$ 40,216,557
Transportation Alternatives Program (TAP)					
TOTAL	**$ 511,695,511**	**$ 542,310,436**	**$ 532,642,689**	**$ 612,885,904**	**$ 565,154,556**

Roadway Funding by Section	2011	2012	2013	2014	2015
Interstate Maintenance	$ 123,937,010	$ 125,311,621			
National Highway Performance Program (NHPP)	$ 106,087,217	$ 141,255,893	$ 364,075,696	$ 372,828,304	$ 354,400,635
Surface Transportation Program (STP)	$ 219,877,951	$ 173,520,925	$ 274,110,219	$ 257,953,332	$ 293,025,257
Bridge Funding	$ 80,567,112	$ 82,095,377			
Congestion Mitgation & Air Quality (CMAQ)	$ 8,090,826	$ 8,363,143	$ 10,897,053	$ 10,902,559	$ 7,542,559
Highway Safety Improvement Program (HSIP)	$ 25,811,846	$ 28,791,802	$ 35,240,477	$ 43,098,603	$ 26,454,347
Transportation Alternatives Program (TAP)			$ 15,017,353	$ 15,278,816	$ 15,278,816
TOTAL	**$ 564,371,961**	**$ 559,338,761**	**$ 699,340,798**	**$ 700,061,614**	**$ 696,701,614**

Notes: 2006-2012 represents funding categories from the SAFETEA-LU; 2013-2015 represents MAP-21 Funding

Source: ALDOT

6.1.3 Comparison of MAP-21 and FAST Act Funding Sources

Understanding the shifts in funding priorities between current and previous transportation funding levels is an indicator of potential shifts in funded projects throughout the state. A comparison of the average funding levels for MAP-21 from 2012-2015 and the projected FAST Act funding through 2020 is provided in Table 6-3. Key observations include:

- A significant increase in federal funding for Alabama resulted from the FAST Act. The State's average annual funding from the FAST Act is approximately $105 million more than the MAP-21 levels – from $698.5 million to $803.5 million.
- Annual funding for NHPP projects increased to $475.5 million in the FAST Act from $363.7 million under MAP-21, an increase of roughly $111 million annually. Therefore, the significant increase of NHPP funding comprises more than the overall average increase, reinforcing the heightened emphasis on improving and maintaining the NHS.
- Including the Railway-Highway Crossing set-aside, the HSIP is projected to increase by $17.2 million annually from MAP-21 levels, which reflects a heightened emphasis on safety.
- With the creation of the NHFP and a projected funding level of $24 million per year, the ability to address freight bottlenecks and/or maintain significant freight corridors has increased. This also helps fund interstate projects throughout the state as a whole.

Table 6-3: Comparison of MAP-21 and FAST Act FHWA Funding Allocation Levels

Roadway Funding by Section - MAP-21	Annual Avg.	Percent of Total
National Highway Performance Program (NHPP)	$ 363,768,212	52.1%
Surface Transportation Program (STP)	$ 275,029,603	39.4%
Congestion Mitgation & Air Quality (CMAQ)	$ 9,780,724	1.4%
Highway Safety Improvement Program (HSIP)	$ 34,931,142	5.0%
Transportation Alternatives Program (TAP)	$ 15,191,662	2.2%
TOTAL	**$ 698,701,342**	
Roadway Funding by Section - FAST Act	**Annual Avg.**	**Percent of Total**
National Highway Performance Program (NHPP)	$ 475,272,341	59.1%
Surface Transportation Block Grant (STBG) - Program	$ 219,400,892	27.3%
STBG - Set Aside	$ 15,779,351	2.0%
STBG - Recreational Trails	$ 1,749,787	0.2%
Congestion Mitgation & Air Quality (CMAQ)	$ 11,833,670	1.5%
Highway Safety Improvement Program (HSIP)	$ 47,299,031	5.9%
HSIP - Railroad-Highway Crossings	$ 4,866,013	0.6%
Metropolitan Planning	$ 3,193,538	0.4%
National Freight Program	$ 24,310,719	3.0%
TOTAL	**$ 803,705,343**	

Source: FHWA and ALDOT

6.2 State Funding for Transportation

6.2.1 Revenues

As will be discussed in greater detail in Section 7, most of the funding for transportation comes from federal aid. A breakdown of the State funding sources for transportation from 2011-2015 was taken from the ALDOT 2015 Annual Report and is provided in Table 6-4. Key points of note:

- ALDOT annual revenues for transportation improvements averaged approximately $1.5 billion.
- Roughly one-third of the revenues for transportation, or an average of approximately $490 million, comes from State sources. The remaining two-thirds comes from federal aid, highway bonds, and other sources.
- Over half of the revenues ALDOT spends on transportation, an average of approximately $880 million annually, is from federal aid. It should be noted that this federal aid includes funds beyond the funding allocations presented previously, such as leftover apportionments from previous transportation bills and federal Appalachian funds.
- Of the State sources, approximately 70 percent, or an average of $341 million, are generated from gas excise taxes and motor fuel taxes.

Table 6-4: Breakdown of ALDOT State Funding Revenues

STATE REVENUE SOURCE	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	Average	%Average
Gasoline Excise Tax .04	$ 44,149,243	$ 43,761,352	$ 43,259,850	$ 43,464,804	$ 45,142,042	$ 43,955,458	2.9%
Motor Fuel Tax .06	$ 37,923,679	$ 38,161,914	$ 38,395,486	$ 39,825,059	$ 40,000,533	$ 38,861,334	2.6%
LP Gas Vehicle	$ 96,271	$ 78,814	$ 88,640	$ 68,619	$ 62,093	$ 78,887	0.0%
Motor Vehicle License	$ 98,431,281	$ 96,483,434	$ 99,743,008	$ 96,939,373	$ 98,695,945	$ 98,058,608	6.5%
Gasoline Excise Tax .07	$ 75,480,053	$ 74,861,753	$ 73,978,570	$ 74,319,373	$ 77,188,217	$ 75,165,593	5.0%
Lubricating Oil Tax	$ 638,872	$ 568,409	$ 533,205	$ 548,874	$ 525,279	$ 562,928	0.0%
Oversize Hauling Permit	$ 3,375,570	$ 3,687,700	$ 3,588,880	$ 3,786,140	$ 3,756,180	$ 3,638,894	0.2%
Motor Fuel Tax .13	$ 87,061,861	$ 87,587,934	$ 88,157,236	$ 91,440,688	$ 91,840,402	$ 89,217,624	5.9%
Truck Identification Decal	$ 849,791	$ 882,504	$ 866,599	$ 925,245	$ 972,878	$ 899,403	0.1%
Petroleum Products Inspect	$ 46,926,893	$ 46,642,046	$ 43,068,004	$ 44,335,378	$ 44,981,528	$ 45,190,770	3.0%
Outdoor Advertising Permit	$ 66,942	$ 65,980	$ 62,268	$ 67,485	$ 61,481	$ 64,831	0.0%
Motor Carrier Tax	$ 457,414	$ 529,599	$ 487,602	$ 432,116	$ 573,449	$ 496,036	0.0%
Gasoline Excise Tax .05	$ 94,242,880	$ 93,395,530	$ 92,344,275	$ 92,781,662	$ 96,361,958	$ 93,825,261	6.2%
SUBTOTAL	**$ 489,700,750**	**$ 486,706,969**	**$ 484,573,623**	**$ 488,934,816**	**$ 500,161,985**	**$ 490,015,629**	**32.3%**
OTHER REVENUE							
Federal Aid	$ 909,419,520	$ 803,689,683	$ 891,727,257	$ 920,292,665	$ 876,318,519	$ 880,289,529	58.1%
County Aid and Miscellaneo	$ 20,401,970	$ 23,524,184	$ 49,999,876	$ 63,415,600	$ 137,521,791	$ 58,972,684	3.9%
Highway Bonds	$ -	$ -	$ 38,267,934	$ 162,277,769	$ 229,169,695	$ 85,943,080	5.7%
UMTA Vehicle Disposition P	$ 419,793	$ 333,957	$ 294,447	$ 194,384	$ 270,771	$ 302,670	0.0%
Right-of-Way Title 23 Reven	$ 329,564	$ 370,554	$ 380,048	$ 250,082	$ 465,507	$ 359,151	0.0%
SUBTOTAL	**$ 930,570,847**	**$ 827,918,378**	**$ 980,669,562**	**$ 1,146,430,500**	**$ 1,243,746,283**	**$ 1,025,867,114**	**67.7%**
TOTAL RECEIPTS	**$ 1,420,271,597**	**$ 1,314,625,347**	**$ 1,465,243,185**	**$ 1,635,365,316**	**$ 1,743,908,268**	**$ 1,515,882,743**	**100.00%**

Source: ALDOT Annual Report, FY 2015

6.2.2 Expenditures

A breakdown of ALDOT transportation expenditures is provided in Table 6-5. As shown:

- From 2011-2015, ALDOT has spent an average of roughly $1.5 billion on transportation annually.
- When combined, construction and maintenance have comprised 90 percent of total expenditures since 2011, averaging roughly $1.2 billion annually.
- Behind construction, the second largest ALDOT transportation expenditure is for maintenance, averaging approximately $179.2 million annually.

Table 6-5: Breakdown of ALDOT State Transportation Expenditures

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	Average	%Average
Construction	$ 1,043,096,706	$ 1,124,254,889	$ 1,207,483,368	$ 1,196,094,270	$ 1,282,573,021	$ 1,170,700,451	78.0%
Maintenance	$ 194,010,786	$ 157,840,721	$ 182,472,294	$ 178,331,234	$ 183,609,614	$ 179,252,930	11.9%
Equipment Purchases	$ 7,001,464	$ 6,356,495	$ 7,994,000	$ 8,668,247	$ 14,338,706	$ 8,871,782	0.6%
Administration	$ 60,754,958	$ 55,469,813	$ 48,796,002	$ 75,023,789	$ 89,635,267	$ 65,935,966	4.4%
Debt Service	$ 13,605,000	$ 13,930,000	$ 14,540,000	$ 22,675,000	$ 27,555,205	$ 18,461,041	1.2%
Other Expenditures	$ 49,170,754	$ 61,876,447	$ 63,316,265	$ 59,755,208	$ 50,687,129	$ 56,961,161	3.8%
TOTAL EXPENDITURES	**$ 1,367,639,668**	**$ 1,419,728,365**	**$ 1,524,601,929**	**$ 1,540,547,748**	**$ 1,648,398,942**	**$ 1,500,183,330**	**100.0%**

Source: ALDOT Annual Report, FY 2015

6.3 Transit Funding Sources

6.3.1 FTA Apportionments Under the FAST Act

Much like the FHWA grants, specific grants are administered through the Federal Transit Administration (FTA) for transit projects, fleet, maintenance, and/or operations throughout the state. While there are numerous FTA programs available to individual grantees on a competitive basis, the following grant programs are most commonly used for transit improvements within Alabama:

- Section 5303/5304 Metropolitan and Statewide Planning – Provides funding and procedural requirements for multimodal transportation planning in metropolitan areas and states. These funds are distributed directly to MPOs throughout the state.
- Section 5307 Urbanized Area Formula Grants – Provides funding to public transit systems in Urbanized Areas (UZA) for public transportation capital, planning, job access and reverse commute projects, as well as operating expenses in certain circumstances.
- Section 5309 Capital Investment Grants – FTA's primary grant program for funding major transit capital investments, including heavy rail, commuter rail, light rail, streetcars and bus rapid transit, this discretionary grant program is unlike most others in government. The law requires that projects seeking funding under this program complete a series of steps over several years to be eligible.
- Section 5310 Enhanced Mobility of Seniors and Individuals with Disabilities – Provides funding to states for the purpose of assisting private nonprofit groups in meeting the transportation needs of the elderly and persons with disabilities.
- Section 5311 Formula Grants for Rural Areas – Provides capital, planning, and operating assistance to states to support public transportation in rural areas with populations less than 50,000, where many residents often rely on public transit to reach their destinations. The program also allows funding to federally-recognized Tribes to provide public transportation services on and around reservations or tribal land in rural areas. Funding is provided as a set-aside within the Formula Grants to Rural Areas program and allocated both by statutory formula and through a competitive discretionary program.
- Section 5337 State of Good Repair Grants – Provides capital assistance for maintenance, replacement, and rehabilitation projects of existing high-intensity fixed guideway and high-intensity motorbus systems to maintain a state of good repair. Additionally, these grants are eligible for developing and implementing Transit Asset Management Plans.
- Section 5339 Buses and Bus Facilities Grants Program – Provides funding through a competitive allocation process to states and transit agencies to replace, rehabilitate and purchase buses and related equipment and to construct bus-related facilities.
- USDOT TIGER Grants – A discretionary competitive program that provides opportunities for projects that provide economic benefit, improve access to disconnected urban and rural communities, and provide affordable transportation to employment and education centers.

In addition, both the STBG and CMAQ funding administered by FHWA are eligible for transit projects (as discussed in Subsection 6.1).

Unlike the FHWA funding allocations, the estimated annual allocation of funds for the State of Alabama through the FAST Act has not yet been released by FTA. However, a discussion of the funding sources for transit projects is provided in the following section.

6.3.2 Historical FTA Apportionments

A breakdown of historical FTA apportionments to Alabama from 2005-2016 was provided by ALDOT, as shown in Table 6.6. Key observations include:

- Since 2006, the amount of FTA allocations has averaged approximately $52.4 million annually. Of this, roughly 40 percent has been comprised of Section 5307 Urban Area Funding.
- Since the passage of MAP-21 in 2012:
  - Funding allocations to Alabama from 2013-2015 were limited to Section 5307, 5309, 5310 and 5311 funds, but the total funding has averaged roughly the same at $51.7 million.
  - Section 5307 funding has remained the largest allocation, averaging over 45 percent of the total.
  - Section 5311 funding for rural transportation systems has comprised roughly 40 percent of FTA allocations.

Table 6-6: Breakdown of FTA Funding Revenues for Alabama

Transit by Section	2006	2007	2008	2009	2010
Section 5307	$ 16,935,749	$ 17,526,501	$ 18,887,063	$ 20,037,966	$ 20,432,559
Clean Fuel					
Over the Road				$ 225,000	$ 135,000
Section 5309/5339	$ 21,807,197	$ 18,331,536	$ 23,596,664	$ 24,098,728	$ 4,545,000
Section 5310	$ 1,925,174	$ 2,035,366	$ 2,210,452	$ 2,368,767	$ 2,334,007
Section 5311	$ 11,170,104	$ 11,814,084	$ 12,743,335	$ 13,457,216	$ 13,460,050
Section 5316	$ 2,391,281	$ 2,520,379	$ 2,730,410	$ 3,204,787	$ 3,064,153
Section 5317	$ 1,279,077	$ 1,384,194	$ 1,495,272	$ 1,723,571	$ 1,691,582
TOTAL	**$ 55,508,582**	**$ 53,612,060**	**$ 61,663,196**	**$ 65,116,035**	**$ 45,662,351**
Transit by Section	**2011**	**2012**	**2013**	**2014**	**2015**
Section 5307	$ 20,504,670	$ 20,078,908	$ 23,117,305	$ 23,545,904	23,296,675
Clean Fuel		$ 2,500,000			
Over the Road	$ 148,118				
Section 5309/5339	$ 3,293,061	$ 120,000	$ 3,610,566	$ 3,670,963	3,670,963
Section 5310	$ 2,323,674	$ 2,327,856	$ 4,178,668	$ 4,200,592	4,193,149
Section 5311	$ 13,510,891	$ 13,547,339	$ 20,519,200	$ 20,641,376	20,607,569
Section 5316	$ 3,059,544	$ 3,088,769			
Section 5317	$ 1,700,319	$ 1,720,081			
TOTAL	**$ 44,540,277**	**$ 43,382,953**	**$ 51,425,739**	**$ 52,058,835**	**$ 51,768,356**

Source: FTA and ALDOT

6.4 Aviation Funding Sources

Funding for airport improvements comes primarily through the FAA and, to a lesser degree, state and other funding sources. One of the primary FAA grant programs is the Airport Improvement Program (AIP). The AIP provides grants to public agencies — and, in some cases, to private owners and entities — for the planning and development of public-use airports that are included in the National Plan of Integrated Airport Systems (NPIAS).

For large and medium primary hub airports, the grant covers 75 percent of eligible costs (or 80 percent for noise program implementation). For small primary, reliever, and general aviation airports, the grant covers a range of 90-95 percent of eligible costs, based on statutory requirements. The total amount of AIP grants received throughout the state in 2016 was approximately $45.5 million, allocated to 52 airports throughout the state.

More detailed information regarding aviation funding sources is being developed through coordination with the ALDOT Aeronautics Bureau and will be presented in the final Statewide Transportation Plan.

SECTION 7: PLANNED AND PROGRAMMED IMPROVEMENTS

This section provides an overview of the projects included within ALDOT's Comprehensive Project Management System (CPMS). The CPMS is a database of planned and programmed projects statewide and includes specifics such as project type, location, costs by phase, and implementation year. Information from the CPMS included in this analysis was from October 25, 2016. *Given the nature of information, the CPMS is subject to frequent change. Therefore, it should be noted that this section is not intended to display an exact amount of projects, costs or funding, but rather to provide a framework for the distribution of investments across different project types throughout the state*.

7.1 Projects by Type

A breakdown of all of the improvements within the CPMS work program by project type is provided in Table 7-1. It should be noted that transit projects in the CPMS are not included in the table below but discussed in Subsection 7.8. Projects programmed for constructed prior to 2040 are anticipated to be financially feasible during that timeframe.

Table 7-1: Projects in the ALDOT Work Program by Type

Project Types	# of Projects	Perecentage
Additional Lanes	103	6.9%
New Roadways	53	3.5%
TOTAL CAPACITY	**156**	**10.4%**
Bridge Projects	406	27.2%
Resurfacing Projects	296	19.8%
Safety Improvements	256	17.1%
Operations Improvements	110	7.4%
Freight Projects	5	0.3%
Bicycle and Pedestrian Improvements	182	12.2%
Aeronautics	20	1.3%
Other Improvements	62	4.2%
TOTAL NON-CAPACITY	**1337**	**89.6%**
TOTAL IMPROVEMENTS	**1493**	

Source: ALDOT Comprehensive Project Management System (CPMS), October 25, 2016
Note: Table does not include transit-related projects/expenditures

As reflected in Table 7-1, nearly 90 percent of the projects in the current work program are non-capacity projects. As this indicates, ALDOT prioritizes improvements that preserve existing infrastructure and emphasizes cost-effective means of improving overall mobility, such as operational improvements and ITS. This is consistent with the direction of FHWA.

7.2 Funding in ALDOT Work Program

While the number of capacity projects in the ALDOT work program represents a relatively small share of the total projects, the amount of funding for capacity projects in the current program makes up a large share of available funds. As shown in Table 7-2 below:

- Roughly 57 percent of all funding in the current work program is for capacity improvements.
- Of the maintenance projects, bridge projects make up the most, with over 20 percent of the non-capacity projects.

Table 7-2: Current Funding in the ALDOT Work Program through 2040

Project Type	Funding	Percentage
Additional Lanes	$ 2,664,672,745	33.3%
New Roadways	$ 1,843,991,706	23.0%
TOTAL CAPACITY	**$ 4,508,664,451**	**56.3%**
Bridge Projects	$ 1,698,439,771	21.2%
Resurfacing Projects	$ 647,487,654	8.1%
Safety Improvements	$ 305,173,061	3.8%
Operations Improvements	$ 405,187,352	5.1%
Freight Projects	$ 104,859,892	1.3%
Bicycle and Pedestrian Improvements	$ 160,727,542	2.0%
Aeronautics	$ 8,133,575	0.1%
Other Improvements	$ 169,013,532	2.1%
TOTAL NON-CAPACITY	**$ 3,499,022,378**	**43.7%**
TOTAL IMPROVEMENTS	**$ 8,007,686,829**	

Source: CPMS, October 25, 2016
Note: Table does not include transit-related projects/expenditures

While the imbalance between capacity and non-capacity improvement funding can be attributed to some degree to the fact that many non-capacity projects have not been placed into CPMS, the impact of capacity improvements to overall project costs is noticeable. Another key issue with regard to recent funding priorities is whether or not projects are located on the NHS.

The sections that follow will provide more detail on the current work program for:

- Roadway capacity improvements (adding lanes and new roadways)
- Maintenance projects (pavement and bridge)
- Safety improvements
- Operations improvements
- Bicycle and pedestrian improvements
- Freight related improvements
- Other improvements
- Transit improvements

7.3 Roadway Capacity Improvements

Two primary types of improvements add capacity to roadways: constructing additional lanes along an existing roadway or constructing a new roadway. A breakdown of the roadway capacity improvements and their associated costs is provided in Table 7-3.

Table 7-3: Capacity Improvements in CPMS

Capacity Improvement Type	Projects	Federal Share	State Funded	Local/Other	TOTAL
Additional Lanes	103	$ 2,132,506,940	$ 464,271,743	$ 67,894,062	$ 2,664,672,745
New Roadways	53	$ 1,460,824,224	$ 331,199,254	$ 51,968,228	$ 1,843,991,706
TOTAL	**156**	**$ 3,593,331,164**	**$ 795,470,996**	**$ 119,862,290**	**$ 4,508,664,451**

Source: CPMS, October 25, 2016

Consistent with federal guidelines, it is assumed that the federal share of funding for all roadway capacity improvements would be approximately 80 percent. As previously noted, approximately $4.4 billion of planned capacity improvements are scheduled through 2040. As might be expected, most improvements are in urbanized areas that carry heavier traffic volumes.

One of the key improvements scheduled prior to 2040 is the widening of the I-10 Mobile River Bridge in Mobile and Baldwin counties. The improvement consists of two projects, totaling approximately $850 million, to widen I-10 over Mobile Bay from four to eight lanes. Both projects are scheduled for construction in 2020.

Other significant capacity improvements prior to 2040 throughout the state include:

- Widening of I-65 from US 31 to CR 52 in Shelby County (four to eight lanes)
- Widening of I-85 from Taylor Road to east of Chantilly Parkway in Montgomery (four to six lanes)
- Widening of I-85 from Gateway Drive (Exit 58) to US 29 (Exit 64) in Lee County (four to six lanes)
- Widening of I-20/59 from US 11 to I-459 in Jefferson County (four to six lanes)
- Widening of I-20/59 from Black Warrior Parkway to US 82 in Tuscaloosa County (four to six lanes)
- Extension of I-22 from I-65 to US 31 in Jefferson County as new four-lane interstate
- Widening of US 72 from County Line Road to Providence Main Road in Madison County (four to six lanes)
- Widening of US 84 from I-65 near Evergreen to CR 7 in Conecuh County (two to four lanes)
- Widening of SR 181 from US 98 to CR 64 in Baldwin County (two to four lanes)

7.4 Maintenance Projects

This subsection describes bridge and resurfacing projects in the current work program, which are shown in Table 7-4.

Table 7-4: Distribution of Maintenance Projects in CPMS

Project Type	Projects	Funding
Bridge Projects	406	$ 1,698,439,771
Resurfacing Projects	296	$ 647,487,654
TOTAL	**702**	**$ 2,345,927,425**

Source: CPMS, October 25, 2016

7.4.1 Bridge Improvements

The CPMS has several different categories for bridge improvements, such as bridge replacement, bridge and approaches, and general bridge improvements. Because these categories are not mutually exclusive, they were not broken out by these maintenance categories. It is also important to note that many bridge improvements are associated with other project types, particularly capacity improvements.

Table 7-5 displays the distribution of bridge projects through 2040. Highlights of the project types are as follows:

- The general bridge category (as categorized in CPMS) makes up approximately 50 percent of the overall funding of $1.7 billion for bridge projects. These improvements consist of a mix of different project types.
- Over 71 percent of the 406 bridge projects are bridge replacement projects, with an average cost of $2.1 million.

Table 7-5: Bridge Improvements in CPMS

Projeect Type	Projects	Federal	State	Other/Local	TOTAL
Bridge Culvert	3	$ 672,000	$ 168,000	$ -	$ 840,000
Bridge Repairs	2	$ 1,951,670	$ 364,687	$ 123,231	$ 759,588
Bridges and Approaches	27	$ 102,399,575	$ 20,242,171	$ 4,985,545	$ 127,627,291
Bridge (General)	45	$ 660,659,312	$ 162,108,136	$ 2,413,026	$ 825,180,474
Bridge Rehabilitation	9	$ 16,073,817	$ 1,758,752	$ 373,600	$ 18,206,170
Bridge Replacement	292	$ 513,150,857	$ 102,937,704	$ 22,743,365	$ 638,831,927
Bridge Maintenance	3	$ 4,819,843	$ 528,469	$ 15,904	$ 5,364,217
Bridge Painting	3	$ 7,940,724	$ 662,681	$ 60,000	$ 8,663,405
Bridge Widening	10	$ 41,213,579	$ 8,044,119	$ 956,242	$ 50,213,939
Bridge Repairs/Rip-Rap	2	$ 1,659,578	$ 405,108	$ 9,786	$ 2,074,473
Bridge Removal	10	$ 16,823,756	$ 3,737,831	$ 116,699	$ 20,678,287
TOTAL	**406**	**$ 1,367,364,712**	**$ 300,957,659**	**$ 31,797,400**	**$ 1,698,439,771**
Federal/State/Local		80.5%	17.7%	1.9%	

Source: CPMS, October 25, 2016

There are several significant bridge projects in CPMS, including:

- Bridge replacement on US 84 over the Tombigbee River and relief bridges in Choctaw County, totaling approximately $37 million
- Bridge replacement on I-65 over Murder Creek and relief bridges in Conecuh County, totaling approximately $33 million
- Bridge replacement on US 80 over the Alabama River in Dallas County, totaling $22.1 million

7.4.2 Resurfacing

There are two types of resurfacing projects within CPMS: pavement rehabilitation and resurfacing. A breakdown of the resurfacing projects is provided in Table 7-6.

Table 7-6: Resurfacing Projects in CPMS

Project Type	Projects	Federal Share	State Funding	Local/Other	TOTAL
Pavement Rehabilitation	16	$ 85,656,970	$ 12,504,870	$ 2,126,716	$ 100,288,556
Resurfacing	280	$ 441,801,380	$ 68,985,212	$ 36,412,506	$ 547,199,098
Total Resurfacing Totals	**296**	**$ 527,458,351**	**$ 81,490,082**	**$ 38,539,222**	**$ 647,487,654**
Federal/State/Local Percentage		81.5%	12.6%	6.0%	

Source: CPMS, October 25, 2016

In reviewing the table above, roughly 93 percent of the resurfacing projects in CPMS are comprised of 280 general resurfacing projects from 2017-2040. Other facts of note:

- Resurfacing project costs average approximately $2 million each, as compared to an average of approximately $8 million for pavement rehabilitation projects.
- While not shown in the table, it should be noted that all of the pre-2040 pavement rehabilitation projects are scheduled for construction by 2020 and have an average cost of $6.2 million. The two pavement rehabilitation projects that are not planned for construction cost more.

Key resurfacing and pavement rehabilitation projects scheduled from 2017-2040 include:

- Three resurfacing projects along I-65 in Chilton County from the Shelby County line to the Autauga County line, totaling $43.3 million
- Pavement rehabilitation on I-20/59 from Arkadelphia Road to near 15th Street and on I-65 from south of 1st Avenue to 16th Street North in Jefferson County, totaling $15.3 million
- Pavement rehabilitation on I-85 from west of Eastern Boulevard to west of Taylor Road in Montgomery County, totaling $10.1 million
- Resurfacing of I-65 from I-565 to US 72 in Limestone County, totaling approximately $11.4 million

7.5 Safety Improvements

CPMS identifies several types of safety projects, and many safety improvements are part of larger projects such as capacity improvements. Table 7-7 shows the breakdown of safety projects in CPMS. For the purposes of this report, the following project types were considered as safety improvements:

- Widening and resurfacing
- Guiderails
- Lighting projects
- Railroad crossing improvements
- General safety improvements
- Adding shoulders
- Shoulder improvements
- Slide corrections
- Unclassified safety improvements

Table 7-7: Safety Projects in CPMS

Project Type	Projects	Federal Share	State Funded	Local/Other	TOTAL
Widening and Resurfacing	113	$ 159,917,295	$ 17,763,115	$ 26,767,520	$ 204,447,930
Guiderail - 2017-2040	7	$ 11,205,094	$ 1,245,010	$ -	$ 12,450,105
Lighting Projects	19	$ 30,011,120	$ 3,843,115	$ 2,578,081	$ 36,432,316
Railroad Crossing Improvements	30	$ 5,719,254	$ 506,070	$ -	$ 6,225,324
General Safety Improvements	19	$ 25,437,647	$ 2,457,322	$ 622,827	$ 28,517,796
Add Shoulder	3	$ 956,900	$ -	$ 239,225	$ 1,196,125
Shoulder Improvements	2	$ 3,114,893	$ -	$ 778,723	$ 3,893,617
Slide Corrections	14	$ 3,331,202	$ 1,379,894	$ 92,298	$ 4,803,395
Unclassified Safety	49	$ 5,853,084	$ 1,125,365	$ 228,005	$ 7,206,454
Total Safety Improvements	**256**	**245,546,490**	**28,319,892**	**31,306,679**	**305,173,061**
Federal/State/Local Percentage		80.5%	9.3%	10.3%	

Source: CPMS, October 25, 2016

As reflected in Table 7-7 above, key points regarding safety projects include:

- A total of 113 projects (44 percent of all safety projects) are widening and resurfacing projects, representing roughly 67 percent of all funding for safety improvements. These improvements are solely on surface streets and include:
  - US 431 segments in Barbour, Lee, and Randolph counties
  - US 280 in Jefferson County
  - US 84 in Covington County
  - US 231 in Coosa County
- The second most common safety improvement is railroad crossing improvements. The 30 projects have a relatively inexpensive per project average cost of roughly $200,000. Furthermore, most of these improvements are on County roadways as opposed to the State network.
- Unclassified projects are primarily improvements related to emergency response roadway repairs. As a result, most of the projects are relatively low-cost repairs on surface streets.
- General safety improvements are those that are classified as safety in CPMS and are a mix of different improvement types.
- Other significant improvements on the State system include:
  - Lighting on several interstates statewide
  - Safety barriers on I-59 in DeKalb County
  - Guiderail installations on I-20/59 in Tuscaloosa County
  - Clear zone safety improvements on I-65 in Morgan County

7.6 Operations Improvements

For the purposes of this report, the following project types were considered as operations improvements:

- Interchange construction/improvements
- Intersection improvements
- Interchange modification
- Signal projects
- Signage improvements/rehabilitation
- Turn lane improvements

- Traffic Control Center
- Unclassified ITS/operations
- Unclassified access management projects

A breakdown of operations improvements is provided in Table 7-8. There are 110 operations projects in CPMS scheduled prior to 2040. Other key characteristics of planned improvements within the CPMS are:

- Over half of the projects are intersection improvements, totaling $206.5 million
- In general, the most expensive operations projects are interchange improvements, averaging approximately $20 million per project
- There are 13 ITS projects scheduled through 2020 at a total of $24.5 million, which are associated with the installation of CCTVs, monitors and other ITS equipment, and all but two are located in Jefferson County

Key operational improvements include:

- I-10 interchange modifications from Texas Street to West Tunnel entrance in Mobile County, totaling $30.5 million
- Construction of grade separated interchange at SR 69 and US 11 in Tuscaloosa County, totaling $43.6 million
- I-459 interchange improvements at South Shades Crest Road in Jefferson County, totaling $30 million

Table 7-8: Operations Projects in CPMS

Project Type	Projects	Federal Share	State Funded	Local/Other	TOTAL
Interchange Construction/Improvements	5	$ 81,436,240	$ 9,146,560	$ 7,400,000	$ 97,982,800
Intersection Improvements	60	$ 166,292,068	$ 21,780,058	$ 18,435,189	$ 206,507,315
Interchange Modifications	2	$ 5,436,302	$ 201,890	$ 904,824	$ 6,543,016
Signal Projects	10	$ 20,900,360	$ 1,885,685	$ 3,339,405	$ 26,125,450
Signage Improvements/Rehabilitation	5	$ 12,236,568	$ 1,480,620	$ 3,600	$ 13,720,788
Turn Lane Improvements	11	$ 12,884,968	$ 86,000	$ 3,186,742	$ 16,157,711
Traffic Control Center	1	$ 323,200	$ -	$ 80,800	$ 404,000
Unclassified ITS/Operations	15	$ 19,645,364	$ 4,033,850	$ 877,491	$ 24,556,704
Unclassified Access Management Projects	1	$ 10,551,655	$ 2,637,914	$ -	$ 13,189,568
Total Operations Improvements	**110**	**$ 329,706,725**	**$ 41,252,576**	**$ 34,228,051**	**$ 405,187,352**
Federal/State/Local Percentage		81.4%	10.2%	8.4%	

Source: CPMS, October 25, 2016

7.7 Freight-Related Improvements

The Statewide Freight Plan identified a number of projects in CPMS that will benefit overall freight movement. These include capacity, maintenance, operations and safety projects along roadways that serve significant volumes of freight traffic. Projects identified through 2040 include:

- Widening the I-10 Bayway and Mobile River bridge (2020)
- Widening I-10 from CR-39 to CR-59 in Mobile County (2023) from four to six lanes
- Widening I-59/I-20 in Tuscaloosa County (2018) and Jefferson County (2023-2025) from four to six lanes
- Widening I-65 in Shelby County (2021) and Cullman County (2025) from four to six lanes
- Widening I-85 in Montgomery County (2030) and Lee County (2030) from four to six lanes

- Extending I-22 from east of I-65 to US 31 (2025) as a new four-lane facility
- Widening US 98 in Mobile County from the Mississippi state line to east of Glenwood Road (2022-2025) from two to four lanes
- Widening and relocating US 82 west of Gordo to the Tuscaloosa County line (2019) from two to four lanes
- Widening US 84 in Conecuh County from the Monroe County line to CR-7 (2032) from two to four lanes
- Widening SR 157 from SR 69 to east of US 31 in Cullman County (2020) from two to five lanes
- Widening US 72 in Madison County (2017), Limestone County (2019) and Lauderdale County (2024) from four to six lanes

Some of the projects identified in the Freight Plan now have different construction dates. The two projects listed below are no longer in the work program prior to 2040:

- Widening I-565 from I-65 to the Madison County line from four to six lanes
- Widening US 43 in Clarke County from four to five lanes

In addition, three specific projects in CPMS directly address freight mobility:

- Truck climbing lane on SR 21 in Monroe County, totaling $10.5 million in 2025
- State-funded industrial access road to support Project Thunder in Lee County, totaling approximately $1.4 million in 2017

7.8 Transit Improvements

A breakdown of transit expenditures in CPMS is provided in Table 7-9. As shown, most of the funding is allocated for capital and operating expenses to urban transit systems in the following metropolitan areas: Birmingham, Mobile, Montgomery, Decatur, Gadsden, Huntsville, Anniston, Dothan, Auburn/Opelika, Tuscaloosa, Phenix City, Florence, and Daphne/Fairhope. Approximately 12 percent of the funding is for a $40 million Bus Rapid Transit project in Birmingham that is being funded through a USDOT TIGER Grant. Another significant share of the transit funding is for capital and operating expenses for rural transit systems under the Section 5311 program.

Of the approximately $324.4 million in transit funding in CPMS, nearly 70 percent comes from federal funding. Most of these funds are from the FTA funding sources described in Section 6. FHWA funds are primarily STP funds associated with paratransit services and CMAQ funding for capital and operating expenses for transit in the Birmingham area.

Table 7-9: Transit Funding in CPMS

TRANSIT FUNDING - 2017-2020	Federal Share	State Funded	Local/Other	TOTAL	Percentage
Section 5307 Totals	$ 124,417,974	$ -	$ 54,855,939	$ 179,273,913	55.3%
Section 5309 Totals	$ 5,985,862	$ -	$ 1,415,465	$ 7,401,327	2.3%
Section 5310 Totals	$ 10,435,262	$ -	$ 2,997,018	$ 13,432,280	4.1%
Section 5311 Totals	$ 20,191,292	$ -	$ 12,566,266	$ 32,757,557	10.1%
Section 5316 Totals	$ 253,327	$ -	$ 253,327	$ 506,654	0.2%
Section 5317 Totals	$ 100,687	$ -	$ 100,687	$ 201,374	0.1%
Section 5339 Totals	$ 12,582,504	$ -	$ 3,145,626	$ 15,728,130	4.8%
TIGER Grant Totals	$ 20,000,000	$ -	$ 20,000,000	$ 40,000,000	12.3%
CMAQ Totals	$ 10,843,830	$ -	$ 2,710,957	$ 13,554,787	4.2%
STP Funds	$ 17,504,394	$ -	$ 4,051,098	$ 21,555,492	6.6%
TOTALS	**$ 222,315,131**	**$ -**	**$ 102,096,383**	**$ 324,411,514**	
Federal/State/Local Percentage	68.5%	0.0%	31.5%		

Source: CPMS, October 25, 2016

7.9 Bicycle and Pedestrian Improvements

There are a total of 182 bicycle and pedestrian improvements in CPMS, and all are scheduled for completion prior to 2023. A breakdown of bicycle and pedestrian projects is provided in Table 7-10. As shown:

- Most of the projects in the work program are sidewalk improvements. These include curb and ramp installations primarily associated with ADA compliance and sidewalks along various streets throughout the state.
- There are 37 streetscaping and landscaping projects within CPMS. Many are for streetscaping projects in downtown areas sponsored through Transportation Alternatives Program (TAP) awards.
- A significant streetscaping project in CPMS is for pedestrian and streetscape improvements underneath the I-20/59 bridge through downtown Birmingham, totaling approximately $36.7 million, which is planned for construction in 2018.
- Unclassified bicycle and pedestrian projects are primarily trail projects, with a few improvements for bicycle accommodations on existing roadways.
- Most of the projects are funded through CMAQ and TAP funding. As a result, 27 of the 32 projects in this category are in the Birmingham region (Jefferson and Shelby counties) and include the following trail projects:
    - Village Creek Greenway
    - Cahaba Riverchase Greenway
    - Shades Creek Greenway Multi-Purpose Trail
    - Bessemer Multi-Use Trail
- Other trail projects in the state include:
    - Chief Ladiga Trail in Calhoun County
    - Wiregrass Trail in Geneva, Coffee and Covington counties
    - Pike Road Natural Trail in Montgomery County

Table 7-10: Bicycle and Pedestrian Projects in CPMS

Project Type	Projects	Federal Share	State Funded	Local/Other	TOTAL
Sidewalks	111	$ 44,899,883	$ 1,905,590	$ 9,319,381	$ 56,124,854
Streetscape and Landscaping	37	$ 51,338,209	$ 3,435,103	$ 6,084,125	$ 60,857,437
Unclassified - Bike/Ped	32	$ 33,243,103	$ -	$ 8,232,776	$ 41,475,879
Pedestrian Overpasses	2	$ 1,815,497	$ -	$ 453,874	$ 2,269,371
Total Bicycle/Pedestrian Improvements	**182**	**$ 131,296,693**	**$ 5,340,693**	**$ 24,090,156**	**$ 160,727,542**
Federal/State/Local Percentage		81.7%	3.3%	15.0%	

Source: CPMS, October 25, 2016

7.10 Aviation

There are currently 20 aviation projects in CPMS, all scheduled for 2017, which total $8.1 million. Approximately 70 percent of the funding for aviation projects (roughly $5.8 million) comes from the FAA, with the remainder from various state and local sources. As shown in Table 7-11, most of these improvements are associated with maintenance of existing facilities, such as runway rehabilitation, lighting improvements and fencing. It should be noted that many airport improvements are not in CPMS for a variety of reasons. As noted in Section 6, airports throughout the state received approximately $45.5 million in AIP grants in 2016.

Table 7-11: Aviation Projects in CPMS

Improvement	TOTAL COSTS
Automated Weather Observation System Installation - Folsom Field	$ 85,984
Runway Extension, Justification Study, Enbvironmental Assessment, and Obstruction Removal - Ozark	$ 71,310
Extension of Runway 27 and Parallel Taxiway - Gulf Shores	$ 1,538,356
Purchase and Install Drain Pipe; Remove Obstructions , Windsock - Pickens County	$ 21,600
Install New Lighting System at Bessemer; Construct Phase I Security Fence and Clear Runway Obstructions at St. Elmo	$ 98,900
Overlay - Gulf Shores	$ 325,325
Environmental Assessment and Capital Improvents Plan for New Airport - Southwest	$ 139,375
Expand Apron, Remove Obstructions, and Land Acquisitions - Monroe	$ 367,520
Land Acquisition - Prattville	$ 87,226
Construction Administion Services for Runway Rehabilitation Services - St. Elmo, Garver	$ 134,541
Design for Fuel Farm Construction - Atmore	$ 35,286
Improve Airport Drainage; Runway; Remove Obstructions - Camden	$ 516,057
240,000 gallon Storage Tank, Pumping Station, Distribution Piping, Utilities to Support Foam Fire - Madison	$ 1,101,542
Drainage Improvements - Bay Minotte	$ 289,273
Rehabilitate Terminal Building; Runway Rehabilitatiion; Remark Runway - Northwest Alabama Regional	$ 288,421
Perimeter Fencing - Cullman	$ 172,256
Improve Stormwater Damage; Improve Runway 4 Safety Area - Tuscaloosa	$ 2,413,333
Design for Construction of Terminal Building - Tuskegee	$ 64,383
Install Perimeter Fencing - Monroe	$ 183,860
Rehabilitate (Seal Coat) Apron; Rehab Taxilanes - Sylacauga	$ 199,027
	$ 8,133,575

Source: CPMS, October 25, 2016

7.11 Other CPMS Projects

For the purpose of this study, this category of projects represents those that do not fall into previous categories. They include a variety of improvements, as shown in Table 7-12. Of these improvement types, rest area and welcome center rehabilitation are most costly.

Table 7-12: Other Projects in CPMS

Project Type	Projects	Federal Share	State Funded	Local/Other	TOTAL
Corridor Studies	10	$ 1,591,350	$ 2,100,088	$ 297,750	$ 3,989,188
Drainage Improvements	8	$ 4,101,184	$ 607,358	$ 647,939	$ 5,356,481
Culvert Extensions	1	$ 170,000	$ -	$ -	$ 170,000
Special Landscaping	1	$ 391,000	$ -	$ 97,750	$ 488,750
Litter Collection and Mowing	6	$ -	$ 2,499,342	$ -	$ 2,499,342
Preventive Maintenance	5	$ 3,019,401	$ 754,850	$ -	$ 3,774,251
Welcome Center Rehabilitation/Construction	2	$ 59,087,954	$ 2,231,337	$ -	$ 61,319,291
Rest Area Rehabilitation	5	$ 67,551,808	$ 7,505,756	$ -	$ 75,057,564
Scenic Overlook Improvements	1	$ 400,000	$ -	$ 100,000	$ 500,000
Building Construction	4	$ -	$ 2,345,553	$ -	$ 2,345,553
Unclassified Planning	4	$ 1,186,000	$ -	$ 296,500	$ 1,482,500
Unclassified - Other	15	$ 10,989,078	$ 706,916	$ 334,619	$ 12,030,613
Total Other Improvements	**62**	**$ 148,487,775**	**$ 18,751,199**	**$ 1,774,557**	**$ 169,013,532**
Federal/State/Local Percentage		87.9%	11.1%	1.0%	

Source: CPMS, October 25, 2016

SECTION 8: COMPARISON OF PROJECTS AND IDENTIFIED NEEDS

This section compares the projected needs described in Section 4 to the scheduled improvements discussed in Section 7. This comparison determines how well the improvements in the current work program meet the identified needs. This section addresses projected unmet needs with respect to:

- Roadway capacity
- Freight mobility
- ITS needs

The needs, policy recommendations and investment strategies for bridge and pavement maintenance, safety, and bicycle and pedestrian mobility are currently being addressed in other ongoing efforts, namely:

- Transportation Asset Management Plan (TAMP)
- Strategic Highway Safety Plan (SHSP)
- Statewide Bicycle and Pedestrian Plan

The results of these efforts will be incorporated into the Statewide Transportation Plan when they are finalized.

8.1 Roadway Capacity

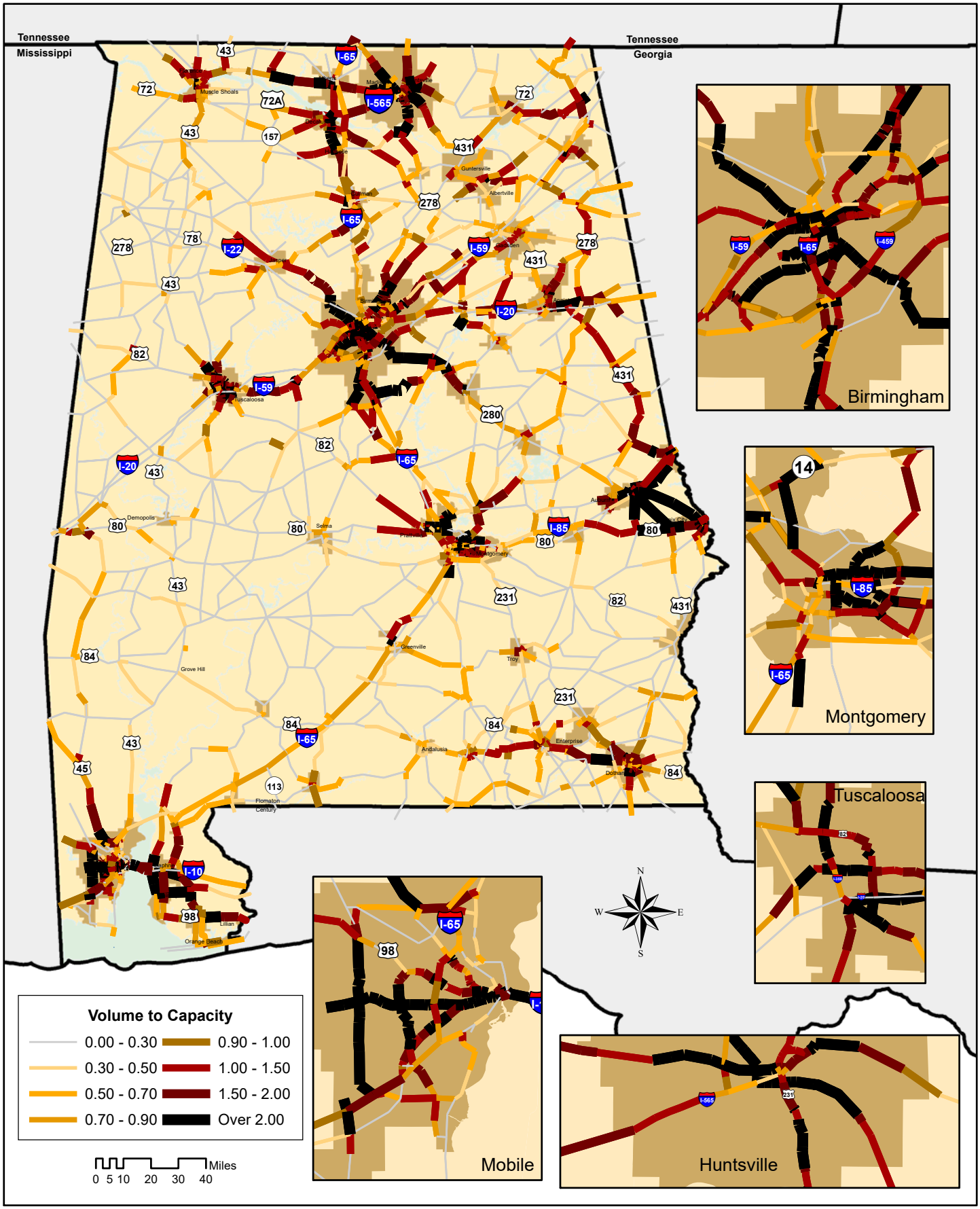
As noted in Section 2, one of the scenarios modeled to assess traffic congestion is the Existing plus Committed (E+C) scenario. The E+C scenario projects congestion levels across the state after completion of capacity projects within the ALDOT work program scheduled for construction by the year 2040.

The 2040 E+C model network with associated levels of service (V/C ratio values) identified is shown in Figure 8-1. When compared to No-Build congestion levels (Figure 4-4), one sees very few differences in the distribution of congestion statewide. Major roadways anticipated to experience lower levels of congestion as a result of the improvements in the current work program include:

- I-10 in Mobile
- I-85 in Montgomery
- US 31 in Shelby County
- US 72 in Athens
- US 31 in Montgomery/Autauga County (from Montgomery to Prattville)
- SR 53 in Huntsville

It is also important to remember that some roadways scheduled for improvements do not experience a noticeable reduction in projected congestion. In many instances, this is due to an increased number of trips drawn to the facility as a result of the additional capacity.

Figure 8-1: Projected Levels of Congestion – 2040 Existing Plus Committed



Source: Statewide Travel Demand Model - 01-17-2017
02-14-2017

Note: For more accurate results in the metropolitan areas, the regional models and/or LRTPs from those respective MPOs should be consulted.

Even with the construction of planned improvements, several major roadways are projected to operate under extremely congested conditions in 2040. Many of these roadways are currently congested. These facilities include:

- I-20/59, I-459, I-65, US 280, and US 78 in Birmingham
- I-85 and SR 126 (Chantilly Boulevard) in Montgomery
- I-10, Schillinger Road, University Boulevard, and Airport Boulevard in Mobile
- US 98 and US 90 in Baldwin County
- I-565, US 72, US 231 and US 431 in Huntsville
- US 31 in Shelby County

While congestion levels in non-urban areas were not as prolific as in urban areas, there are some non-urban segments projected to experience congestion in 2040 that have projects in the ALDOT work program:

- US 280 between Phenix City and Opelika
- SR 169 between Auburn and US 80
- US 431 between I-20 and Opelika
- US 72 in Athens
- US 84 near Enterprise
- SR 40 east of Scottsboro

In addition to those listed above, Figure 8-1 shows that numerous roadways throughout the state are projected to operate under some level of congested conditions. This widespread congestion, in conjunction with the costs of capacity improvements discussed in Section 7, highlights the need for cost effective solutions.

8.2 Freight Mobility

In recognition of FHWA's recent focus on freight mobility, it is a key component of the Statewide Transportation Plan. In reviewing the projected congestion under E+C conditions, several corridors that provide access to ports and other intermodal freight facilities throughout the state are identified as congested. Critical roadway links to the following intermodal facilities are projected to experience some level congestion (V/C over 1.0) by 2040:

- Norfolk Southern Intermodal Facility – McCalla (I-20/59, I-459)
- BNSF Intermodal Facility – Birmingham (I-20/59, I-65)
- Norfolk Southern Independent Bulk Transfer Center – Birmingham (I-20/59, I-65)
- Central Alabama Intermodal Transfer Facility – Birmingham (I-20/59, I-65)
- Transflo/TSID Auto Distribution Facility – Birmingham (I-20/59, I-65)
- Alabama State Docks – Mobile (I-10, US 98)
- CSX Mobile Intermodal Terminal – Mobile (I-10, US 98)
- Tuscaloosa Airport – Tuscaloosa (US 82)
- Northport Inland Dock – Tuscaloosa (US 11 and US 82)
- Huntsville Intermodal Center – Huntsville (I-565)
- Norfolk Southern Huntsville Intermodal – Huntsville (I-565)
- Port of Decatur – Decatur (US 31)

- Port of Tuscaloosa – Tuscaloosa (US 11)
- Port of Montgomery (US 82)
- Port of Cordova (I-22)
- Mobile Regional Airport (Airport Boulevard, Schillinger Road)
- Birmingham-Shuttlesworth International Airport (I-20/59)
- Huntsville International Airport (I-565)
- Port of Guntersville (US 431, SR 79)
- Port of Florence (US 72, US 43)

Even with the freight improvements noted in Section 7, most projected freight bottlenecks (highlighted in Section 4) are expected to occur under the E+C scenario given anticipated levels of congestion. This is logical since the primary contributor to freight bottlenecks is general traffic congestion.

8.3 ITS Needs

As noted in Section 4, most of the ITS priorities are concentrated in the urbanized areas of Birmingham, Montgomery, and Mobile. This is due in large part to the presence of existing TMCs in those areas. Furthermore, most of the focus in the current program emphasizes interstate ITS applications. Given the projected volumes and congestion levels throughout the state, it will be important for ALDOT to continue investing in ITS technologies within urban areas and along interstates. In addition, the following components beyond those noted within the ALDOT *ITS Strategic Business Plan* are needed:

- Construction of TMCs in other metropolitan areas such as Huntsville, Tuscaloosa, and Auburn-Opelika.
- Focus of ITS applications on major arterials and parallel arterials that serve regional trips, such as US 280, US Alternate 72, US 98 and US 90. In many cases, these applications can work in tandem with interstate applications to facilitate better corridor-level mobility.

SECTION 9: NEXT STEPS

This document provides a baseline foundation of needs, funding and current ALDOT work priorities for the development of policy recommendations to best serve Alabama's statewide needs through 2040. The next steps in the effort include:

- Update Status of Major Capacity Improvements – The assessment of the ALDOT work program contained in Section 7 of this report was based on the CPMS from October 2016. In order to develop a comprehensive transportation strategy for the state, the status of certain major capacity investments needs to be revisited with ALDOT to ensure an accurate snapshot of committed funding through 2040. This may also result in a revised E+C model run, which would be updated in the final report.
- Incorporate Parallel ALDOT Planning Efforts – All available results from the TAMP, SHSP, and Bicycle and Pedestrian Plan will be documented and incorporated into the overall policy direction of the SWTP. In addition, coordination with other ALDOT modal offices will support the finalization of policy needs, particularly with respect to rail, aviation, and transit.
- Inventory Demographic, Economic and Environmental Trends – The SWTP will inventory factors that can influence the ALDOT work program and project delivery.
- Develop Policy Recommendations for ALDOT Consideration – Recommendations will be developed based on the existing and projected conditions documented throughout the planning process.
- Conduct Public and Stakeholder Meetings – The draft policy recommendations and overall strategies will be presented at a round of statewide meetings for stakeholder and public review and comment.
- Finalize Statewide Transportation Plan – The Draft SWTP will be finalized to reflect comments from the public and stakeholders as well as review from FHWA.