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Chapter 5: Transportation Investment Strategy

5.1 Introduction

The 2035 Birmingham Regional Transportation Plan (RTP) establishes a blueprint to coordinate the investment of public transportation infrastructure for the Birmingham metropolitan transportation planning area. The RTP provides a basis for making informed transportation decisions and to guide implementation of an integrated transportation program delivery process. The RTP identifies the transportation planning area’s transportation system needs to meet user expectations for the movement of both people and goods for the next 25 years. Additionally, the RTP:

- Establishes a vision and policy structures
- Sets forth investment strategies
- Redefines needed partnership
- Provides a framework for directing investments
- Identifies the financial resources needed to sustain the plan’s vision

The RTP establishes spending priorities and policy initiatives needed during the next 25 years. These priorities and initiatives are necessary to address the modal needs and functional program areas within the transportation planning area. It also reflects the anticipated financial resources required to implement the plan’s projects and programs. This chapter identifies critical elements of the RTP that warrant accelerated funding or special attention. The RTP will inform the Transportation Improvement Program (TIP). As the RTP’s proposed management policies are put into place the strategic changes identified in the plan will be set into motion and ensure the plan’s definitive implementation.

Finally, the RTP establishes a framework for the transportation planning area to develop an integrated transportation program delivery process that will provide continuity in the transportation planning process. This integrated transportation program delivery process will carry through to the functional plans that support the regional planning process, as well as to other transportation related planning initiatives such as corridor level and land use centered transportation system investment strategies.

5.1.1 Building a Regional Transportation Plan: Key Tools

The RTP recognizes that the transportation system’s development will largely occur as a result of developing collaborative planning efforts and mutually beneficial strategic partnerships, both in the public and private sectors. The Birmingham Metropolitan Planning Organization’s (MPO) approach for developing the RTP recognizes that it will take a metropolitan approach to create an efficient transportation system. The focus of the plan’s recommendations is placed more on regional solutions than addressing investment decisions contained to individual cities. To do otherwise will certainly lead to the development of a suboptimal transportation system. However, the RTP does not discount the local planning processes, and takes and provides guidance from locally developed plans. At the same time, the RTP must balance federal and state requirements for the development of the metropolitan area’s transportation system. Both the federal and state governments are the primary funding sources of the system.
Figure 5.1 depicts one collaborative effort with the public for the RFP.

The type of plans that both inform and are informed by the RTP development process and vice-versa includes:

**A. Local Plans**

Local plans are one of the most important informational elements of the RTP development process. Local plans often address the different geographies of a municipality:

- The entire city (in comprehensive plans)
- Communities and neighborhoods

They also address functional areas of a municipality to include roadways, non-motorized travel, system operations and management, and infrastructure maintenance. Local plans inform the region from a bottoms-up approach by identifying regionally significant transportation facilities.

**B. Functional Plans**

In the context of transportation planning, functional plans are detailed documents specific to a transportation system function, e.g. traffic operations, travel demand management, human service transportation, emergency response, etc. They also address specific transportation modes, e.g. cycling and pedestrian movement, public transit, freight, etc.

Functional plans establish goals and objectives for the functional area, and should address concerns for specific problems and needs. They should enable ideas and concepts to be introduced as solution / improvement alternatives and fleshed out using an objective evaluation methodology. They include the analytical results of applied transportation planning tools such as the regional travel demand model, land use models, and micro-simulation models. They provide recommendations for policies, strategies, projects, and programs to be implemented as solutions to the specific problems. Finally, they address funding, agency roles / responsibilities in the implementation process, and the timing of facility and service improvements. Functional plans support, and are supported by, the main plan, both providing information to and receiving guidance from it. In the Birmingham metropolitan transportation planning process, functional plans both inform and are informed by the RTP.

**C. Regional Transportation Plan**

The RTP is a long-term blueprint of the Birmingham metropolitan transportation planning area’s transportation system. The RTP is updated every four years, and contains plans for a period of 25 years.
The plan identifies and analyzes transportation deficiencies and needs within the transportation planning area, identifies potential solutions and strategies, and creates a framework within which projects might be prioritized. It paints a “big picture” of the political influences on the transportation systems’ development, and provides a discussion about how all of the system components will work together.

As one of the required Birmingham MPO planning documents, the RTP must consider eight federal planning factors, all of which are included in Safe Accountable Flexible Efficient Transportation Act – a Legacy for Users (SAFETEA-LU). They are:

1. Support the economic vitality of the metropolitan areas, especially by enabling global competitiveness, productivity, and efficiency
2. Increase the safety of the system for users of all modes of transportation
3. Raise the ability of the transportation system to support homeland security and to safeguard the security of users of all modes of transportation
4. Improve accessibility and mobility for people and freight
5. Enhance the integration and connectivity of the transportation system for people and freight
6. Environmental considerations:
   - Protect and enhance the environment
   - Promote energy conservation
   - Improve the quality of life
   - Promote consistency between transportation projects, and state and local planned growth and economic development patterns
7. Promote efficient operation and management of the system.
8. Emphasize the preservation of the existing transportation system. Additionally, the RTP is informed by both local and functional plans, including, but not limited to:
   - Regional Thoroughfare Plan
   - Bicycle and Pedestrian Plan
   - Alternative Transportation Plan
   - Coordinated Human Service Transportation Plan
   - Transit Development Program.

The RTP also informs these functional plans, ensuring that these plans accurately reflect and address regional goals, objectives, and strategies for the development of the area’s transportation system. The RTP establishes the overall policy direction of the Birmingham MPO, providing guidance to administrative actions and behavior in regards to system investment decisions for the long-term. Finally, the RTP builds the funding framework.

D. Transportation Improvement Program

Developed and approved by the Birmingham MPO, the TIP is the third of three required documents that the MPO is required to develop. The TIP is the implementation component of the RTP and identifies a list of projects and programs to be implemented over the next four to seven years. Typically equated to a short-term budget, the TIP assigns funding to specific transportation system improvement programs, projects, and strategies. In order to receive federal funding, transportation projects must be included in the fiscally constrained RTP or the functional plans that support it. Projects must also be included in the fiscally constrained TIP. The TIP also places projects into a proposed “queue” for funding, lining projects up for a three year period beyond the TIP.
E. Roadway Functional Classification

In the late 1960s, the Federal Highway Administration (FHWA) introduced guidelines to local governments and planning organizations for maintaining a hierarchy system of functionally classified roadways within their jurisdictions. Functional classification is the process by which the nation's network of streets and highways are ranked according to the type of service they provide, based on considerations such as: connectivity, mobility, accessibility, vehicle miles traveled, average annual daily traffic, and abutting land use. In Alabama, roadways are also classified according to their urban or rural setting. The purpose of roadway functional classification is to describe how travel is “channelized” within the roadway network by defining the part that any road should play in serving the flow of trips through a highway network. Functional classification is used in the transportation planning process for roadway design and for the allocation of federal roadway improvement funds. Additional information on functional class criteria and characteristics can be obtained from the FHWA’s document, *FHWA Functional Classification Guidelines: Concepts, Criteria and Procedures*.

As the federally designated transportation planning agency for the transportation planning area, it is the Birmingham MPO’s responsibility to assist the Alabama Department of Transportation (ALDOT) with the identification and maintenance of the roadway functional classification system within the MPO’s planning area boundaries. This is accomplished through coordination with local cities and the respective county governments. Figure 5.2 shows the urban and rural roadway functional classes as applied in Alabama. It also illustrates the relationship of functional classification to mobility, land access and shows the Birmingham metropolitan transportation planning area’s functionally classified roadways.

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1 This document can be obtained at [http://www.fwha.dot.gov/planning/fcsec1_1.htm](http://www.fwha.dot.gov/planning/fcsec1_1.htm).
Figure 5.2 Roadway Functional Classification System
F. Regionally Significant Transportation Facilities

In addition to identifying functionally classified roadways, the RTP also identifies a number of roadways, rail corridors, and intermodal facilities as Regionally Significant Transportation Facilities. A Regionally Significant Transportation Facility serves as an integral part of an interconnected regional transportation network for both the movement of goods and people. Based in large part on the federal definition of regionally significant projects (23 CFR § 450.104), Regionally Significant Transportation Facilities also provide guidance about the types of projects that the transportation planning area should give greater consideration. The designation of roadways as Regionally Significant Transportation Facilities augments rather than supplants the roadway functional classification hierarchy. Regionally significant transportation facilities are better defined as:

- Regional transportation corridors such as highways, waterways, freight (rail and truck), and transit which serve large employers and other commercial, industrial, or medical facilities, particularly those located in regional activity centers
- Regional transportation hubs such as passenger terminals (intermodal transfer centers, intercity bus and rail, commuter rail, and light rail), major airports, and both regional freight terminals and freight distribution centers

As discussed previously, functionally classified roadway designations are important in the metropolitan transportation planning process because they help to determine the eligibility of projects to receive federal funding, and because they inform ideal land accessibility characteristics. However, this RTP proposes a shift in the transportation planning area’s transportation system investment strategy, recommending that transportation system improvements be prioritized along a smaller number of roadways which play a much more critical role in the region’s travel. This approach will enable the Birmingham MPO to focus more on developing and maintaining a truly regional transportation system, and move away from the current investment strategy which is overwhelmingly local in nature.

Because of their vital nature to the transportation planning area’s transportation system, programs and projects that directly impact or modify Regionally Significant Transportation Facilities will be provided a higher level of scrutiny during the project development and design phases, as well as given greater priority in the project evaluation and funding allocation processes.

The characteristics used to define Regionally Significant Transportation Facilities in the Birmingham metropolitan transportation planning area include:

- Strategic Highway Network (STRAHNET) roadways
- Strategic Rail Corridor Network (STRACNET) rail lines (as designated by the US Department of Defense and the US DOT)
- Designated interstate roadways (existing and future)
- US Highways
- Designated State Routes that serve three or more contiguous local jurisdictions (excluding unincorporated areas of counties) or are able to provide for continuous travel for a distance of longer than 15 miles (terminus to terminus)
- Facilities that provide a connection between two or more regionally significant transportation facilities
- Facilities that provide a connection between a regionally activity hub and a regionally significant transportation facility
- Facilities that make possible travel to a regionally significant transportation facility that could not easily be accomplished otherwise
- Facilities identified in the most recently adopted version of the Birmingham Regional Congestion Management Process (CMP) as congested in either the morning or evening peak travel periods; and
- Facilities that provide a connection between two or more regional activity hubs and/or major destinations that are not located within a regional activity hub (for Non-Motorized Transportation Facilities Only).

Figure 5.3 presents the Regionally Significant Transportation Facilities.
Figure 5.3 Regionally Significant Transportation Facilities
5.1.2 Transportation/Land Use Connection

The transportation/land use connection matters because highways shape the way America has grown and will continue to grow in the future. The transportation/land use connection also matters because of a better understanding of the linkage between transportation and the environment, particularly as it relates to addressing greenhouse gases (GHG) emissions. The land use/transportation connection looks to use changes in land use to minimize vehicle miles traveled (VMT) within the transportation planning area. This in turn impacts vehicle emissions, especially those that generate GHG.

The transportation planning area’s growth has mirrored that of America; development has moved further away from the core city with each improvement to the highway system. However, highways have problems with congestion. Building more roads does not always solve these problems; changes in the way transportation and land use planning are approach is necessary. For starters, it needs to be understood that transportation systems and land use patterns have a reciprocal relationship, each greatly influencing the other. Roads, transit, and other transportation elements shape land development, while the distribution and types of land uses affect travel patterns and transportation facilities. To deny this relationship is to not fully understand the functionality of modern transportation systems.

To illustrate this reciprocal relationship, take for example the difference between traditional suburban development and traditional or neo-traditional urban development patterns. Traditional suburban growth patterns have dispersed patterns of low-density development, and rely almost exclusively on cars as the primary mode for transportation. Alternatively, denser urban centers can combine different land uses in closer proximity, encouraging:

- Walking
- Biking
- Transit
- Other forms of travel

Conceptually, by enhancing accessibility to certain locations over others, transportation projects influence where land development occurs. Likewise, where development occurs also dictates the type of transportation improvements that support the accessibility and mobility demands of the population.

The historic development of the transportation planning area’s transportation system, like the overall development of the American surface transportation system, is highly centered on highways and is proving to be unsustainable. One of the biggest problems facing the transportation planning area’s transportation system is congestion and the resulting increases in travel time. Peak period congestion is increasing, growing more severe in both duration and the percentage of the system affected. Despite the investments made in roadway capacity, traffic congestion is growing. Depending on who is holding the conversation or which of the transportation planning area’s roadways are being discussed, congestion is seemingly ubiquitous.

Conventional policies towards addressing congestion have focused almost exclusively on eliminating it. At the state level, ALDOT has concentrated on the elimination of congestion through the provision of additional roadway capacity. This approach to addressing congestion concentrates more on relief than management, and has been likened to a heavy-set man purchasing a new belt as a solution to losing

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weight. To be fair, ALDOT is charged with developing and maintaining a network of roadways and bridges for the State of Alabama. Their legislative charge limits their purview of other transportation modes, and they certainly do not seek to address transportation problems through influencing local land use decisions.

Addressing congestion through roadway widening is not exclusive to ALDOT. Many of the transportation planning area’s local governments have espoused similar philosophies towards combating congestion, noting that their roadways are congested and widening them will provide, in their minds, a definitive solution to congestion. What many of the transportation planning area’s local governments have failed to recognize is their own complicity in causing increases in traffic congestion. Land use decisions in the transportation planning area largely rest in the hands of local government with few exceptions. They are the entities who control land use, land access, access to the region’s roadways, urban design, and urban form. There have been numerous examples in the Birmingham metropolitan transportation planning area where ALDOT has widened a roadway, made the necessary improvements to effectively address congestion, and the local government has permitted increased land development which generates additional trips along with increased access to the roadway. They have not understood that faster travel times brought on by increased capacity encourages additional vehicle trips thereby increasing congestion. On top of this, local cities have been able to successfully reassign their responsibility for managing congestion back to ALDOT.

The RTP acknowledges that there is a vicious, unsustainable cycle. It acknowledges its past role in helping perpetuate this cycle through its understating of the transportation/land use connection, failure to make the case for taking a new approach, and failure to lay out that approach. With this acknowledgment of past shortcomings, the Birmingham RTP recognizes that in order to effectively combat congestion, the linkage between travel behavior (transportation) and urban form (land use) needs to be fully recognized. The following terms are important to this discussion:

- **Density** - persons, jobs, or dwelling units per acre
- **Diversity** - land use mix
- **Design** - street network characteristics and connectivity within a network
- **Distance to Transit** - distance from home or work to the nearest transit service or express bus stop
- **Destination Accessibility** - number of jobs or other attractions reachable within a given travel time

These factors are all key factors that influence travel behavior. These factors also influence transportation system design and service provision needed to encourage reduction in vehicle miles traveled.

Historically, the Birmingham metropolitan transportation planning area has divorced transportation planning from land use planning. The RTP views as idle any debate about whether or not there exists any connection between land and transportation planning, and further any debate that would suggest that the strength of the connection is not worth the RTP’s attention. Land development both at the local and metropolitan geographic scales has responded to changes, both positively and negatively in the transportation system. Conversely, the transportation system’s performance is influenced by changes in the characteristics of land development. In order that both transportation and land use might be considered in balance with one another, the RTP proposes that the Regional Planning Commission of Greater Birmingham and the Birmingham MPO jointly develop an integrated regional land use and transportation plan. The transportation component of this plan will serve to inform the next iteration of the regional transportation plan, if not be the next regional transportation plan.

Development of this plan would be a new endeavor for both the RPC and the Birmingham MPO, bringing the state of the practice to the Birmingham metropolitan planning process, and forcing a long overdue
conversation about how the region will develop in the long term. Obviously, this plan does not yet exist. However, by including the recommendation for the plan’s development within this RTP, the stage is being set for the development of the next RTP, beginning with the programming of the extensive data collection and planning process into the Birmingham MPO’s FY2010 Unified Planning Work Program (UPWP).

5.1.3 Strategic Directions

In understanding the challenges facing the development of the transportation planning area’s transportation system, and the tools that are available to address these challenges, the RTP is beginning to craft a strategic direction to guide the plan’s investment recommendations. As such, the RTP seeks to direct funding and other substantive resources to worthy programs and projects based on stated goals and identified needs. A brief description of both the goals-based and needs-based investment approach is presented below.

Additionally, the following sections of this plan include policy recommendations and a number of discussions about strategies, projects, and programs, each of which is being recommended to address the development of the metropolitan area’s transportation system across the three primary transportation investment categories.

5.1.4 General Philosophy

Common sense dictates that the Birmingham metropolitan transportation planning area should embark upon a course to develop a sustainable transportation system if the area is to continue to grow and prosper. As such, the RTP is espousing that the Birmingham MPO take a “maintenance first” approach to the development of the transportation planning area’s transportation system. This approach would ensure that the existing transportation system’s maintenance needs are able to be addressed before the MPO’s funding is allocated for the development of new infrastructure. This approach would also require that any new infrastructure’s full life-cycle cost be considered in order that adequate resources are set aside to cover any major maintenance activities beyond the initial construction. Finally, this approach will be used to help provide direction to both ALDOT and local municipalities so that they do not develop infrastructure with the expectation that the MPO will be able to provide funding for long-term major maintenance activities.

The maintenance first approach to the transportation planning area’s transportation system development would ensure that financial resources for system maintenance and critical repairs will be available. Funding for projects that do not address and/or include a system maintenance concern will be considered after the Birmingham MPO has determined that all requested maintenance needs have been addressed. This approach is reflective of the stated national transportation policy where funding priorities of monies provided through the SAFETEA-LU, the American Recovery and Reinvestment Act (ARRA) of 2009, and the initial draft of the forthcoming Federal Transportation Act reauthorization, emphasize a return to a transportation system infrastructure in a state of good repair. It also reflects the Birmingham MPO’s existing funding practices where, according to ALDOT, 56% of the region’s historic funding expenditures have been provided for operations and maintenance activities.
5.1.5 System Investment Strategy

The RTP is faced with the challenge of trying to address the immediate and long-term needs of the transportation system, while at the same time attempting to move the transportation system in a direction that achieves the overall vision and goals for regional development. The identified needs of the transportation system and the articulated vision for the transportation system’s development, which can be characterized more as the region’s desired system, overlap with one another. However, there are times when the needs and the vision diverge and decisions about resource allocation are necessary.

The 2035 Birmingham RTP attempts to provide balance in the MPO’s approach to addressing identified transportation system needs with the vision for the transportation system’s development. A 3-step approach to transportation system investment will be taken in the allocation of financial resources. This would include:

1. **Maintenance First Investment** - Priority will be given to the maintenance and preservation of the existing transportation system ahead of considerations for new infrastructure.

2. **Needs Based Investment** - Identified transportation system needs will be prioritized, and emphasis will be placed on the provision of resources for the most critical.

3. **Vision Based Investment** - Projects, programs, and other activities that have resulted from a rational planning process, and that will accomplish the RTP’s articulated vision, goals and objectives are prioritized after system maintenance and preservation, and identified transportation needs. Ideally, the RTP’s vision and goals will coincide with transportation system needs. However, there may also be projects and/or programs that stand alone.

A project prioritization tool that evaluates roadway projects has been developed to assist in the prioritization of capacity needs. This tool is described in Section 5.6 of this Chapter. The results of the analysis are also presented in Appendix 5C, Project Prioritization Results.

5.1.6 Targeted Investments

A key part of the RTP’s transportation system investment strategy is the concept of targeted investments. The Birmingham MPO has long believed that in order to maximize the use of resources and improve the efficiency of the transportation system that transportation system investments be focused in areas where they will have the greatest impact on mobility and economic vitality. The RTP actively pursues five distinctive strategies to begin addressing congestion and other transportation related concerns through focused investment of resources. They include (a) addressing existing transportation infrastructure maintenance and deficiency needs; (b) concentrating transportation system investments along regionally significant transportation corridors, (c) supporting the development of compact activity centers and mobility hubs; (d) improving the connections between activity centers, and; (e) encouraging the development of alternative travel modes and transportation facilities.

5.1.7 Planning Emphasis Areas

Outside of the RTP’s emphasis on system maintenance and preservation, the Birmingham RTP’s policies, programs, and projects have been conscientiously developed to encourage continual emphasis on strategies that speak to:
A. Transportation System Maintenance

As described previously, a key emphasis of the 2035 Birmingham Regional Transportation Plan is its commitment to system preservation, both physically and operationally. It is true that the Birmingham metropolitan transportation planning area, like many other metropolitan areas around the nation, has focused the roadway system’s expansion. However, it has become painfully evident that the Birmingham metropolitan transportation planning area can no longer financially afford to extensively expand the transportation system and expect to sustain the existing system in a state of good repair. As described previously, the Birmingham MPO is taking a “maintenance first” approach to the development of the transportation planning area’s transportation system. The Project Prioritization Methodology that was written as part of the RTP development process employs this strategy, providing additional weight to projects that address identified maintenance concerns and/or critical repairs within the project prioritization process. The Birmingham MPO has also recognized that additional financial and technical resources are needed to assist with transportation system maintenance, and the RTP establishes a financial plan that sets aside resources specifically for system maintenance and preservation.

The RTP proposes that the Birmingham MPO set aside resources to assist with transportation system maintenance and utilize the management systems first described in the predecessors of SAFETEA-LU, the Intermodal Surface Transportation Equity Act of 1993 (ISTEA) and the Transportation Equity Act of the 21st Century (TEA-21). In particular, the RTP recommends that asset management systems be employed by the Birmingham MPO and its planning partners in order that they might be able to prioritize transportation system maintenance and preservation activities within specified time periods.

The ideal transportation system maintenance program would include strategies to assist local and county governments, as well as applicable transportation agencies (i.e. transit operators, in the repairs and rehabilitation of transportation infrastructure with the intention of extending this infrastructure’s useful life). This would include projects that necessitate significant capital expenditures such that the project would be included in the Transportation Improvement Program. Examples of this might include resurfacing, shoulder stabilization, and other types of activities. However, it would exclude everyday pothole patching or crack sealing types of operations that are typically funded with local maintenance funds outside the TIP.

The transportation system maintenance program might also include the reconstruction of existing roadways where the road is being rebuilt “down to the dirt”. Non-interstate interchange reconstruction projects that rebuild deficient ramps, but that are not adding new movements, is an example of a project that might be considered for funding through the MPO process. Roadway reconstruction considerations should also include activities and associated projects, such as wetland banking, which are directly related to a reconstruction project. Roadway Reconstruction would also include activities such as tunnel or retaining wall (re)construction that are related to maintaining operations on an existing roadway. It does not include projects that involve a combination of reconstruction and capacity expansion (adding through lanes).

Bridge Preservation - Bridge preservation is also a key concern of the Birmingham MPO, particularly for those bridges that are locally maintained. It is the intent of the Birmingham RTP to define and advocate for the provision of resources to assist local and county governments to repair and rehabilitate existing bridges in order that these facilities’ useful life is extended. The Birmingham MPO will seek ways to obtain financial support for major maintenance activities such as expansion deck replacement, substructure repairs, deck restorations and overlays, beam repairs, painting, fatigue and fracture retrofits, and scour countermeasures. This does not mean that the Birmingham MPO will provide funding directly from MPO controlled funding for bridge maintenance, reconstruction or replacement as there are already federal and state programs in place to support these activities.
In addition to providing support for roadway resurfacing, the Birmingham MPO might also consider providing long-term support to assist public transit agencies with on-going maintenance activities. In the past, the Birmingham MPO has provided financial support to both the Birmingham-Jefferson County Transit Authority and the Birmingham Regional Paratransit Consortium (aka ClasTran) for the maintenance and modernization of capital assets. This has included funding for vehicle replacement and vehicle maintenance. The Birmingham RTP formally recognizes the role of the Birmingham MPO in assisting the transportation planning area’s public transit providers to maintain a transit system in a state of good repair in order that they might continue to provide services. Birmingham MPO controlled financial resources that are available for use in support of the public transit system shall be used to preserve, replace, and rehabilitate existing vehicles (i.e. buses, paratransit vans, and support vehicles) and to modernization/upgrade existing facilities and vehicles.

Asset Management Systems - Transportation asset management is a set of guiding principles and best practice methods for making informed transportation resource allocation decisions, and improving accountability for these decisions. Asset management is concerned with the entire life cycle of transportation decisions and emphasizes integration across these functions, reinforcing the fact that actions taken across this life cycle are interrelated. It also recognizes that investments in transportation assets must be made considering a broad set of objectives, including physical preservation, congestion relief, safety, security, economic productivity, and environmental stewardship. The use of Asset Management Principles will inform the need to repair and replace bridges as well as the need to repave existing roadways. It also addresses operational improvements that help to preserve the existing transportation system. Operational improvements are discussed later in this plan document.

Asset management best practices also should be integrated throughout the life-cycle of transportation projects beginning with planning and programming, and proceeding through facility design, construction, routine and preventive maintenance, and operations activities. As such, the Birmingham MPO will seek to actively encourage project sponsors to:

- Apply life-cycle cost analysis in the facility planning and design process
- Develop pavement management plans and bridge replacement plan
- Analyze alternative construction materials and methods
- Consider tradeoffs across different maintenance activities based on level of service and extended facility life provided to customers
- Develop appropriate mixes of operations expenditures on technology upgrades, hardware/infrastructure maintenance and replacement, and skilled personnel
- Evaluate project delivery options (e.g., design-build, use of private contractors for maintenance and operations, inter-agency agreements, etc.)
B. Transportation System Safety and Security

Safety is a principal concern in most transportation plans and designs. Highway Safety focuses on the reduction of crashes and resulting deaths, injuries and property damage occurring on public roads. Passenger vehicle movements, truck conflicts, pedestrian and bicycle travel and bridge conditions are all included as part of Highway Safety. The security of the regional transportation system is an ever increasing priority. It is critical to ensure that the highest levels of security are provided for the users of the regional transportation system and that appropriate measures are taken to restrict access to our critical transportation infrastructure. System preservation and corridor management strategies both address safety and security concerns, and for the purposes of this plan both the preservation of the existing transportation system and its surrounding environment are considered a transportation safety and security concern. System Preservation will be discussed both under the Highways, Streets, and Roads Program, as well as under the Management Systems Program.

Preservation of the system is critical to prevent continual deterioration which can lead to safety problems. Transportation infrastructure also dictates in large part how land is used and transportation choices made by users dramatically affects the environment. Motor vehicles are a major cause of air quality concerns and paved roads are a major contributor to non-point source pollution via stormwater run-off.

C. The Movement of People

Efficient movement of people remains a top priority of the transportation planning area’s transportation system. Congestion typically occurs when the demands on a system surpass the actual handling capacity. These types of conditions are prevalent in areas where bottlenecks are created, like at bridge crossings, interstate system to system interchanges, and arterial to interstate interchanges. Limited by lane capacity and expensive to construct, both widening roadways and expanding bridges have a tendency to bottleneck traffic with few alternative routes of travel. Feasible alternatives to congestion relief through increases in roadway capacity without actual lane expansion are strongly encouraged. This approach requires that vehicle users, commuters and travelers change their travel patterns and opt for more congestion friendly alternatives such as public transportation, ridesharing, bicycling and walking.

It is important to develop balance in the regional transportation system. Improvements in the regional transit system and provisions for pedestrians and bicyclists in transportation design can help achieve balance and reduce reliance on the automobile. Similarly, the development of transportation improvements that do not increase capacity will not induce more vehicle trips that can quickly develop into new areas of congestion.

D. The Movement of Goods

The Birmingham metropolitan transportation planning area is strategically located at a geographic crossroads in which more than one third of the total population of the United States can be reached by an overnight delivery. The availability of an efficient, multimodal transportation network to move goods through the region is essential to maintain economic vitality. Several modes of transportation are available in the region to facilitate the movement of goods. These modes include truck, rail, air, and pipeline. As a result, the goods movement network provides vital connections between producers and consumers within the state, nationally and internationally.

A large portion of the freight transportation system is privately owned and operated. As a result, it is critical to develop partnerships between state, regional and local agencies with the private sector to coordinate and maintain efficient freight planning and implementation.
E. The Movement of Information

The movement of information consists of the ability to utilize technology to maximize the efficiency of the existing transportation system and to convey information to the traveling public. Intelligent Transportation Systems (ITS) technology can include devices that integrate with traffic signal systems, provide real-time schedule information and electronic fare payment. In addition, information sharing between agencies can reduce duplicative data collection and assist in the completion of ongoing studies.

In addition, policies, programs and projects will address long term transportation system development needs and short term financial and operational needs by focusing financial and technical resources into investments that:

1. Preserve and maintain the transportation system
2. Modernize the transportation system
3. Manage the operations of the transportation system so that it is more efficient
4. Expand the transportation system

It is the hope of the Birmingham MPO that, by directing resources (financial and otherwise), a continuum of policies, programs and projects will be supported which will accomplish the preservation, maintenance, modernization, management, and expansion of the Birmingham metropolitan transportation planning area’s transportation system and achieve the vision for the Birmingham metropolitan transportation planning area as articulated in Chapter 3, RTP Goals and Objectives. In doing so, the transportation planning area will make significant improvements during the 25-year planning horizon and achieve the region’s vision for travel.

5.1.8 Transportation Investment Programs

Chapter 4, Transportation System Needs Assessment, of the RTP identified the transportation system's present and future needs, noting system deficiencies, summarizing the transportation network, and offering a vision of what travel will look like during the next 25 years if the system stayed exactly the same as it is today. Transportation system needs were identified for automobile and public transit travel. Assessment of the transportation system also included the needs of communities to encourage active transportation; that is, travel by both bicycle and walking. It also speaks to movement of freight and goods, and looked at the needs of truck and rail. Local transportation networks are connected by each of these modes and can be enhanced by intermodal links between these networks. The RTP supports investments in all modes of transportation, and each of the investment areas identified previously has been incorporated within four distinct transportation programs. They are:

- Public Transportation Program
- Active Transportation Program
- System Management and Operations Program
- Highway, Streets, and Roads Program

Additionally, the RTP identifies a number of management strategies to inform the overall planning, operations, management, and maintenance processes. These will be presented towards the end of this chapter.
The Public Transportation Program, page 5-19 advances a plan for accessible public transit services to meet the mobility needs of Birmingham metropolitan transportation planning area residents for access to goods and service. The transit system, much like the highways and non-motorized transportation system, is an integral part of meeting the overall mobility needs of the region’s residents. It is also an important supporting element of the transportation planning area’s economy.

The Active Transportation Program, page 5-43, supports a strategy to maintain a safe and efficient regional bikeway and trail system and aims to support facilities for pedestrians to promote walking as a viable transportation mode. The Birmingham RTP examines each of these transportation programs and assesses the current and future ability to accommodate multiple modes of travel, provide for the interconnection of these modes, and meet mobility needs of the region.

The System Management and Operations Program, 5-69, identifies and expands the resources available for battling congestion. The focus of this program is placed on improving transportation system efficiency through the use of technology, incident management, and common sense asset management practices.

The Highway, Streets, and Roads Program, page 5-101, places an emphasis on the state highway system. It also provides more attention to arterial and collector roadways. The state highway system is closely tied to major arterial facilities and is examined at the corridor level within the RTP.

Together, these four programs address the multimodal needs of the Birmingham metropolitan transportation planning area.
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5.2 Public Transportation Program

5.2.1 Introduction

The RTP lays out a strategy to provide reliable public transportation travel options to all people that choose, or must use available public transportation options. The Public Transportation Program develops a strategy that threads together a reasonable and accessible public transportation system to meet the mobility needs of all persons in the Birmingham metropolitan transportation planning area for access to essential local services, and interregional travel. Public transit focuses on local and regional mobility. The public transportation program examines the current and future ability to accommodate multiple modes of travel and meet the mobility needs of the region.

Public transportation options in the Birmingham metropolitan transportation planning area are examined within a “financially-constrained” environment. That is, the amount of funding for public transit expansion is constrained by the existing and forecast funding expected to be reasonably available. Like the Highways, Streets and Roads, and Active Transportation Elements of this Plan – the public transportation systems will be challenged to do more with little funding for expansion. Transportation planners will continue to identify:

- Opportunities for more local bus services
- Opportunities to improve paratransit services
- Opportunities to introduce of express bus and high-capacity transit services

What are the Future Trends in Public Transit?

Analysis of survey data, demographic trends, and information received from the existing transit providers and social service agencies suggest that there is a strong need for a variety of public transportation services to meet both existing and expected demands. Based on this information, the following assumptions about the future of public transportation in the Birmingham metropolitan transportation planning area might be ascertained:

**Demand will Grow**: Forecasted population increases, especially in the I-65 and US Highway 280 corridors and near employment and activity centers, will generate more demand for fixed route services, especially long-distance, express and commute services. The continued shift in population to areas that have been less populated in the past, will also place greater demands on peak and non-peak intercommunity transit service and require more resources to meet the local needs of these emerging communities.

**Decentralized Growth will Challenge Productivity Levels**: The projected trend is for smaller, rural communities to absorb an increasing share of the future population growth and for the densest areas now to become less dominant in the region. This pattern will tend to spread transit resources more thinly and possibly reduce productivity as more paratransit or flexibly routed options become the most effective service models. Start up of such local services or expansion of paratransit services will be constrained by firebox recovery ratios which are largely dictated by an individual’s ability to pay. That is, in order for these services to be self-supporting from firebox revenues, the price to the user would exceed their ability to pay which in turn will limit ridership and reduce the amount of firebox revenue that is able to be collected.

**Balancing the Type of Services will be Difficult**: As in the past, the people with the highest transit needs are expected to continue to reside in the Birmingham metropolitan region’s central city, the City of Birmingham, and a handful of poor first-tier suburban communities. Focusing resources in these
communities will maximize transit benefits by targeting the supply of service where demand is expected to be greatest. Yet this cost effective strategy will need to be balanced with meeting the special needs of target population groups with no alternative to transit and addressing the needs of the less densely populated areas for access to essential services.

**Higher Growth in Demand by those Population Groups that are the Most Expensive to Serve is Anticipated:** Many communities are growing older with individuals choosing to “age in place”. Many more seniors are moving into the Birmingham region because of the improved access to medical care. These seniors are choosing to live in relatively low-density areas. This expected growth in the senior population, along with the myriad number of physical challenges that are associated with aging that will require long-term and/or specialized medical attention, could increase future demand for curb-to-curb services. This increase in demand will further increase the need for the less productive regional and local dial-a-ride services. Similarly, projected growth in the number of low-income persons residing in inner-city neighborhoods and poor rural communities where housing costs are lower, have the potential to increase demand for off peak and evening services as they travel to service sector jobs with non-traditional work hours.

The overall number of active transit vehicles (local and paratransit combined), when compared to other peer agencies covering service areas with similar socio-economic profiles, is disproportionately small relative to these peer regions’ transit and paratransit systems. The RTP suggests the need for taking a more regional approach to service delivery and promoting more integration or greater coordination among differing funding and operating entities, whether public agencies, community-based groups or private nonprofits.

In short, broadening transit options with a larger mix of services requires either more funding or a change in the current service delivery methodology. If implemented as envisioned, the projected federal transit funding levels will not meet future transit needs. There is currently no state funding provided for public transportation, and there is no dedicated source of local funding for public transportation outside of the legislative mandate for the City of Birmingham and Jefferson County to provide a portion of their ad valorem taxes, beer tax, and race track revenues for public transportation.

**5.2.2 The Vision for Public Transit**

Public transit plays a vital role in meeting the transportation needs of the Birmingham metropolitan transportation planning area. Many individuals can be considered transit dependent because they are unable or unwilling to drive. Whether an individual is able to afford personal transportation or lacks the ability or interest drive, public transit may provide the only independent means of mobility. Public transit in the transportation planning area is currently by bus. Efforts are underway to augment the existing bus transit system by improving the quality of public transit services with newer, more reliable vehicles. These efforts also include a reconsideration of the existing routing of buses and connections with activity centers. Other efforts to improve the transit system include the development of fixed guideway transit services, to include the proposed bus rapid transit (BRT) system for downtown, express bus service, and potentially some sort of rail alternative for the transportation planning area’s radial travel corridors.

The primary goal of the RTP is to ensure that a viable public transportation system grows to meet the transportation planning area’s transit needs in the future. A practical, easy-to-use public transportation system is fundamental in promoting regional mobility and minimizing the traffic congestion and air pollution caused by over reliance on the single occupant vehicle. The vision for the Birmingham metropolitan transportation planning area’s public transit system was presented in 2004 when the Birmingham MPO completed the development of the Birmingham Regional Alternatives Analysis. The
development of the Birmingham Regional Alternatives Analysis was funded through a grant from the Federal Transit Administration, and created a concept for a public transit system. The system plan was summarized in the Birmingham MPO published document, *Regional Transit Improvement Strategy*. Intended to be a living document, the transit system plan has been modified based on iterative planning activities that either refined concepts identified in the plan or identified and/or defined in subsequent planning exercises. This would include the work completed on the corridor level Alternatives Analysis conducted as part of the In-town Transit Partnership (ITP) project and the Mobility Matters (I-65) project. Figure 5.4 represents the Regional Transit System. Table 5.1 summarizes the total cost for all transit projects.

Figure 5.4 Regional Transit System Map
Table 5.1 Rubber Tire (Bus) Transit Service Alternates

<table>
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<th>Service Type Descriptions:</th>
<th>Total Cost</th>
<th>Implementation Time frame (years)</th>
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<td>Capital</td>
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<td>Proposed Service Changes</td>
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<td><strong>$20,347,784</strong></td>
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<td>Bus Services</td>
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<tr>
<td>Cross town Connections</td>
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<td>5 - 15</td>
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<td>Circulator Services</td>
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<td>Premium Bus Services</td>
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<td>Bus Rapid Transit Services</td>
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<tr>
<td>In-town Transit Partnership</td>
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<tr>
<td>US 11 SW BRT-Corridor</td>
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<tr>
<td>Express and Enhanced Bus Services</td>
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A key strategy for expanding the transit system is to improve the lines of communication between transit providers, the Alabama Department of Transportation, the Birmingham MPO, and the municipalities that the transit providers serve. The 2035 Birmingham RTP proposes that the Birmingham MPO host a regional dialog among the region’s transit providers to develop a better understanding of regional issues and needs. This Regional Transit Forum will provide an opportunity for stakeholders to address current issues and share information about planning and operational changes. Through this communication the Birmingham MPO hopes to gain a better understanding of the challenges to providing adequate public transit for the Birmingham metropolitan transportation planning area. A universal issue faced by local agencies is the need to provide service beyond the current operating boundaries. Adjacent counties experience a growing demand for travel to the central city for employment, education, and medical services not found elsewhere. In Birmingham there is a growing need to connect individuals from the urban core to new job opportunities located in suburban communities and Shelby County. The Birmingham metropolitan transportation planning area’s vision for its public transit system, as expressed in the Regional Transit System Plan, shows that the transit service area is greatly expanded. Suburban communities are provided some sort of transit services, whether they are fixed-route or demand responsive. Rural public transportation is also integrated.

In recent months, the existing transit system has suffered a number of setbacks, being the victim of the tumultuous economic climate from which the United States is now emerging. As described previously, transit services in the Birmingham metropolitan planning are mostly provided on a subscription basis; Birmingham’s suburban cities all pay for specific routes. Because of this, as local resources decreased because of declining revenues, funding for existing transit services has been cut and/or eliminated. As one could imagine, the challenges for expanding the transit system are daunting.

Despite these challenges, the Birmingham-Jefferson County Transit Authority’s Comprehensive Transit Development Program, (July 2008) considered a number of strategies to expand services within its existing means. One strategy is to reevaluate existing routes in order to identify these routes’ true needs. In some cases, ridership on existing routes had dropped significantly, and services could be delivered in a...
much more efficient manner such as localized demand responsive services. In some other cases, routes were extremely circuitous and confusing, so route streamlining became the recommended strategy. The Comprehensive Transit Development Program also considered the development of a number of “Super Stops,” transit transfer centers that will enable the existing radial route structure to be decentralized into a number of smaller radial systems.

System expansion will also be logical and realistic. Establishing new fixed-route transit services in an existing low-density suburban environment is unrealistic. However, the introduction of peak-hour commuter transit services is more likely. As described in the vision, express bus services on the transportation planning area’s interstate and major arterial roadways is envisioned. The I-65 Mobility Matters project has planned an express bus service for the I-65 south corridor. Additional express bus routes will be phased in over time.

The 2035 Birmingham RTP demonstrates a commitment to developing and promoting a wide variety of alternative travel modes, including inter-regional and local bus, paratransit services, vanpools, bicycles, and walking to meet not only the needs of the transit dependent but also to encourage use of alternative modes of travel by choice riders. The vision put forth by the BJCTA for transit in the City of Birmingham and Jefferson County mirrors that of the Birmingham Regional Alternatives Analysis. The Transit Development Program states that the agency’s vision is to support a transportation system that is seamless in its connections and “offers safe, affordable, reliable, and accessible services that improves mobility, flexibility and choices for all users…”

The long-term concept for public transportation for the Birmingham metropolitan transportation planning area has been developed around seven primary components:

1. **Local Bus Service** - An improved and expanded local urban bus system that connects in-town communities, activity centers, and key services.

2. **Neighborhood Connectors and Circulators** - New transit services to connect close-in neighborhoods in order to facilitate local trips and cross-town connections.

3. **Regional Transit Services and Facilities** - A regional express bus system that provides suburban and ex-urban commuters a viable travel alternative to the single-occupant vehicle.

4. **High Capacity Transit Services** - A high-capacity urban transit system that provides travel choices for highly congested travel corridors, along with providing support and/or the framework on which a vision for regional development might be built.

5. **Specialized Transportation Services-Paratransit** - An improved and expanded paratransit system that enables seamless, cost-effective, and affordable transportation services for transportation disadvantaged persons.

6. **Alternative Commute Program** - An alternative commute program that supports long-distance commuting and clean commuting travel options through a comprehensive commuter assistance program.

7. **Active Transportation System** - Non-motorized transportation facilities play a key role in the successful development of the public transportation system because, as described in the Active Transportation section of this chapter, every traveler begins or ends their trip as a pedestrian. Active Transportation Systems are discussed in more detail in Section 5.3 of this chapter.
A detailed description of each of these components is provided along with a brief discussion of how it fits into the overall Birmingham metropolitan transportation planning area’s transportation system in Sections 5.2.3 through 5.2.8.

5.2.3 Local Bus Service

Local bus service is the backbone of any transit system. It provides basic transportation services for persons whose personal mobility is limited, giving them access to jobs and services located throughout the community. Local bus service is characterized by frequent vehicle stops and low average travel speeds, where the routes are designed to pick up passengers close to their origins or destinations.

Local bus service in the Birmingham area is operated by the Birmingham Jefferson County Transit Authority (BJCTA). BJCTA provides service to the City of Birmingham, portions of Jefferson County, and to several cities within Jefferson County with whom they have contracts for service. BJCTA produces and maintains the Comprehensive Transit Development Plan (CTDP). This document outlines the Authority’s goals for improving transit service within their service area. The CTDP also includes an implementation plan, formerly the Comprehensive Operations Analysis (COA).

This implementation plan details which of the services identified in the CTDP are to be implemented, a generalized schedule for implementation, a description of the BJCTA service boundaries, and a detailed estimate of costs which are meant to inform the annual capital budgeting process.

The CTDP is reflected in the Birmingham Regional Transit System Plan and addresses capital expenses (i.e. rolling stock and facilities, service operations, and capital maintenance over 15-years).

Several types of improvements in local bus service were envisioned within the CTDP, and have been proposed for implementation within the Birmingham metropolitan transportation planning area. These include:

1. Improving regular, fixed-route bus service along all existing transit routes. Improvements will include:
   - All-day operations of buses
   - On-time performance and service reliability improvements
   - Route simplification and streamlining
   - Increasing the frequency (reducing the headways) of transit service

2. Service expansion
   - Establish a nodal network in place of the existing hub-and-spoke bus network
   - Increase the number of transit routes providing service
   - Increase the service area within Jefferson County

3. Capital equipment and facilities improvements
   - Vehicle replacement
   - Improvements to Central Station
   - Construction of new maintenance facility
   - Expansion/renovation of existing maintenance facility for paratransit services
5.24 Neighborhood Connectors and Circulators

The Birmingham Regional Transit Plan identifies a number of Neighborhood Connectors and Circulators. The idea for neighborhood connectors builds upon a concept identified in the In-town Transit Partnership (ITP) project for cross-town transit services that “connect” adjacent communities and/or neighborhoods, allowing travelers to move between neighborhoods without having to first travel into the City of Birmingham and transfer to another route to travel back. Additionally, neighborhood connectors would also link to Super Stops, a transit transfer facility where trunk line transit services, local bus services, and circulator services alike would come together and allow travelers a choice about how to travel. Neighborhood connectors are envisioned to operate in mixed traffic and will make use of smaller vehicles in order to enable more efficient service and use of resources within the neighborhoods. They would also feature regular, reliable service, be given a unique identity, and include improved stops at important neighborhood locations.

The ITP project, which is an Alternatives Analysis funded by the Federal Transit Administration for the purpose of securing Section 5309 New Starts program funding to implement a Bus Rapid Transit (BRT) system in Birmingham, and Super Stops, will be be will be discussed in more detail later within this section. Neighborhood circulators provide internal circulation within neighborhoods and activity centers, providing access to local businesses, services, and residents. Circulator service is envisioned to be provided all-day. However, services might also operate only during the peak morning and afternoon hours depending on the demand for service. The BJCTA’s CTDP identified a concept for neighborhood focused demand responsive transit services that are open to everyone for neighborhoods desiring transit service, but not having sustained ridership to warrant dedicated transit vehicles for all-day and/or peak-hour service. These services are identified as “opportunity shuttles,” primarily because their use is meant to provide increased access to opportunities.

In most cases circulator routes are designed in short lengths so as to provide frequent service and quicker travel times. This service offers numerous stops along streets that serve both businesses and residential communities, and provides access to jobs, schools, commercial and retail services, homes, and parks.

Similar to the neighborhood connectors, neighborhood circulators would circulate throughout neighborhoods and activity centers collecting riders, some of who would terminate their trips at a neighborhood transit center while others moved between land uses in the area. At the neighborhood transit centers, passengers can make coordinated transfers to trunk line bus service.

In addition to the existing Downtown Area Runabout Transit (DART) service, the Titusville Shuttlebug, and the West End Shuttlebug, several new circulator routes have been proposed. Additionally, both the ITP project and the Regional Transit Concept identify a number of neighborhood connectors. The neighborhood connectors would be new services, although in some cases, they might reconfigure existing bus routes. Tables 5.2 and 5.3 present both the newly recommended community circulator routes. Figure 5.4, page 21, illustrates these proposed new services in context of the regional transit system. Figure 5.5 represents the neighborhood connectors for the In-town Transit Partnership.
### Table 5.2 Recommended Community Circulator Transit Routes

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<th>Plan Document</th>
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<td>Demand Response</td>
<td>Gardendale/Fultondale Opportunity Shuttle</td>
<td>RTS-2009</td>
<td>Constrained</td>
<td>Long Range</td>
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</tr>
<tr>
<td>Circulator</td>
<td>Homewood Shuttle</td>
<td>RTIS-2004</td>
<td>Constrained</td>
<td>Mid Range</td>
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</tr>
<tr>
<td>Circulator</td>
<td>Hueytown/Pleasant Grove Circulator</td>
<td>RTS-2009</td>
<td>Constrained</td>
<td>Long Range</td>
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<tr>
<td>Demand Response</td>
<td>Mountain Brook Opportunity Shuttle</td>
<td>RTIS-2004/CTDP-2007</td>
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<td>Demand Response</td>
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<td>UAB Circulator</td>
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<tr>
<td>Circulator</td>
<td>US-280/Summit Circulator</td>
<td>RTIS-2004</td>
<td>Constrained</td>
<td>Mid Range</td>
<td></td>
</tr>
</tbody>
</table>

**Plan Document Legend**

- RTIS = Regional Transit Improvement Strategy of 2004
- CTDP = Comprehensive Transit Development Program of 2007
- RTS = Regional Transit System Plan of 2009
- Short Range = 2009 - 2014
- Mid Range = 2015 - 2020
- Long Range = 2021 - 2035

### Table 5.3 Recommended Community Connector Transit Routes

<table>
<thead>
<tr>
<th>Map ID</th>
<th>Service Type</th>
<th>Route Name</th>
<th>From</th>
<th>To</th>
<th>Plan Document</th>
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<tr>
<td>Connector</td>
<td>Highland Park Connector</td>
<td>Legion Field</td>
<td>Lakeview District</td>
<td>ITP</td>
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<td>Connector</td>
<td>Norwood Connector</td>
<td>Palisades Shopping Center</td>
<td>Norwood Neighborhood</td>
<td>ITP</td>
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<tr>
<td>Connector</td>
<td>In-town Cross-town Connector</td>
<td>Legion Field</td>
<td>Sloss Furnaces</td>
<td>ITP</td>
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<tr>
<td>Connector</td>
<td>Northern Crescent</td>
<td>Graysville</td>
<td>Fultondale</td>
<td>RTS-2009</td>
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<tr>
<td>Connector</td>
<td></td>
<td>Fultondale</td>
<td>Center Point</td>
<td>Trussville</td>
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<tr>
<td>Connector</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Connector</td>
<td>Irondale Cross-town</td>
<td>Colonnade/Inverness</td>
<td>Downtown Irondale</td>
<td>RTS-2009</td>
<td></td>
</tr>
<tr>
<td>Connector</td>
<td>Leeds Cross-town</td>
<td>Colonnade/Inverness</td>
<td>Downtown Leeds</td>
<td>RTS-2004</td>
<td></td>
</tr>
<tr>
<td>Connector</td>
<td>Grants Mill Cross-town</td>
<td>Irondale</td>
<td>Saddle Creek/Grants Mill</td>
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<td></td>
</tr>
<tr>
<td>Connector</td>
<td>Hueytown Connector</td>
<td>5 Points West/Ensley</td>
<td>Downtown Hueytown</td>
<td>RTS-2004</td>
<td>CTDP-2007</td>
</tr>
<tr>
<td>Connector</td>
<td>Hwy 150 Cross-town</td>
<td>US 11/Academy Drive</td>
<td>Patton Creek/Galleria</td>
<td>RTS-2004</td>
<td></td>
</tr>
<tr>
<td>Connector</td>
<td>Adamsville Connector</td>
<td>Downtown Adamsville</td>
<td>5 Points West/Ensley</td>
<td>RTS-2009</td>
<td></td>
</tr>
<tr>
<td>Connector</td>
<td>Trussville Cross-town</td>
<td>Downtown Trussville</td>
<td>Downtown Irondale</td>
<td>RTS-2004</td>
<td></td>
</tr>
</tbody>
</table>

**Plan Document Legend**

- RTIS = Regional Transit Improvement Strategy of 2004
- CTDP = Comprehensive Transit Development Program of 2007
- ITP = In-town Transit Partnership of 2008
- RTS = Regional Transit System Plan of 2009
5.2.5 Regional Transit Services and Facilities

A. Express Bus

Express Bus Service is designed to quickly transport passengers from suburban areas (typically a rally point such as a park and ride lot where large numbers of riders can board the bus) to the urban core, regional activity centers, and regional activity corridors. Express bus service typically provides bus service with a limited number of stops, and usually operates only during morning and afternoon peak periods. Examples of typical express bus destinations include:

- Major employment centers
- Regional commercial/retail centers
- Universities and colleges
- Hospitals
- Government centers
- Transit transfer centers
- Transit stations
Express bus service usually uses freeways and major highway corridors, taking advantage of high occupancy vehicle lanes if they are available. Exclusive busways may also be utilized for express bus service. The use of these facilities enables buses to operate at higher speeds than regular local service.

In the Birmingham region, it is envisioned that express buses would serve the regional park and ride lots, collecting riders during the A.M. peak commute hours and delivering them to downtown Birmingham employment centers, transfer stations, and Central Station. Buses will return riders to the regional park and ride lots during the P.M. peak travel hours. Buses would provide service every 15-20 minutes. The frequency of bus service will be reduced to every 60 minutes during the off-peak hours, although it is possible that no bus service would be provided during the off-peak travel hours. A detailed service plan will be developed to describe the proposed express bus routes. A public involvement process will present the routes to potential riders and refine them before they are finalized.

B. Park and Ride Facilities

Park and ride lots are physical infrastructure that provides access to transit and/or carpool and vanpool. The parking and ride lot is accessed by automobile, pedestrians, and bicyclists who then transfer to a transit vehicle which carries them to their destination. Park and ride lots may also serve as a rally point for carpoolers and vanpoolers, providing them with a common location to park their individual vehicles.

The Regional Transit System Plan reflects the recommendations made in the Regional Planning Commission of Greater Birmingham’s Park and Ride project and Park and Ride Program Agreement Guide, July 2008. It also reflects planned projects and/or park and ride lots that are currently online to support long-distance commutes. While the Park and Ride Study identified a handful of lots to be constructed, a number of the facilities that have been brought online in the last few years primarily have been shared use lots. Table 5.4 presents the 10 park and ride lots that are currently online along with the three planned and/or expected park and ride lots anticipated to come online. In all, the implementation of the park and ride program will cost less than $2 million total with the bulk of the expected costs coming from the construction of the Shelby County Park and Ride facility. Costs for shared use lots have been largely contained to the initial striping and signing of facilities, routine maintenance such as cleaning services, and in some cases, security and/or monitoring. An additional $3.7 million over the RTP’s plan horizon is anticipated to be needed in order to operate and maintain the park and ride lots, as well as pay for expansion.
### Table 5.4 Existing and Planned Park and Ride Lots

<table>
<thead>
<tr>
<th>Map ID</th>
<th>Location</th>
<th>Spaces</th>
<th>Type</th>
<th>Status</th>
</tr>
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<tbody>
<tr>
<td>•</td>
<td>First Baptist Church of Pelham (at US 31 south) o 2867 Pelham Parkway, Pelham</td>
<td>40</td>
<td>Shared</td>
<td>Online</td>
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<tr>
<td>•</td>
<td>Hueytown Baptist Church (at I-20/59 south) o 3000 Dwaine Avenue, Hueytown</td>
<td>36</td>
<td>Shared</td>
<td>Online</td>
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<td>•</td>
<td>Forestdale Church of God (at US 78 west) o 1433 Tomahawk Road, Birmingham</td>
<td>30</td>
<td>Shared</td>
<td>Online</td>
</tr>
<tr>
<td>•</td>
<td>United Methodist Church of Center Point (at Alabama 75 north) o 2129 Center Point Parkway, Birmingham</td>
<td>25</td>
<td>Shared</td>
<td>Online</td>
</tr>
<tr>
<td>•</td>
<td>Northpark Baptist Church (at I-59 north) o 5700 Deerfoot Parkway, Trussville</td>
<td>40</td>
<td>Shared</td>
<td>Online</td>
</tr>
<tr>
<td>•</td>
<td>Blount County Park &amp; Ride o I-65, Exit 284</td>
<td>100</td>
<td>Stand Alone</td>
<td>Online</td>
</tr>
<tr>
<td>•</td>
<td>First Baptist Trussville (at I-59 north) o 128 N. Chalkville Road, Trussville</td>
<td>45</td>
<td>Shared</td>
<td>Online</td>
</tr>
<tr>
<td>•</td>
<td>Mountain Brook Community Church o US Highway 280 near I-459, at 3001 US 280 East</td>
<td>35</td>
<td>Shared</td>
<td>Online</td>
</tr>
<tr>
<td>•</td>
<td>Chilton County Park &amp; Ride o I-65, Exit 219</td>
<td>120</td>
<td>Stand Alone</td>
<td>Online</td>
</tr>
<tr>
<td>•</td>
<td>Greater Emanuel Temple (at I-59 north) o 7901 Second Avenue South in East Lake</td>
<td>45</td>
<td>Shared</td>
<td>Online</td>
</tr>
<tr>
<td>•</td>
<td>Shelby County Airport o I-65, Exit 234</td>
<td>150</td>
<td>Shared</td>
<td>Planned</td>
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<tr>
<td>•</td>
<td>Leeds Park and Ride o I-20, Exit 140</td>
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<td>•</td>
<td>Mood Park and Ride o I-20, Exit 144</td>
<td>TBD</td>
<td>Shared</td>
<td>Planned</td>
</tr>
</tbody>
</table>

Total Lots (Existing and Planned)  
10 Existing  
3 Planned  

Total Spaces Available 665

### C. Transit Centers (Super Stops)

Transit Centers (A.K.A. Super Stops) are a major component of providing a nodal transit system. Super Stops provide central locations for passengers to transfer between community circulators, express service, and local trunk routes. Buses on connecting routes would converge at the same time to facilitate quick and seamless transfers. Amenities like a day care center, banking, and health care center may all be located at or in very close proximity to the transit center. By concentrating many routes at a single point, these centers can also create a heightened public awareness of the destinations served by transit. Super Stops have been stratified according to size and purpose, and are described below and depicted in Figure 5.6.

- Neighborhood Super Stops are the smallest facility, and would primarily serve the transit needs of nearby residents. Transfers between community circulators and local or express routes would occur at these transit centers. Typically placed along existing streets, key features include bus turnout lanes, sheltered waiting areas, lighting, sidewalks, and bike racks. They would generally be located near existing services such as grocery stores, dry cleaners, or banks.
Community Super Stops are medium-sized facilities that would serve several surrounding neighborhoods. Here, passengers would transfer between different community circulators, express or local routes, or Bus Rapid Transit services. Community transit centers would typically be off-street facilities located close to shopping centers or other activity nodes. Features could include multiple bus bays around a sheltered structure, comfortable seating, route information, vending machines, and other small-scale services.

Regional Super Stops are the largest facilities, and would serve multiple communities and trip purposes. Community circulators, express and local bus routes, and light rail or some other high capacity transit service would generally serve these facilities. Regional transit centers would typically provide all of the services of community transit centers plus staffed information kiosks, security personnel, restroom facilities, commercial services, drop-off areas, and park-and-ride lots.
5.2.6 High Capacity Transit Services

A. Enhanced Bus

Enhanced bus service can best be described as bus service that relies heavily on advanced transit technology, borrowing features from both BRT and express bus service. Enhanced bus service also utilizes physical improvements similar to those used to support BRT and express bus service. These improvements may not be as extensive as those needed to support BRT and express bus.

Enhanced bus service may operate in mixed traffic, making all stops like local bus service for a portion of the route. Enhanced bus service might also mimic express bus service for other portions of the route, making limited stops in destination corridors, and providing service to park and ride lots. Enhanced bus service vehicles may also access exclusive rights-of-way when available. A key difference between enhanced bus service and local bus service is the use of transit transfer centers/stations versus traditional bus stops. Technology used to support this service type includes:

- Traffic Signal Priority
- Automatic Vehicle Location
- Smart Signs and Automated Schedule Boards
- In-vehicle Stop Enunciators
- Electronic Fare Media i.e. Smart Cards and/or Pre-paid Boarding Passes
- Automated Optical Vehicle Guidance

Much of this technology can be included under the transit supportive infrastructure.

Physical improvements might include:

- Queue Jumpers
- Bus ways
- Bus Bays
- Bus Islands
- Curb Extensions
- Transit Transfer Centers/Stations
- Improved Bus Stop Design

Transportation policy changes that support enhanced bus service might include:

- Semi-Exclusive Bus Lanes
- Exclusive Bus Lanes
- Transit Only Streets
- Parking restrictions

In the Birmingham area, it is envisioned that enhanced bus service would provide regular, frequent service along major travel corridors to regional park and ride lots and activity centers, transfer stations, and Central Station. Buses will utilize both technological and physical improvements so that service is reliable, convenient, and efficient. Transfer centers/stations would be present along all enhanced bus routes. Buses would provide service every 15-20 minutes during the peak travel hours, and every 25-30 minutes during off-peak hours.
B. Bus Rapid Transit

Bus rapid transit (BRT) is a complete rapid transit system that combines the speed of light-rail with the flexibility of buses. A primary goal of BRT is to create an image of BRT that is similar to the image the public has of rail systems. This is typically accomplished through the provision of frequent, reliable service on dedicated rights-of-way which can be grade separated from cross streets or located in roadway medians. BRT may utilize existing highways and roadways in less congested areas wherever possible to reduce costs. The addition of Bus Only lanes and/or High Occupancy Vehicle lanes would be necessary to maintain reliable service frequencies. In addition, bus rapid transit is often linked with intelligent transportation systems (ITS), and can involve special buses that control traffic signals, smart card systems, automated vehicle location (AVL) bus tracking, dynamic message signs, and automatically guided buses.

C. The In-town Transit Partnership (ITP)

A study of potential transit services for Birmingham City Center resulted in a locally preferred alternative for a BRT system that could be easily expanded to serve additional transit corridors. ITP will be the Birmingham metropolitan transportation planning area’s first major BRT corridor, and is currently planned to serve the Birmingham city center, the University of Alabama at Birmingham, and the in-town neighborhoods surrounding these centers. The Downtown Financial District and UAB serve as economic engines for the Birmingham metropolitan area, providing employment and educational opportunities for area residents. Increasing traffic congestion and few transportation choices for trips to and within the project study area threaten the ability of these activity centers to reach their full economic potential. Transit services provided in the region are extremely limited, with 30 to 60 minute service on almost all existing local bus routes. There is a need for transit services that have the potential to attract a greater share of the trips to and within the study area. This includes improvements that will support the establishment of transit-friendly and pedestrian-oriented development patterns. Concurrent with the ITP project, plans are underway for enhanced regional transit services that connect the Downtown and UAB activity centers with the rest of the metropolitan area. However, attractive and convenient transit services within the study area are needed to serve as a spine for regional services, to deliver transit riders to their final destination points and to accommodate short mid-day trips within the study area.

An ideal bus rapid transit service would be expected to include some or all of the following features:

- **Bus Lanes**: A lane on an urban arterial or city street is reserved for the exclusive or near exclusive use of buses
- **Busways**: A roadway provided for the exclusive use of transit buses, either within an existing transportation corridor, or in its own right-of-way. These roadways may be grade separated, at-grade, or located in the median of existing roadways
- **Bus Streets and Transit Malls**: A bus street or transit mall can be created in an urban center by dedicating all lanes of a city street to the exclusive use of buses.
- **Vehicles**: In an attempt to distance itself with the long-held notion that buses are “dirty, noisy, and bumpy”, new BRT vehicles are designed with streamlined features, high capacity, distinctive color schemes, and low-emission diesel or natural gas engines.
- **Intelligent Transportation Systems (ITS):** With the advancement of Global Positioning Systems (GPS), new BRT systems are coming equipped with Automatic Vehicle Locators (AVL) to manage bus locations at all times and to facilitate rapid reaction to problems. GPS-equipped buses also help to accurately display real-time information on expected bus arrival times.

- **Bus Signal Preference and Preemption:** Preferential treatment of buses at intersections can involve the extension of green time or actuation of the green light at signalized intersections upon detection of an approaching bus. Intersection priority can be particularly helpful when implemented in conjunction with bus lanes or streets, because general-purpose traffic does not intervene between buses and traffic signals.

- **Faster Boarding:** Modern bus stops for BRT allow for pre-boarding fare collection machines that significantly reduce boarding times, as well as low-floor buses, and better handicap access.

The proposed BRT service is envisioned to operate on a regular schedule; vehicles would arrive every 5-10 minutes during the morning and afternoon peak hours, and every 10-15 minutes during the off-peak hours. In addition, circulator buses would service the employment and/or commercial activity centers located along the BRT trunk-line route, allowing riders to travel between land uses in the activity centers and also providing access to BRT stations.

The In-Town Transit Partnership study takes a major step in the implementation of the Birmingham Regional Transit System Plan, developing a specific plan that addresses the future vision for transit services within the project study area. The proposed BRT project provides improved mobility, supports the continued economic growth and revitalization of the activity centers located in the study area, enhances current and future regional transit services, protects natural and cultural resources, and better serves area residents and businesses.

During the course of the study, the Birmingham MPO and its planning partners considered several transit service alternatives to include an enhanced local bus system and rail transit alternatives. The study also considered vehicle types and vehicle propulsion systems, as well as different route alignments on which the transit vehicles would operate. However BRT, more than any other mode, met the study goals and objectives and will provide many of the same benefits as light rail. However, BRT costs only a fraction of the cost of light rail. Cost was a major consideration for the project stakeholders. The Locally Preferred Alternative (LPA) also resulted in a preferred alignment for the BRT service, where 18th Street would serve as the primary north-south spine of the system. An east-west alignment was also chosen to run along 5th Avenue South. Figure 5.7 presents the selected transit system alignment.
Route alignments were chosen based on the number of potential riders (the BRT looks to serve the greatest number of potential riders) and the ability to serve key activity centers, while simultaneously maximizing the transit system’s support of land use plans for the corridor. The new transit system will be bolstered by connections to local bus service in communities surrounding downtown Birmingham.

The Birmingham Metropolitan Planning Organization, in conjunction with the Birmingham Jefferson County Transit Authority, submitted a $65 million grant proposal to the US Department of Transportation on September 14, 2009 for funding to implement the project. The proposal, submitted for funding under the American Reinvestment and Recovery Act (ARRA), is one of nearly 1,400 projects submitted nationwide that is competing for funds through the Transportation Investment Generating Economic Recovery (TIGER) discretionary funding program. The requested funding would cover the costs of redeveloping the proposed transit corridors to accommodate BRT services. Funding would pay for BRT vehicles, stations, transit technology and the necessary modifications to the corridor to enable pedestrians and cyclists to access transit services. The grant would also assist the City of Birmingham to convert the northern end of 18th Street from a one-way street into a two-way thoroughfare complete with transit running ways. The Birmingham MPO would be requested to program funding beginning in federal fiscal year 2012 to assist in the initial start-up operational costs. The funding commitment spans a period of three federal fiscal years to include FY2012, FY2013, and FY2014. In addition to the Birmingham MPO’s financial commitment, several local businesses have committed funding to assist in the development of BRT stations. Privately owned land near the Finley Boulevard extension project has also been offered to be donated for the purpose of hosting a transit maintenance and storage facility and a multi-fleet refueling station.
The Alternatives Analysis phase of the ITP project was completed in January 2009. The intention of completing the Alternatives Analysis was to submit the LPA that emerged from the ITP project to the Federal Transit Administration (FTA) for consideration for admission to the Section 5309 New Starts Grant Program. In the event that ARRA funding is not provided for the project through the TIGER grant process, the eligible BRT corridor segments could be submitted to the FTA for admission to the Section 5309 New Starts program. Birmingham MPO consultation with the FTA about the ITP project indicates that the project segments that are eligible for New Starts funding would actually qualify for funding under the Small Starts or Very Small Starts component of the grant program. The project components that are not eligible for these funding streams could be implemented using a combination of:

- Section 5309 Bus Capital
- Birmingham attributable Surface Transportation program funding provided by the Birmingham MPO
- Congestion Mitigation and Air Quality Program funding, and
- Local monies

In short, there is a strong regional commitment to implement the project with or without ARRA funding. Provided that TIGER discretionary grant funding is provided through the ARRA program for the ITP project, it is expected that the BRT service will be placed into revenue service by Spring 2012. However, if no TIGER discretionary grant funding is provided, the project can expect to be ready to be placed into revenue service by 2016.

5.2.7 Specialized Transit Services – Paratransit

SAFETEA-LU created a new requirement to have a Public Transit-Human Services Transportation Coordination Plan to be eligible for several Federal Transit Administration (FTA) funding programs:

- Access to jobs for low-income individuals (Job Access Reverse Commute, or JARC)
- Vehicles or other equipment for transporting seniors or people with disabilities (Specialized Transportation)
- New transportation services for people with disabilities (New Freedom)

The purpose of the Coordinated Plan is to determine how existing transportation services could be better coordinated and how new funding and other resources should be used to improve transportation services in a coordinated fashion. The planning process brings together representatives of public, private and nonprofit transportation and human service providers and private transportation providers. The planning includes significant community outreach to the three target populations, human service agencies and advocates serving the target populations and providers of transportation and human services funded by other federal programs. Public outreach is targeted especially to older persons, persons with disabilities and people with low incomes who may be more dependent on transit.

Coordinated plans have been undertaken on a regional level in the State of Alabama. The Human Service Transportation Plan for the Heart of Alabama region is broken into two separate plans: one for the Birmingham metropolitan transportation planning area and one for the rural counties surrounding the transportation planning area. Each of the four rural counties (Blount, Chilton, St. Clair, and Walker) has its own plan. The Birmingham MPO and its sister agency, the Heart of Alabama Rural Planning Organization, anticipates working with the counties to identify and coordinate inter-county transportation needs and strategies.
The largest expected growth in transit ridership will likely occur among specialized transit services. The Birmingham metropolitan transportation planning area is unique to Alabama in its provision of specialized transit services, particularly paratransit service. This change will occur in large part because of changes in aging characteristics of the transportation planning area’s population, particularly as the current population is choosing to “age in place.” As a whole, the largest demographic change will come in the numeric change of older adults as most all of the baby boom generation will be of an age where they qualify for specialized public transportation services. 23.5% (231,963) of the transportation planning area’s forecasted population will be persons age 60 and older in the year 2035. This is an increase of 69% from 2005. Of this age cohort, fully 78% (181,663) will be age 65 and older in 2035. The implications for the region’s transportation system, and especially the demands for human service transportation, are huge. Services like ClasTran and the BJCTA’s VIP service which already have transportation services geared towards serving older adults and people with disabilities are currently operating at capacity. Fully, there will be an increased need for transportation services to provide for the routine mobility needs of seniors as well as social trips and other non-life sustaining trips. The increased demand that is surely to come as a result of this changing demographic will require additional services and/or expansion of existing services. This of course will require additional funding. Figure 5.8 provides a breakdown of the change in age group for both Jefferson and Shelby Counties and illustrates the aggregated growth of this cohort by analysis period.

Other proposed specialized transportation services and/or activities should incorporate strategies to improve coordination between human service agencies assisting elderly and disabled individuals with transportation needs and programs that address workforce development issues. Specifically, programs that seek to improve mobility and economic opportunity for Temporary Aid for Needy Families (TANF) recipients and other low-income people through the provision of new or expanded public transportation services are actively encouraged by the Birmingham MPO, and funding to support such programs is included in this RTP. The Birmingham MPO recognizes the critical impact of public transportation on economic development activity and actively encourages local and county governments, as well as the business community to support federal transportation funding programs with match funds.

With SAFETEA-LU, Federal Job Access and Reverse Commute (JARC) funds changed from an earmarked program to a formula program. This Region’s program decreased from a $1.5 million/year program to a $400 thousand/yr program. At the time of this plan adoption, match for federal funding programs was being provided by individual project sponsors, typically human service agencies, and no single source of matching funds had yet been identified.
5.2.8 Strategies for Transit System Maintenance and Modernization

The Birmingham Jefferson County Transit Authority (BJCTA), like most transit systems in the State of Alabama, is underfunded and over extended. The BJCTA has several vehicles that are nearing, have reached, or have exceeded their useful life. The BJCTA’s Transit Development Program, completed in 2008, indicated that 20% of fixed route vehicles are at the end of their useful lives, and that 62% of paratransit vehicles were nearing the end of their useful lives. The impact to the BJCTA has been rising maintenance costs to maintain an aging fleet which in turn has increased the agency’s overall operating costs. This has led to continuing concerns about service reliability as the number of vehicles available to be placed into revenue service also continues to decrease. Preventive maintenance appears to be a continuing issue with both fixed-route and paratransit vehicles. Unfortunately, there is no consistent local funding mechanism in place to assist with vehicle procurement. Congressional appropriations to the Section 5309 Bus and Bus Related Capital program have not been sufficient to cover the BJCTA’s increasing capital needs.

The BJCTA has been creative in how they have addressed maintenance concerns, partnering with the Birmingham MPO to take advantage of flexible funding, and using Federal Highway Administration monies to augment existing Federal Transit Administration maintenance funds. Additionally, the Transit Authority has used flexible funding provided by the MPO to replace paratransit vehicles. Local appropriations have also been used to purchase vehicles and/or match federal monies for the purchase of vehicles. However, this occurrence is rare. Finally, the BJCTA has sought out partnerships with local businesses in an effort to get these businesses to sponsor the purchase of transit vehicles.

Historically, ClasTran employed FTA Section 5310 and 5311 vehicles owned by the counties that it served. That is, vehicles purchased by Jefferson or Shelby County using FTA Section 5310 - Elderly and Disabled Persons or FTA Section 5311 - Rural Public Transportation were provided to ClasTran in order that ClasTran would operate these services on these counties’ behalf. These vehicles were subsequently subleased to private vendors who provided the day to day operation of both the Elderly and Disabled, and rural public transportation services. In recent years, ClasTran has moved away from this arrangement, instead opting to purchase transportation directly from private vendors. The costs of the vehicles were typically built into the purchase price for transportation, and ClasTran was able to provide services on vehicles that were well maintained and used modern technology. Of late, ClasTran has replaced a number of routes that were operated by private transportation vendors who used their own vehicles because of the agency’s inability to control vendor cost increases. These routes are planned to be replaced with vehicles purchased by the Birmingham MPO. Like the Birmingham Jefferson County Transit Authority, ClasTran does not have a dedicated local revenue source to assist with vehicle replacement, and like the BJCTA ClasTran will eventually need to address its long-term capital needs.

The injection of American Recovery and Reinvestment Act (ARRA) funding into the regional transportation funding pot has certainly helped immensely with addressing transit system maintenance and modernization needs of both the BJCTA and ClasTran. The BJCTA used the ARRA funds appropriated to it via the FTA Section 5307 - Urbanized Area Formula Program to purchase upwards of 40 new transit vehicles. The BJCTA will completely rehabilitate another 40 transit vehicles, rebuilding engines, transmissions, electrical components and doing body work. In all, nearly 80% of the BJCTA fixed-route vehicle fleet will be replaced or rehabilitated. This leaves about 20% of the fleet that can begin to be replaced through normal procurement means following a logical replacement cycle. New vehicles are set to use modern equipment to include advanced operator and passenger communications. Vehicles will also include new safety features and upgraded security components such as onboard cameras. Finally, updated fare collection systems will be included. This will include the use of paper and
potentially reliable fare media. ARRA funds have also been used to secure new vehicles for ClasTran. Discussions are ongoing about upgrades to both agencies’ financial, scheduling, and run cutting software.

A. Fixed-Route Bus Service

Fixed-route bus service will remain the backbone of the Birmingham Jefferson County Transit Authority system. Services are expected to include: express, local, cross-town, and neighborhood circulator bus routes. In response to the needs expressed by the community, the Unified Regional System Plan, which builds on BJCTA’s Transit Development Program (TDP) calls for an aggressive, system-wide expansion of fixed route bus service.

- On existing routes, service frequencies will be increased to add capacity and improve convenience to meet existing and future demand
- New routes will be added to the BJCTA system to extend coverage to areas experiencing population and/or job growth and to provide direct transit service between suburban communities and activity centers
- Service hours will be expanded to provide access to 2nd and 3rd shift jobs throughout the community

B. Paratransit Service

The needs of the paratransit community will become increasingly important as the average age of the Birmingham metropolitan transportation planning area residents’ increases. The RTP supports the activities identified in the Heart of Alabama Coordinated Human Service Transportation Plan, and will be conducted in conjunction with the transportation planning area’s public transportation providers and human service agencies.

- Increase service availability to the general public in order to accommodate the anticipated growth in the transportation planning area’s elderly and disabled population
- Develop a Voucher Service program in order to provide better service at a lower cost to persons with special transit needs in the community
- Further evaluate the feasibility of developing a one-stop resource for trip planning so that customers will experience faster turnaround and more convenient transportation to and from their destinations
- Cultivate community partnerships to maximize available funding and resources that can strengthen the efficiency of mobility services
- Implement an ongoing service evaluation system to review existing operations, and implement new service delivery methods that improve service and improve effectiveness

C. Intelligent Transportation Systems

- Develop passenger information systems that provide real time bus arrival/departure information at major bus stops, Park & Rides and transit centers
- Work with the Alabama Department of Transportation, county, and local officials to implement signal priority systems that adjust traffic signal timing to expedite bus service
- Implement a system-wide Smart Card fare collection system which speeds up passenger boarding and provides opportunities for riders to renew bus passes remotely, using the Internet
D. Facilities

- Expansion of existing and/or construction of new transit maintenance facilities
- Development of new Park & Ride facilities in collaboration with new residential, employment and commercial developments
- Plan and develop new transit Super Stops, multi-use transit centers and intermodal mobility hubs

5.2.9 Alternative Commute Program

The trend of increased congestion and concern about air quality emphasizes the need for reducing motorized car travel on roadways. For many years, transportation demand management (TDM) strategies have shown effectiveness in reducing traffic congestion and environmental pollution caused by motor vehicles. TDM refers to a series of measures promoting alternatives to the single occupancy vehicle (SOV) by maximizing the use of the existing transportation infrastructure. These measures include carpooling, vanpooling, public transportation, walking, bicycling, telecommuting, and compressed workweeks. Much focus is placed on work-related car trips because they are repetitive in nature and therefore easier to address. Most people are not aware that there are other options to driving alone and that sharing a ride or using transit is of benefit. Many of these benefits are related to increased productivity, decreased stress levels, improved health, and a reduced risk to be involved in traffic crashes. In addition, using alternative modes of transportation can significantly reduce travel costs because car insurance, parking, gas, maintenance, and wear and tear on personal vehicles add up to a major expense. It is therefore important to make the benefits of TDM more evident to commuters.

The Birmingham MPO’s CommuteSmart Commuter Services program has a long history of addressing these issues. The program has been in existence since the 1990s with a clear mission of reducing single occupancy vehicles on the road. In order to address the individual commuter’s needs, CommuteSmart provides customized alternative transportation programs. Most of these programs are related to ride-sharing services such as carpooling and vanpooling. CommuteSmart also works closely with the Birmingham Jefferson County Transit Authority to offer transit services to those living along bus routes. In addition to the various transportation providers in the region, pedestrian and bicycle plans developed by the Birmingham MPO aim to improve the livability of the transportation planning area by increasing the number of roadway facilities that allow residents to walk and bike safely.

Alternative Commute programs such as the CommuteSmart Birmingham Rideshare Program addresses congestion issues by addressing congestion at the root of the problem by reducing the number of vehicles on the road through elimination of trips. Alternative Commute initiatives work to modify traveler behavior by encouraging individuals to either eliminate or make fewer trips, travel in off-peak hours when possible, combine trips where possible, and increase vehicle occupancy. They also support land use policies that reduce the demand for automobile transportation, or eliminate the demand altogether. Modal Alternative Commute options include techniques to give people transportation choices beyond just driving alone in their cars. These include initiatives to encourage carpooling, vanpooling, transit, bicycle and pedestrian modes of travel.

The Regional Planning Commission of Greater Birmingham operates a comprehensive commuter assistance program called CommuteSmart Birmingham. The Birmingham MPO provides funding for this program. CommuteSmart provides resources that enable carpooling, vanpooling, and telecommuting. The program also provides emergency ride home for program participants, as well as support to employers in establishing commuter benefit, parking incentives, as well as setting up non-traditional work hours. The
The CommuteSmart program has been successful, that is, for a transportation planning area the size of Birmingham. Data provided by the program shows that there were 5,731 new ridematch applications added to the regional rideshare database during 2008. At the close of the 2008 calendar year, the database’s size had increased to 9,443 registered commuters. Confirmed total carpools had increased to 445 and the total number of CommuteSmart supported vanpools totaled 38. These 38 vanpools equate to 371 total riders. Vanpool occupancy rates averaged 96% during 2008, meaning that on average, 96% of the available vanpool seats had riders.

In conjunction with the CommuteSmart program, another strategy that should be considered to manage transportation demand is the development of Transportation Management Associations (TMAs) in key areas and/or key travel corridors of the transportation planning area. The Birmingham MPO conducted an evaluation of the CommuteSmart program in 2008 in order to assess the strengths of the program as well as to identify other areas of improvement. The evaluation, while not explicitly considering TMAs, identified that there might be some benefit of implementing TMAs, especially in areas with high business concentration, such as the Birmingham downtown and City Center, the Galleria/Riverchase regional activity center, and the US 280 regional activity corridor. TMAs are established to provide transportation services in a particular area, such as a commercial district, mall, medical center or industrial park where congestion levels are high. They are typically public-private partnerships between area businesses and local governments, and provide an institutional framework for TDM programs and services.

5.2.10 Summary

Transit service in the Birmingham metropolitan planning service is comprised of several components. As described within this section, traditional transportation services are a primary component of the strategy to improve mobility, and the vision for travel is beginning to be recognized with the impending implementation of the Bus Rapid Transit system proposed by the In-town Transit Partnership (ITP) project. The success of the CommuteSmart program should also be recognized for its progress in helping the transportation planning area to achieve its vision. At the same time, there are also a number of deficiencies which need to be addressed in order for the vision for travel to be fully realized. Based on this, the RTP proposes a number of improvements and/or strategies that will likely help to improve the overall quality of public transportation services, and improve on service delivery.

A. Short Range Strategies

- Increase collaboration between the various transportation providers
- Increase building and maintaining relationships with current and new employers
- Explore ways of how to provide ETC training to company staff
- Strengthen research opportunities about travel behavior

B. Long Range Strategies

- Support the development of an online regional multi-modal transportation system
- Study the need for TMAs in the region and promoting its benefits
**Customer Service** - The transportation planning area’s transit agencies should develop a more customer oriented perspective to transit service delivery through increased service coordination. Consideration of developing a scope to enable a “one-stop” information function for all mobility options to include all forms of ridesharing, public transit and human service transportation, and specialized transportation services (i.e. ClasTran) would greatly improve the overall quality of customer service.

**Local Funding** - Establish a Local Transportation Fund (LTF) to provide operating assistance to public transit services (i.e. Birmingham Jefferson County Transit Authority and ClasTran), as well as to provide matching funds for human service transportation programs. While no specific funding sources have identified or recommended, a dedicated local funding source will increase flexibility in the choice of transit services, fund technology improvements, and help transit keep pace with growing demand.

**Expand Transit Services** - Encourage future service expansion consistent with existing plans. Based upon input from local agencies and the public, the Birmingham MPO should include recommendations from the Birmingham Regional Transit Plan which includes projects identified in corridor specific alternatives analysis studies, the Birmingham Regional Park and Ride study, and the Birmingham-Jefferson County Transit Authority’s Transit Development Program for potential applications of high-capacity transit concepts to include Regional Express Bus and Bus Rapid Transit (BRT) concepts with supporting capital facilities (park-and-ride lots, freeway express bus stops, transit centers) along major regional travel corridors and for connections to the fast-growing areas in Northeast and East Jefferson County, Southwest Jefferson County, and North and Central Shelby County.
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5.3 Active Transportation Program

5.3.1 Introduction

Active transportation refers to any form of human-powered transportation such as walking, cycling, inline skating, skateboarding, and wheelchair use. Everyone engages in active transportation in some form or another, whether it is walking to the bus stop, going for a bike ride with the family or cycling to work. Citizens who can safely and feasibly turn to active transportation for commuting and carrying out personal business realize many benefits associated with healthy living, improved quality of life, reduced travel costs, and the personal satisfaction of emission-free travel. Active transportation is the only form of transportation that satisfies all attributes of a sustainable transportation system. It allows the basic transportation needs of individuals and societies to be accommodated in a manner consistent with healthy built and natural environments. It is also affordable, efficient and supports vibrant local self-sufficient economies.

While recognizing its limits financially and institutionally, the Birmingham MPO is committed to developing a transportation system for the transportation planning area that fosters more active transportation by encouraging and supporting projects and partnerships that lead to a fundamental shift in the way the public chooses to travel. This bold commitment has many challenges. The region’s steep topography and sometimes severe of weather conditions (i.e. temperature and precipitation) sometimes create impediments to walking and cycling—especially for longer trips. Nevertheless other physical and cultural barriers present equal or even greater challenges. For example, non-motorized travel along or across many multi-lane high speed/high volume arterial roadways is not safe, much less comfortable. Some motorists are unaware of the legal rights of pedestrians and cyclists and engage in illegal driving behavior that threatens life and limb. The region’s predominant “car culture” has had a profound impact on both human habitat and behavior.

Other impediments to the successful development of a bicycle transportation system include:

- Institutional resistance from transportation facility owners and operating agencies
- Crossing wide, heavily traveled arterials and freeways
- Lack of continuity between jurisdictions
- Lack of complete bicycle facilities
- Inadequate signage
- Lack of driver awareness and respect for cyclist use of the roadway

Supportive programs and infrastructure for non-motorized travel lag behind those of most metropolitan areas—including those also located in the South where the rates of non-motorized transportation fall below the national average. In addition, the form and pattern of development in many areas of the region precludes walking and cycling for daily trips. Beyond infrastructure investments, institutional and societal barriers must be overcome to achieve a fundamental shift toward active transportation. The health, socioeconomic, and environmental benefits from such a shift would be significant and worthy of public and private investment. From Complete Streets to readily available bicycle parking facilities, many forward-thinking leaders within the public and private sectors appreciate the many benefits and return on investment in programs, projects and policies that support active transportation.

The primary goal of the MPO’s Active Transportation Program is to provide a comprehensive strategy to develop and maintain a safe and efficient regional network of walkways and bikeways that reduce automobile dependency, air and noise pollution, and traffic congestion. Although relatively few commute by bicycle, everyone is a pedestrian given every trip begins and ends with walking. While destinations
vary from inner center bus stops to suburban parking lots, the importance of safe and accessible pedestrian infrastructure can not be overstated. Likewise, many other citizens would likely choose cycling for some short and medium-range trips if provisions were provided (e.g. paved shoulders, bike lanes, signed/shared routes, sharrows, etc.).

Routine accommodation is a critical component of an efficient transportation system that not only serves all modes (multimodal) but also connects all modes of travel (intermodal). The design of roads has a significant effect on the quality of the pedestrian and cycling environment. The MPO’s policy statement concerning Complete Streets and routine accommodation (see Chapter 3, RTP Goals and Objectives, Policy 10) establishes a roadway design protocol for all federal aid projects and also serves as a framework for local governments and developers throughout the region. As part of a future regional thoroughfare planning process, the MPO intends to refine its complete streets policy and document planning and design standards that ensure routine accommodation along regionally significant thoroughfares. This process will take place in collaboration with local, city and state officials in order to ensure an agreeable and consistent set of standards by which all parties agree on when and where it is appropriate to include provisions such as sidewalks, bike lanes, paved shoulders, transit shelters, etc.

5.3.2 Active Transportation Benefits

A. Health

A growing body of public health and built environment related research in recent years validates the many benefits of active transportation in promoting healthy lifestyles and reducing the risk of disease in children, adults, and seniors. Interest has grown in communities that encourage more physical activity by design, reduce automobile use – thus reducing harmful emissions, accidents, and noise pollution – and provide coherent social space. In 1996, the US Surgeon General released a report that highlighted the importance of low-level physical activity (e.g. walking) to our health. Around the same timeframe, attention began to focus increasingly on the connections between urban form, travel patterns, and health. A strong association between the three is well-established, but research on how sprawling development patterns actually affect our travel choices and subsequently contribute to health problems is not yet commonly used by practitioners. The built environment is inevitably part of the equation. The Land Use, Transportation and Air Quality (LUTRAQ) study of Portland, Oregon and the Strategies for Metropolitan Atlanta’s Regional Transportation and Air Quality (SMARTRAQ) study conducted in Atlanta, Georgia, provided evidence of the clear linkage between community design and travel choice. Additionally, the relationship of urban form, travel choices, and human health, suggests that a sprawling versus compact built environment could account for as much as a 6.5 pounds difference in average body weight of residents.3

B. Quality of Life

Many people view physical activity, particularly activities that are incorporated into daily activities, as important to their overall level of satisfaction. This suggests that improvements to active transportation facilities could result in happier commuters. Research suggests that firms which relocate out of downtowns and other compact, mixed-use areas to more traditional suburban locations often deal with significant decreases in employee satisfaction as their employees struggle to re-organize non-work activities which they used to take care of during lunch or while commuting. Banking, dry cleaning, grocery shopping, etc. are often pushed to the weekend, meaning there is less time to relax. Walking and

cycling are feasible in compact, mixed-use communities, and supportive environments help us to manage our schedules more efficiently. This ultimately improves the quality of life. The RTP’s recommendation for the development of Mobility Hubs in Section 5.3.5 is reflective of the Birmingham metropolitan transportation planning area’s vision for improving quality of life and supporting active transportation.

C. Air Quality and Climate Change

Summertime in the South is notorious for its uncomfortably hot and humid days. Unfortunately this is also when the Birmingham transportation planning area has the highest number of “air-quality” alert days and the warnings about the associated health-related impacts of air pollution. The federal government is beginning to more actively encourage and place pressure on urban areas to begin to address climate change by introducing activities and programs that will help the nation to achieve Greenhouse Gas (GHG) emission reduction targets. Existing regulations already mandate that the transportation programs of urban areas should not negatively impact air quality, and in fact, planning activities should seek to improve air quality.

Since active transportation creates no vehicular emissions, it could play a significant role in meeting the aggressive GHG targets/budgets that will likely become mandatory through EPA regulations under the Clean Air Act and reinforced in the next federal transportation bill. The benefits of active transportation systems in addressing climate change is self-evident when one considers the potential for increasing personal mobility and reducing the number of automobile trips throughout the Birmingham transportation planning area—especially shorter trips within reasonable walking and biking distances. Furthermore, the potential air pollution reductions are large because walking and cycling usually replace short, cold start trips for which internal combustion engines emit the most pollution.

While the importance of investing in the physical infrastructure for walkways and bikeways can not be overstated, reducing trip distances within Mobility Hubs having a wide range of connected uses and relatively compact built environments is equally important. Creating walkable and bikeable Mobility Hubs such as within the Birmingham’s City Center, urban neighborhood villages, new suburban town centers, and small rural towns would also improve access to transit and further offset demand for roadway capacity, parking lots, and other costly infrastructure to support motor vehicle travel. Demand for other publicly funded or subsidized infrastructure (e.g. sewer, water, and other utilities) and the cost of community services (e.g. law enforcement, fire protection, and solid waste management) all increase to a greater extent with sprawling settlement patterns with longer trip distances that generate more GHG emissions.

Sprawl is also generally associated with greenfield development that converts forests, farmland, and other open space into rooftops and paved surfaces that radiate the sun’s heat. These changes in land use and land cover could continue to collectively expand the region’s urban footprint and potentially increase local temperatures during summer months—creating atmospheric conditions that are even more conducive to the formation of ground-level ozone and the concentration of particulate matter (PM 2.5). This could indefinitely extend the metropolitan transportation planning area’s non-attainment status with the EPA under the Clean Air Act, which has limited economic and industrial development opportunities throughout Jefferson and Shelby Counties.
D. Reliable Travel Time

Whether a trip will take 10 minutes or 20 is often irrelevant as long as the traveler can accurately predict how long it will take, and can therefore adjust schedules with confidence. Increasing traffic congestion leads to more traffic incidents and more unpredictability for motorists, auto passengers, and those using conventional public transit. Walking and cycling are among the only modes of transportation which are largely immune to these unpredictable annoyances and their resulting stresses.

E. Reduced Costs

Active modes of transportation are the most cost-efficient, from both a personal and community perspective. While difficult to quantify, the potential community-wide cost reductions from increased walking and cycling are extensive and include health care costs due to air pollution, water pollution and collisions, traffic congestion, and parking provision. Personal travel cost savings are also significant. The 2009 edition of *Your Driving Costs* published by AAA indicates the average annual costs of car operating and ownership costs generally ranges anywhere from $7,067 to $9,093 depending upon the type of car, gas mileage, and miles driven (ranging from 10,000 to 20,000 miles). Therefore, transportation investments which create opportunities for citizens to walk or cycle to their destination—including connections to transit—go a long way towards saving personal wealth and making transportation more affordable.

The cost differential is compounded when one considers that cyclists and pedestrians make more efficient use of infrastructure. A roadway can carry 7 to 12 times as many people per lane per hour by bicycle compared to automobiles at similar speeds in urban areas. Paths for pedestrians can handle 20 times the volume per hour than roads for cars in mixed urban traffic while a bike parking space costs only five per cent of a car parking space. While adding bicycle lanes or a paved pathway alongside a roadway may not remove the need for road widening, these costs and statistics demonstrate that walking and cycling trips make more efficient use of the existing transportation system than auto trips. They are also more cost-effective to accommodate.

F. Creating Active Communities

Where we live affects our opportunities to walk and cycle as part of our daily activities. For example, as children move away from home, many baby boomers are “downsizing” from larger homes in suburban areas to smaller homes or condos in more urban areas such as downtown Homewood or downtown Birmingham. Families often find themselves walking to more daily destinations such as parks, restaurants and other retail establishments. They may even find they need fewer household vehicles to meet their daily mobility needs. Why does this occur? Three aspects of the built environment, in particular, have been consistently found to be important predictors of travel behavior and walkability: density; land use mix; and connectivity.

5.3.3 The Transportation/Land Use Connection

Land use refers to development patterns and how the built environment is laid-out and designed. Are stores and workplaces located close to where people live or are they separated out in regional shopping centers and business parks? How many people live in traditional neighborhoods and in what type of dwellings do they live (e.g. single detached houses, townhouses, apartment buildings or a mix)? When routine destinations – schools, offices, restaurants, parks, neighborhood retail – are within a convenient distance, people are more likely to walk or cycle. This has important implications for human health, and
in particular, on how physically active children are which itself is an indicator of childhood obesity. The proximity of destinations is a function of both density (i.e. compactness) and land use mix.

Building active transportation into the urban landscape, making it a routine part of the design considerations versus considering it to be an amenity, is important if the Birmingham transportation planning area is to achieve the development of an active transportation system within the overall transportation system. As stated previously, every trip begins or ends with walking or cycling. When access to the transportation network is poor for transit riders, cyclists, and pedestrians, these travelers will drive if possible, or simply forego the trip. Unfortunately, in the Birmingham transportation planning area, many travelers that have a choice in how they travel do not view transit as a viable option. However, because of the transit service’s existing operating conditions, many travelers perceptions are reinforced and none but those who absolutely have to use public transit.

So, how can we design walking and cycling back into urban spaces in a way that will benefit everyone? The possibilities are limited only by collective creativity and political will: improving connections to major destinations like schools, offices, shopping areas and transit stops with “cut-through” pathways in neighborhoods and overpasses; accommodating sidewalks and bicycle lanes onto existing roadways, and better controlling roadway access along major travel routes in order to minimize conflicts; pursing the development of suburban park-and-ride lots, and; encouraging attractive, intensive concentrations of employment, living, shopping and recreation, centered around public transit. Alternatively, new development provides the opportunity to “get it right the first time”.

Active transportation is essential to our contemporary goals of compact and dynamic mixed-use environments, such as regional activity centers and mobility hubs, both of which aim to accommodate significant growth in residential, institutional, commercial, recreational, cultural and entertainment land uses around potential future public transit infrastructure. Active transportation facilities comprise the community infrastructure which connects to these diverse land uses.

Ensuring that such compact urban form realizes its potential to foster more sustainable travel patterns requires communities that are designed to support safe, convenient, and comfortable walking and cycling. Encouraging such changes to the prevailing land development patterns requires that active transportation becomes fundamental to all dimensions of urban development and that the transportation planning area’s governments coordinate their efforts. Municipalities will need the fiscal, legislative, technical, and policy tools to incorporate a walking-friendly culture into their agendas and, thus, advance existing standards and practices. Such tools might be as broad as developing comprehensive plans and writing/rewriting zoning ordinance and regulations. They may also include strategies to capture the value of land near possible future transit sites. They could include mandatory inclusion of active transportation factors in the local planning framework. They also might be as specific as funding targeted services near desired transportation facilities like potential transit stations. This would include daycares or bike share stations. A deeper discussion about the potential for the Birmingham metropolitan transportation planning area’s transit aspirations is outlined in Section 5.2.

5.3.4 Connectivity, Streetscape Design, and Parking

In addition to the proximity to destinations, travel by walking or cycling is influenced by the directness of the trip. This is a function of connectivity – the degree to which roads and paths are connected and allow direct travel between destinations. Compared to the traditional grid, which offers direct connections between most points, street networks in newer development typically consist of looping streets and cul-de-sacs, which may significantly increase the length of a trip even if is actually quite short “as the crow flies.”
Just as land use greatly affects choice of travel mode, the design of streets and streetscapes also has a major impact on the quality of the pedestrian and cycling environment. High speeds, wide roads, inadequate sidewalks and bicycle facilities, and infrequent crossing points all make roads uncomfortable, or even unsafe, for pedestrians and cyclists. Roads meeting this description were designed that way to facilitate vehicular rather than pedestrian traffic. Road design must be context-sensitive and balance the needs of motorists and the desire to create walkable communities.

Parking is another example of how auto-oriented planning has become the status quo. Many municipalities in the Birmingham metropolitan transportation planning area require new development to provide enough parking to meet peak needs, assuming all visitors arrive by car. The typical result is free parking in large, surface lots. The parking separates buildings from the street and makes travel by walking, cycling, or transit less attractive. Further, since building and maintaining parking facilities is costly, free parking subsidizes auto use.

5.3.5 Activity Centers and Regional Mobility Hubs

An Activity Center is a relatively well-defined, large, focused concentration of high density centers of economic activities. These are typified by multiple activity centers made up of a mix of land uses, particularly those comprised primarily of office and retail.\(^4\)\(^5\) They are places that attract a multitude of uses – centers where people live, work, shop, learn, and play.

In the United States, traditional activity centers are highly accessible, and typically located close to major transportation facilities such as at or near major highway and/or freeway interchanges, and/or intersections of regional thoroughfares which provide the regional or sub-regional access needed to achieve success.\(^6\) They are focal points of economic activity, typically planned for concentrations of compact development. Historically, the largest activity centers in a region have been the downtown areas of the core city. However, activity centers are increasingly locating throughout the community, particularly in suburban areas. They may be institutional complexes such as major government centers, colleges and universities, medical centers. Activity centers may also cover a wide array of different development types including:\(^7\)

- Industrial Centers
- Large Office Parks
- Corridors; and
- Mixed Use Office and Retail Centers

Mixed Use Centers may also contain a dense mix of residential activities, particularly when the residential activity is an integrated part of the center (i.e. housing is a component of the development).

Within the Birmingham metropolitan transportation planning area, both existing and emerging activity centers have the capacity for significant new growth in conjunction with enhancements to the supporting infrastructure. In general, the character of activity centers may vary considerably. Additionally, the Birmingham MPO has identified a number of Regional Activity Centers. That is, activity centers which


\(^7\) Dunphy, Robert T. Ibid.
attract a large number of work and non-work trips, typically from all across the transportation planning area, other counties, and/or regions. In addition to their ability to attract trips, Regional Activity Centers also meet employment, square footage, and housing density thresholds. These thresholds describe the intensity of existing and/or emerging development within a concentrated area that are believed to be ideal for creating places that might one day function in the role of a Regional Mobility Hub.

Few places in the Birmingham metropolitan transportation planning area offer the majority of people working there a viable alternative to the car as a means of traveling to work. As a result, office clusters and other employment concentrations have responded by locating in the most auto-accessible places, primarily along the interstate and arterial roadways. By beginning the move to develop Regional Mobility Hubs with the Regional Activity Centers, direct support for the RTP goals is provided and the RTP’s investments can start to be modified in order to promote sustainable, integrated, and connected transportation systems. By designating Regional Activity Centers, the Birmingham MPO intends to assist communities in the transportation planning area to better coordinate transportation and land use planning, particularly in areas that have high economic activity and identified travel deficiency needs.

The Birmingham MPO recognizes the connection between transportation and land use, and has established a funding mechanism to assist municipalities, local communities, and neighborhoods to address transportation through land use. The Building Communities Grant Program provides funding to address transportation issues through traditional and non-traditional land use planning tools. At the same time, land use decisions are also impacted by transportation investment decisions. Building Communities fosters communication and collaboration, and relies on a rational planning process to break through the comfortable silos of specialty area planning. In doing so, it forces a community conversation that enables residents and decision-makers alike to become educated about the transportation land use relationship. At most, it forces collaboration between the community, transportation planner and engineers, and land planners and urban designers in order that they might develop a plan that supports the creation and/or continued development of activity centers (local and regional) and regional activity hubs. At the least, Building Communities enables a consultation process that enables transportation decisions to be informed by land use considerations, and vice-versa. Line item funding for the Building Communities Planning Program is included in the RTP financial plan and has been translated to the Birmingham MPO Transportation Improvement Program.

Figure 5.9 illustrates the Birmingham metropolitan area’s existing and emerging Regional Activity Centers. Figure 5.9 also presents generalized locations of potential future Regional Mobility Hubs in relationship to the Regional Activity Centers. Note, that the designation of the Regional Activity Centers is based on established criteria, which is included as part of a well thought out methodology for determining Regional Activity Center locations. Also note that Figure 5.10 neither identifies sub-regional activity centers nor local activity centers. The Birmingham MPO instead elected to leave these designations up to local municipalities to include within their adopted comprehensive plans. The methodology for applying these criteria in order to determine Activity Centers and Regional Mobility Hubs is included in Appendix 5A.
Regional Activity Centers & Mobility Hubs

Figure 5.9 Birmingham MPO Activity Centers and Mobility Hubs
Within and between the activity centers located along major travel corridors, the RTP is encouraging local communities to develop Regional Mobility Hubs. A Regional Mobility Hub is:

- A place of connectivity, where different modes of movement, from walking to high-capacity, high-speed public transit services, come together seamlessly
- A place where there is an intensive concentration of employment, living, shopping, and entertainment centered on public transportation
- A place that is easily accessible to pedestrians and cyclists
- A place where travelers are provided choices in how they move about the transportation planning area

Typically centered on a significant public transit investment such as rapid rail or bus transfer facilities, Regional Mobility Hubs attempt to match urban development patterns with multimodal transportation. The concept of the Mobility Hub is to equalize or give priority to non-single occupant vehicle (SOV) modes of travel such as public transit, cyclists, and pedestrians. Mobility Hubs are an attempt to address the negatives brought about by land development patterns that responds exclusively to a single travel mode, the automobile, whose supportive infrastructure (i.e. wide, high-speed arterial roadways, parking facilities, etc.), frustrates the movement and use of other transportation modes.

Regional Mobility Hubs elevate the importance of public transit, cycling, and pedestrian travel. This elevation of importance is critical to ensuring the development of an efficient, sustainable regional transportation system. In elevating the importance of these travel modes, particularly within Regional Mobility Hubs, the transportation planning area will be able to take advantage of potential environmental benefits. Public transit and non-motorized transportation facilities within the hubs help to reduce automobile travel, which impacts air quality. Equalizing and/or prioritizing cycling and pedestrian travel within Regional Mobility Hubs also helps in addressing community health issues by providing employees, residents, and visitors to the Regional Mobility Hubs the opportunity for walking and cycling. Finally, equalizing and/or prioritizing cycling and pedestrian travel is an economical solution for combating congestion and long-term sustainability issues brought about by sprawl land development conditions. Regional Mobility Hubs provide an economical way to invest/reinvest in places that take advantage of existing infrastructure and/or minimize the need to expand infrastructure.

The RTP recognizes that development, employment, and lifestyle location decisions cannot be forced. However, the RTP also recognizes that the future success of the transportation system is reliant on the ability to shift trips to non-SOV travel modes and change travel behavior as opposed to adding significant amounts of new roadway capacity. The success of the Regional Mobility Hubs in attracting concentrations of jobs, housing, cultural and civic activities, retail, and service opportunities is largely dependent upon the ability to provide a compelling mobility package. The provision of an effective mobility package will require a major change in how transportation is viewed within the Birmingham metropolitan transportation planning area in how transportation facilities and services are provided, and how both ALDOT and the Birmingham MPO conduct business. As such, a long-term objective of the RTP is to develop Regional Mobility Hubs that meet all or most of the following criteria:

- The Hub is an inter-regional destination or draw
- The Hub is a unique visitation or tourism destination
- The Hub has market demand to attract levels of development (mixed-use, employment, residential) capable of supporting regional transit services
- The Hub has the potential for place-making, either through available land or retrofit
- The Hub is strategically located within the Birmingham metropolitan transportation planning area
The 2035 Birmingham RTP takes the first steps to encourage the development of Regional Mobility Hubs by recognizing the existence of Regional Activity Centers and establishing policies to prioritize regional resources to these locations ahead of locations in non-activity center locations. From those Regional Activity Centers, the RTP has identified four (4) distinctive areas within which to encourage Mobility Hubs, encouraging the development of a regional transit system that will link these areas together, and concentrating resources to develop the necessary non-motorized travel networks that are needed to provide support.

5.3.6 Active Transportation Modal Discussions

Active transportation infrastructure consists of the systems of sidewalks, road lanes and trails that support human-powered transportation and keep them separate from motorized modes of transportation. The degree of coverage, continuity and maintenance of this infrastructure are significant determinants of the amount of travel by active modes.

The manner in which sidewalk infrastructure is provided in the Birmingham metropolitan transportation planning area varies greatly. While such variation should be expected with differing land use types (e.g. industrial versus shopping area), it also varies greatly across the transportation planning area within the same land use types. This is most noticeable in residential areas. While many neighborhoods, typically older ones with grid street networks, have an extensive system which provides access to local parks, shops, etc., others, such as typically newer suburban subdivisions with curvilinear streets and cul-de-sacs often have no sidewalks and circuitous routes with which to contend. This is a disincentive to the use of other active transportation modes within the neighborhood.

One recommendation of the RTP is for municipalities to implement dedicated infrastructure in support of active transportation modes in order to complement the network of roadways. In addition to sidewalks, infrastructure would consist of networks of dedicated and shared on-street bike lanes as well as off-street trails that can be used by joggers, cyclists, in-line skaters, skateboarders, etc. A more detailed discussion about bicycle and pedestrian infrastructure is provided in the following text.

A. Bicycle Trips

Bicycle trips are generally divided into two broad categories, recreational and commuter. Recreational trips are taken purely for personal leisure and/or exercise. Commuter trips occur any time a person uses a bicycle in lieu of a car or other mode of transportation between origins and destinations such as home, school, work, or the grocery store. Even trips to a park or other recreational facility that would have otherwise been made by car should be categorized commuter trips. People are more likely to ride a bicycle if a variety of conditions exist. The following are a few examples associated with both infrastructure and non-infrastructure needs and desires of cyclists:

- An interconnected network of on and off-road bikeways
- Routes with fewer cars and trucks
- Routes with lower vehicular speeds
- Secure bicycle parking
- Smooth and well-maintained roads
- Closer proximity to work place
- Showers at work
- Riding companions
- Flexible work schedules
- Bicycle-friendly motorists
B. Bikeway Standards

A bikeway is defined as any road, path, or way which in some manner is specifically designated as being open to bicycle travel, regardless of whether such facilities are designated for the exclusive use of bicycles or are to be shared with other transportation modes. The American Association of State Highway and Transportation Officials’ (AASHTO) publication, Guide for the Development of Bicycle Facilities, provides guidelines for bikeway designs that are sensitive to the needs of bicyclists and other roadway users. It is important that the Birmingham metropolitan transportation planning area develop consistent bikeway standards in order to increase safety, assist in implementing bikeway construction, and facilitate regional connectivity. Bikeway facilities are defined as follows:

Class I - Bike Paths provide a completely separated facility designated for the exclusive use of bicycles and pedestrians with motorist cross-flows minimized. Two-way paths have paved width standards of 8-10 feet, and five feet for a one-way path. Paths include a two foot wide graded area adjacent to either edge of the paved path.

Class II - Bike Lanes provide a restricted right-of-way designated for the exclusive or semi-exclusive use of bicycles with travel by motor vehicles or pedestrians prohibited. Cross-flows by pedestrians and motorists are permitted within the lane. Class II bikeways are delineated by signs, six inch edge strips, and pavement stencils. Lanes are recommended to have a minimum width of four feet when located along roads prohibiting parking, and five feet wide when adjacent to parallel parking.

Class III - Bike Routes provide a right-of-way designated by bike route signs and are shared with motorists. These routes provide direct routes for commuting and/or a continuous link between Class I and II bikeways. Class III bikeways may or may not provide striped shoulders or a wide curb lane.

A potential design for Class III bikeways is the signed/shared bikeway. The design, aptly called a “sharrow” - a shortening of the phrase shared-lane arrows, is gaining interest in a number of communities. The design places a painted chevron and bike logo directly into the road lane approximately 11’ from the gutter line. This pavement marking indicates that the lane is to be shared by both cars and bicycles. Figure 5.10 illustrates this design concept.

Sharrows work best on urban streets, particularly roadways with heavy on-street parking, low to moderate travel speeds, and that are not suitable to accommodate a separate bike lane because of space limitations. It is in these situations that the safest place for bicycles to travel is in the traffic lane with the flow of other vehicles. Cyclists who ride in the travel lane are more visible to motorists, and vice-versa. It also enables both cyclists and motorists to better predict the others’ actions, allowing them to drive/ride defensively. Additionally, by taking the lane, cyclists avoid dangerous hazards such as storm drains and open car doors.

Sharrows are supposed to be intuitive educational devices. They help to addresses a significant problem on Class III routes, that being motorist misunderstanding of a cyclists’ legal right to share the roadway. The design of the pavement markings is intended to make motorists aware that bicycles are permitted to position themselves in the vehicle lane, and that the safest place for bikes on any narrow street is right in the middle of the lane, not on sidewalks, and not in the gutter pan. Sharrows also help to address another problem of Class III routes, particularly those that have parallel parking. The design attempts to remedy the cyclist’s tendency to ride too close to parked cars, putting themselves in danger of door swing...
accidents. Sharrow pavement markings help cyclists to know where they are in a lane, and provide a preferred line for cyclists to ride that is clear of the door swing zone. In short, sharrows clearly identify for both motorists and cyclists the safest place in a Class III bike route to ride.

C. Recent Bikeway Improvements

Local and regional bicycle transportation networks have seen minor improvements over the past 15 years with more Class II bike lanes and improved shoulders along some roadways in the region. Although bike lanes are not appropriate for many roadways where other provisions such as those described above are more suitable, there have been and still are abundant opportunities to add bike lanes along many urban and suburban corridors. Therefore, on a metropolitan transportation planning level the miles of existing bike lanes provides a legitimate performance indicator. Class II bike lanes have increased from virtually none in the late 1980’s to approximately 10.5 road miles today (see Table 5.5). While relatively small compared to infrastructure investments to support other modes of travel, these additional bike lanes represent some progress in terms of planning and implementing a regional bikeway system and the growing demand for more complete streets that accommodate cyclists.

Table 5.5 Existing Class II Bicycle Facilities (Bike Lanes)

<table>
<thead>
<tr>
<th>Location</th>
<th>Jurisdiction</th>
<th>From</th>
<th>To</th>
<th>Miles</th>
</tr>
</thead>
<tbody>
<tr>
<td>7th Avenue S</td>
<td>Birmingham</td>
<td>20th St S</td>
<td>29th St S</td>
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<tr>
<td>16th St S</td>
<td>Birmingham</td>
<td>University Blvd</td>
<td>11th Ave S</td>
<td>0.25</td>
</tr>
<tr>
<td>Green Springs Ave S</td>
<td>Birmingham</td>
<td>19th Terrace S</td>
<td>11th PI S</td>
<td>0.25</td>
</tr>
<tr>
<td>Kilgore Memorial Dr</td>
<td>Irondale</td>
<td>Beacon Dr</td>
<td>Old Leeds Rd</td>
<td>1.25</td>
</tr>
<tr>
<td>Pumpstation/Riverbend Rd</td>
<td>Trussville</td>
<td>Cherokee Dr</td>
<td>Riverbend Subdivision</td>
<td>1.04</td>
</tr>
<tr>
<td>(Trussville Sports Complex)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oak Mountain Park Rd</td>
<td>Pelham</td>
<td>Main Entrance</td>
<td>North Trailhead</td>
<td>5.60</td>
</tr>
<tr>
<td>Terrace Dr</td>
<td>Pelham</td>
<td>Oak Mountain Park Rd</td>
<td>Unimproved Section/Playfield Parking Lot</td>
<td>1.35</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
<td><strong>10.5</strong></td>
</tr>
</tbody>
</table>

The construction of Homewood’s Shades Creek Greenway and Birmingham’s Vulcan Trail in 2002 represents the only measurable increase (3.7 miles) of Class I multi-use trails built with federal funds. These facilities have strong public support and are primarily used for recreational purposes. However, other multi-use trails have been or are currently being built with local and private funds. These facilities are currently being inventoried for the MPO’s Regional Bicycle and Pedestrian Plan (functional plan of the RTP). These non-federal aid projects have been constructed within public parks or private developments. Developers often include trail facilities as an amenity to residential and mixed-use developments—some of which could potentially be upgraded and/or connected to other publicly accessible Class I facilities that collectively create a regional trail network. Several other Class I facilities are in the early phases of design or planned for future development, and will be constructed with either federal funds provided by the Birmingham MPO, ALDOT or private funding. Table 5.6 presents the facilities that have been constructed with federal funds.

Table 5.6 Existing Class I Facilities (Multi-Use Trail)

<table>
<thead>
<tr>
<th>Trail Name</th>
<th>Jurisdiction</th>
<th>From</th>
<th>To</th>
<th>Miles</th>
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</thead>
<tbody>
<tr>
<td>Vulcan Trail</td>
<td>Birmingham</td>
<td>11th Place South Access Rd</td>
<td>Richard Arrington Blvd Trailhead</td>
<td>1.05</td>
</tr>
<tr>
<td>Shades Creek Greenway</td>
<td>Homewood</td>
<td>Green Springs Blvd</td>
<td>Brookwood Village Trailhead (Located in Parking Lot)</td>
<td>2.60</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
<td><strong>3.65</strong></td>
</tr>
</tbody>
</table>
Several local jurisdictions that have adopted Comprehensive Plans also have included discussions and strategies to improve non-motorized transportation at the local level. In addition, the Birmingham MPO has actively encouraged jurisdictions to either expand the language within their comprehensive plans regarding non-motorized transportation or develop these bikeway chapters into full Bicycle Plans. The Building Communities Grant Program has provided funding for jurisdictions to develop feasibility studies for the trails identified in their plans. The feasibility studies, also known as Advanced Planning Reports (APR), identify the projects’ expected capital costs, potential environmental and engineering challenges, right-of-way needs and constraints, and potential alignments.

D. Strategies for Non-Motorized Travel System Improvements

To aid in the process of prioritizing expenditures of federal funds for non-motorized travel modes, the Birmingham MPO has developed a project prioritization methodology that gives extra consideration to projects that provide for a new non-motorized travel facility or repair/upgrades an existing facility. In addition, the Birmingham MPO is also updating the regional bicycle and pedestrian plan to include a functional hierarchy that organizes proposed regional bikeway by travel corridor. This in turn will allow the transportation planning area communities to view the corridors that the Birmingham MPO believes should have priority for federal funds. This also will enable these communities to allocate funding to all non-motorized facility classification, to include:

- Trails along separate rights-of-way: Long network of connecting multi-use trails along waterways, railroads and utility easements
- Long regional connectors: Other long connecting routes along the street
- Short connectors: Shorter connectors along the street interconnecting communities

Some of the proposed facilities should be constructed as part of regular highway projects, and the Birmingham MPO in following federal guidance has included a policy statement in this RTP that requires roadway projects using funding controlled and/or provided by the Birmingham MPO to include Complete Street type facilities (sidewalks, bicycle lanes, side paths, trails, etc.) in the project development process. Chapter 3, RTP Goals and Objectives, presents the full Complete Streets policy. Non-motorized projects also will be constructed incrementally as part of the routine maintenance of a roadway, as well as through local initiative to connect local roadways to regional corridors. The regional bicycle and pedestrian plan recommends that local jurisdictions incorporate regional bikeways and trails into their comprehensive, planning or capital improvement programs to provide for continuity, expansion and extension of the regional bikeway system.

E. Proposed Non-motorized Improvements

The Birmingham Area Bicycle, Pedestrian & Greenway Plan was the first non-motorized plan adopted by the MPO in 1996. It proposed a network of on and off-road facilities including sidewalks, bike lanes, signed bike routes, paved roadway shoulders, and multi-use trails connecting origins and destinations throughout the metropolitan planning area. Through subsequent stakeholder interviews and input from an ad-hoc advisory committee, the MPO has built upon the 1996 plan. Additional regionally significant visionary corridors have been mapped to serve as a framework for continual local and regional planning and project development.

Local jurisdictions should give due consideration to bicycle and pedestrian provisions along and/or parallel to these proposed visionary corridors which builds upon the list of existing fiscally constrained projects in the RTP. The fiscally constrained projects were either identified in the MPO’s Birmingham
Area Bicycle, Pedestrian & Greenway Plan or some other locally commissioned plan such as a sidewalk master plan or greenway corridor study. Figure 5.11 depicts the fiscally constrained non-motorized transportation projects. Table 5.7 presents the fiscally constrained non-motorized transportation projects. The map ID numbers in Table 5.7 corresponding with the project labels in Figure 5.11. Further, Appendix 5B illustrates in greater detail each of the fiscally constrained non-motorized transportation projects.

Figure 5.12 presents the visionary non-motorized transportation corridors. That is, corridors that are desired to contain some sort of non-motorized transportation facility but are unable to be included in the fiscally constrained project listing of non-motorized transportation facilities. For these corridors, no specific corridor study or other detailed planning evaluation has been conducted to determine a project type or feasibility. Table 5.8 describes all on and off-road visionary corridors and termini.

The Birmingham RTP’s active transportation program is designed to support and build upon the planning efforts of local jurisdictions. As described above, earlier efforts focused on identifying regionally significant routes to enable cyclists and pedestrians to travel throughout the region and connect with key sub-regional and regional activity centers. The emphasis of this RTP is on identifying the critical gaps for connecting communities and non-motorized transportation facilities. The RTP Financial Plan establishes a line item funding category for non-motorized transportation facilities, which can only be programmed for projects identified in local plans and corridor studies with detailed project cost estimates.
Figure 5.11 Fiscally Constrained Bicycle and Pedestrian Projects
Table 5.7 Identified Non-Motorized Transportation Projects – Fiscally Constrained

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<tbody>
<tr>
<td>222</td>
<td>Birmingham</td>
<td>Oximoor Valley Greenway</td>
<td>2012</td>
<td>Off</td>
<td>2.0</td>
<td>$1,134,295</td>
<td>$1,417,869</td>
<td>$1,533,567</td>
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<td>230</td>
<td>Bessemer</td>
<td>Bessemer Rail-Trail</td>
<td>2012</td>
<td>Off</td>
<td>5.5</td>
<td>$1,365,787</td>
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<td>231</td>
<td>Birmingham</td>
<td>Birmingham Shades Creek Greenway</td>
<td>2014</td>
<td>Off</td>
<td>0.8</td>
<td>$1,709,608</td>
<td>$2,812,160</td>
<td>$3,289,829</td>
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<td>254</td>
<td>Alabaster</td>
<td>Alabaster Buck Creek Greenway</td>
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<td>1.3</td>
<td>$179,978</td>
<td>$224,973</td>
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<td>255</td>
<td>Trussville</td>
<td>Trussville Greenway and Walkway</td>
<td>2011</td>
<td>Both</td>
<td>5.9</td>
<td>$2,085,948</td>
<td>$2,607,434</td>
<td>$2,710,382</td>
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<td>Irondale</td>
<td>Irondale Old Leeds Road Bike Route</td>
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<td>$586,504</td>
<td>$634,363</td>
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<td>Helena</td>
<td>Helena Buck Creek Greenway</td>
<td>2011</td>
<td>Off</td>
<td>3.7</td>
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<td></td>
<td></td>
<td>Phase 1 - Tococa Trail: From proposed Helena City Park to Alabama Power easement</td>
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<td>$2,943,531</td>
<td>$3,679,414</td>
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<td></td>
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<td>Phase 2 - Ruffin Trail: From Helena Sports Complex to Tococa Trail</td>
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<td>Off</td>
<td>3.7</td>
<td>$2,943,531</td>
<td>$3,679,414</td>
<td>$3,979,654</td>
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<td>Phase 3 - Buck Creek Trail: From Amphitheatre Park to Tococa Trail</td>
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<td>Phase 4 - Billy Gould Trail: From Tococa Trail to Historic Billy Gould Coke Ovens</td>
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<td>7th Avenue South Bikeway</td>
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<td>Homewood</td>
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<td>$2,789,662</td>
<td>$3,487,079</td>
<td>$3,771,624</td>
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<td></td>
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<td>Section 2: Green Springs Highway to South Wildwood</td>
<td></td>
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<td>$3,487,079</td>
<td>$3,771,624</td>
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<td>Section 3: Wildwood at wastewater treatment plant to West Homewood Park</td>
<td>2013</td>
<td></td>
<td></td>
<td>$3,666,418</td>
<td>$4,583,023</td>
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<td>310</td>
<td>Birmingham</td>
<td>Village Creek Greenway, Phase 1 Ave. F to 3rd St. West in Ensley (Master Plan to 3rd Street; Design and Construction to Ave W)</td>
<td>2010</td>
<td>Off</td>
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<td>$1,860,795</td>
<td>$2,325,993</td>
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<td>Village Creek Greenway, Phase 3 Huffman to 65th Street North</td>
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<td></td>
<td></td>
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<td>313</td>
<td>Birmingham</td>
<td>Valley Creek Greenway 12th Ave. (Rickwood Field) to Ave. W (5 Points West area)</td>
<td>2012</td>
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<td>$827,899</td>
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<td>Birmingham</td>
<td>Railroad Reservation Park Phase 1: 14th St. to 20th St S (Under Construction)</td>
<td>2010</td>
<td>On</td>
<td>2.0</td>
<td>$2,133,711</td>
<td>$2,667,139</td>
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<td></td>
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<td>Phase 2: 20th to 28th St.</td>
<td>2012</td>
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<td>$5,237,934</td>
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<td>346</td>
<td>Hoover</td>
<td>Cahaba River East Greenway Hoover East Park on Old Rocky Ridge Rd (CR-115) to Caldwell Mill Rd (CR-29)</td>
<td>2012</td>
<td>Off</td>
<td>1.7</td>
<td>$350,958</td>
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<td>368</td>
<td>Mountain Brook</td>
<td>Mountain Brook Walkway System Numerous project termini identified in Mountain Brook Walkway Master Plan.</td>
<td>2011</td>
<td>On</td>
<td>15.2</td>
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<td>$1,016,024</td>
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<td></td>
<td></td>
<td></td>
<td>2015</td>
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<td></td>
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<td>$8,497,075</td>
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<td>523</td>
<td>Tarrant</td>
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<td>10.2</td>
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<td>Adamsville</td>
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| 562    | Birmingham | **Birmingham Safe Routes to Schools**  
Section 1: Williamsburg to Roebuck Dr (Tarrant Huffman Rd)  
Section 2: Rose Dr to Gaston Middle/North Roebuck Elementary | 2010 | Both | 1.0 | $243,060 | $303,826 | $303,826 |
| 566    | Homewood | **Broadway Sidewalk**  
Forest Dr (Edgewood Community) to Green Springs Hwy (SR-149) | 2010 | On | 0.9 | $187,108 | $233,885 | $233,885 |
| 567    | Hoover | **Bluff Park Sidewalks, Phase 1**  
Rockview Ln/Park Ave intersection to Bluff Park Community Center on Cloudland Drive | 2010 | On | 0.2 | $8,180 | $10,225 | $10,225 |
| 568    | Hoover | **Bluff Park Sidewalks, Phase 2**  
Chapel Rd to Farlay Rd | 2010 | On | 0.5 | $23,674 | $29,593 | $29,593 |
| 569    | Irondale | **Irondale Sidewalks**  
Segment 1: 16th St to Marion Dr (along Monticello Rd)  
Montevallo Rd to 16th St  
Segment 2: Ruffner Rd/16th St N intersection to Ruffner Park on 2nd Ave N | 2010 | On | 0.9 | $194,325 | $242,906 | $242,906 |
| 578    | Trussville | **Parkway Drive/Chalkville Rd Sidewalks & Ped Xing**  
Segment 1: Poplar St to Anderson Circle (sidewalks)  
Segment 2: West Mall to Chalkville Rd (pedestrian crossing)  
Segment 3: Mall to Chalkville Rd - North Mall pedestrian crossing  
Segment 4: North Mall to Parkway Dr sidewalks | 2010 | On | 0.4 | $82,859 | $103,574 | $103,574 |
| 579    | Vestavia Hills | **Vestavia Hills Sidewalk System**  
Numerous project termini identified in Vestavia Sidewalk Master Plan | 2010 | On | TBD | $377,591 | $471,989 | $471,989 |
| 608    | Jefferson County | **High Line Rail-Trail**  
Milstead Rd in Fairfield South to Wenonah Rd (near Red Mountain Park) | 2010 | Off | 2.0 | $944,886 | $1,181,107 | $1,181,107 |

Chapter 5 Transportation Investment Strategy  
2035 Birmingham Regional Transportation Plan
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*In addition to the standalone non-motorized projects in Table 5.7 above, Policy 10 of the Birmingham 2035 Regional Transportation Plan provides direction that bicycle and pedestrian facilities shall be accommodated in all new federal-aid roadway construction, as well as roadway reconstruction projects (to include resurfacing and restriping) unless exceptional circumstances exist. Project sponsors shall give due consideration to the accommodation of bicycles, pedestrians, citizens with disabilities, and transit supportive infrastructure in planning and design for all projects. Refer to Policy 10 in Chapter 3 (p 3-34) for additional details regarding complete streets and routine accommodation.*
Figure 5.12 Visionary Bicycle and Pedestrian Transportation Network Corridors
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<td>Off-Road</td>
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<td>Cahaba River</td>
<td>CR 17</td>
<td>Off-Road</td>
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<td>Buck Creek</td>
<td>Deerhurst</td>
<td>Off-Road</td>
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<td>22nd St S</td>
<td>Off-Road</td>
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<tr>
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<td>downtown Leeds</td>
<td>Active NS RR at Abes Creek</td>
<td>Off-Road</td>
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<tr>
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<td>Ave W</td>
<td>Village Creek</td>
<td>Off-Road</td>
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<td>Warrior River</td>
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Table 5.8 Visionary Non-Motorized Transportation Corridors

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5.3.7 Other Non-Motorized Facilities

A. Pedestrian Walkways, Sidewalks

Sidewalks and pedestrian walkways are a critical component of the intermodal transportation system. All trips begin and end on foot. A lack of pedestrian facilities results in safety and access problems between travel modes. Walking is also a viable transportation mode for primary trips of a mile for most people. A more complete system of pedestrian facilities fosters increased walking and reduced vehicle trips.

Sidewalk improvements are often a critical component in the emerging focus of Safe Routes to School programs and projects. Many school districts and advocacy groups are increasingly interested in developing complete systems for pedestrians so children and parents can travel to and from schools safely and comfortably.

B. Recreational Trails

Recreational trails provide both pedestrians and cyclists access to scenic and recreational areas including mountains, lakes, and creeks. These trails have the primary purpose of being the activity for users i.e. hiking, visiting scenic locations, etc. versus providing them a way to access activities such as work, shopping, and education. Most trails in the Birmingham metropolitan transportation planning area are primarily utilized for recreational purposes because most are not connected to a regional network that supports non-motorized transportation.

In order to overcome this challenge, a number of property acquisitions and easements are needed be obtained along planned trail alignments. However, there are some facilities, particularly those being planned by the State of Alabama such as the Chief Ladiga Trail that will serve primarily as recreational trails. Other multi-use/recreational trail opportunities exist. However, they are primarily supported by private developers and public park managers.

5.3.8 Non-Motorized Transportation Program – Action Policies

1. Create and maintain a comprehensive interconnected, inter-regional bikeway and pedestrian system

2. Promote development of a coordinated and connected regional bikeway system with emphasis on linking gaps of the regional system where appropriate bikeways do not exist

3. Pursue plans to develop multi use and Class I bikeways to and from major recreational areas using utility, rail, and roadway rights-of-way, and abandoned railroad right-of-way throughout the transportation planning area

4. Encourage the development of Class I Bikeways that travel through or connect to scenic areas or other recreation destinations

5. Where appropriate, class II bike lanes should be provided on all major arterials and collectors

6. Incent municipalities and local agencies to encourage:
   - New development to include bike parking provisions i.e. bike racks, bike lockers, and showers
   - Bike and Ride transit stops, and
   - Safe interconnected pedestrian paths
5.4 Transportation System Management and Operations Program

5.4.1 Introduction

For many decades, highway transportation has focused on expanding the road network. In urbanized areas, most roads that were previously planned have been built, and both land and financial resources are scarce for further road expansion projects. With the increase in congestion and its associated negative consequences (reduced mobility, decreased safety, increased air pollution, etc.), every city, region, and state has had to rethink how they deliver services to those who depend on the transportation system. They are also placing more focus on maintenance, operation and preservation of an aging infrastructure system. Collectively, these considerations are identified as the management and operations (M&O) of the transportation system.

Public agencies are starting to understand the need to put increased emphasis on transportation system management and operations. This is especially true because the region’s resources to address capacity needs are extremely limited. According to the Texas Transportation Institute’s (TTI) 2005 Urban Mobility Report, urban areas cannot add enough capacity, improve operations, or manage demand well enough to keep congestion from growing worse. While it is important to address the ongoing congestion issue through technologies that improve traffic flow, such as with intelligent transportation systems (ITS), there is also a need to ensure that the current transportation system is being maintained and preserved at a satisfactory level.

There is no question that the largest long-term needs are for transportation system maintenance. However, if construction equates to the creation of an asset, and maintenance relates to the condition of the asset, then it stands to believe that the need to improve the management and operations of these assets will grow as more facilities come on line. It is increasingly clear because of the challenges posed by changes in the regulatory, fiscal, as well as the dynamic behavior of humans in both their housing and travel choices that the Birmingham metropolitan transportation planning area can not realistically build its way out of congestion. In light of that, the RTP recognizes that investment levels for operations and safety projects should increase in order to make the most out of the existing capacity available. An effective transportation system requires not only the provision of highway and transit infrastructure for movement of the public and freight, but also the efficient and coordinated management and operation of a regional transportation network.

This section of the 2035 Birmingham RTP focuses on management and operational strategies of the transportation planning area’s transportation system that are based on past and current conditions.

5.4.2 System Management and Operations Strategies

System maintenance and preservation has received more emphasis in recent years. Along with projects that are related to operating the transportation system (e.g. mowing, painting, traffic control, bus operations among others), bridge replacement and rehabilitation, road resurfacing and reconstruction projects, or bus replacement projects together make up the majority of the expenditures of the transportation system. While operations, maintenance, and system preservation in aggregate are significant, the individual projects are often so small they seem regionally trivial. Consequently, these types of projects have been provided line-item funding in the 2035 Birmingham RTP’s Financial Plan (Chapter 6), and are not separately identified in the project listing.

Transportation system management and operational improvements, by definition, focus on maximizing the efficiency of existing infrastructure in order to improve system efficiency, reliability, and safety.
Regional transportation planning and investment decision-making require a great deal of inter-jurisdictional coordination. Similarly, effective regional transportation operations require collaboration and coordination among operating agencies across jurisdictions and between transportation and public safety agencies. The focus of linking planning and operations is to provide stronger connections between these two processes and activities.

The RTP provides resources to support the expansion and modernization of existing transportation technology designed to increase the efficiency of the transportation system. Additionally, the RTP calls for the development of management systems to better employ technology, and strategies to improve the lines of communication and coordination. The idea is to provide an investment of resources and finances that improves existing infrastructure without increasing capacity. This would include reconstruction, replacement, widening without capacity addition (for example, roadway shoulder widening, bridge widening for shoulder, safety improvement, or eliminating deficiencies from standards), traffic operations, and travel demand management.

Financial and resource investments in operations planning and system management strategies provide for the efficient operation of existing infrastructure and services. This would include strategies that improve system operations and management through the use of technology, as well as programmatic and physical improvements specifically designed to address system operations.

Additionally, transportation efficiency and modernization investments speak to the use of management systems. These management systems are operations based, and include strategies to manage traffic flow along major arterial travel corridors, traffic incidents, and travel demand. System efficiency and modernization, as described within the RTP, also includes strategies and activities meant to increase transit ridership and vehicle occupancy, and to encourage active transportation through addressing the provision of non-motorized transportation facilities and urban form. The RTP calls for this to be accomplished through the use of intelligent transportation systems (ITS), improved interagency/inter-jurisdictional communications and coordination, capital improvement projects, programmatic solutions, and changes to both regional and local land development philosophies and policies.

The RTP recommends that the Birmingham MPO address transportation system efficiency/operations needs through the development of a **Regional Transportation System Operations Plan (RTSOP)**. The RTSOP is a functional plan of the RTP, and will incorporate recommended projects and programs into the RTP through the normal metropolitan transportation planning process.

Transportation system management and operations focuses on the real-time service and operational efficiency provided by the transportation system for both people and goods movement on a day-to-day basis. Examples of operations actions include real-time traffic surveillance, monitoring, control, and response; ITS; signal phasing and real-time signal controllers at intersections; HOV lane monitoring and control; ramp metering; weigh-in-motion; road weather management; and traveler information systems. Although operations focuses on system management, the infrastructure needed to provide this capability may be substantial (e.g. traffic control centers, ITS hardware, environmental sensors and fire control systems in tunnels). Thus, an operations strategy requires capital and operating budget as well as substantial staff resources.

The RTSOP is intended to be a step toward integrating and mainstreaming operations into planning, and to offer guidance about how operational strategies might be accomplished. Additionally, it is envisioned that the RTSOP will help to establish the foundation of a transportation system that performs optimally for the people, places, and businesses throughout the Birmingham metropolitan transportation planning area. The RTSOP will lay out the operations program for the region, including description of regional
projects. It will also identify, define, and prioritize operationally-focused projects consistent with regional and statewide operations objectives.

At its core, the RTSOP will be driven by area-wide needs, and is informed by direction from both local and regional stakeholders. A fundamental precept of the RTSOP is that the transportation planning area’s planning partners will be able to “right-size”, or adapt, projects and programs to the specialized needs and circumstances of local areas. The objective here is that travelers, regardless of where they are in the Birmingham metropolitan transportation planning area, will have consistent experiences as they encounter roadway incidents, work zones, traveler advisories, AMBER Alerts, etc.

The second RTSOP precept is customer-centeredness. The Birmingham metropolitan transportation planning area’s planning partners, led by ALDOT, have made it their responsibility is to create and maintain a safe and efficient traveling environment for its citizens and transportation system users. While these planning partners cannot ensure that all travel will be free of incidents and delays, they have committed to developing the infrastructure needed to keep travelers apprised of conditions and circumstances. Thus, the RTSOP will most assuredly emphasize reliable, real-time traveler information routinely disseminated to customers.

The third precept of the RTSOP is measured performance and accountability. It has been proposed that the accomplishments and shortcomings of the RTP in addressing regional transportation issues be evaluated using quantitative performance indicators. The same is true of the RTSOP, and it is envisioned that most RTSOP projects will utilize quantitative metrics for objectively evaluating operational performance. Like other RTP functional plans, these performance indicators will be used to identify operational successes, shortcomings and failures, candidate actions for overcoming deficiencies, and opportunities for future successes.

By its very nature, the RTSOP is dynamic. The program will be shaped and guided by a set of goals and principles that are closely aligned with the regional goals for transportation system development. As appropriate, metrics will be chosen and defined so that they reflect both regional goals as well as programmatic and area/corridor specific goals.

The RTSOP will focus on those foundational elements that support operational activities, locally, regionally, and statewide. As a functional plan of the regional transportation plan, the RTSOP will place emphasis on projects and actions most likely to improve transportation system reliability and customer satisfaction. As it is currently envisioned, the RTSOP will be predicated on the following four goals:

1. Build and Maintain a Transportation Operations Foundation
2. Improve Roadway Operational Performance
3. Improve Safety
4. Improve Security

Additionally, the RTSOP will set the strategic and tactical direction for transportation system operations in the Birmingham metropolitan transportation planning area. Ideally, the RTSOP will reflect important regional initiatives, consider national priorities and progress, focus on the customer, and build on the experiences and successes of the region’s transportation system operators.
Key operational objectives to be achieved within the first five-year period include:

- Providing and supporting uniform, fundamental operational elements in all locally operated and maintained traffic control centers
- Providing consistent incident response on all sections of the region’s interstate, freeway, and arterial roadway system
- Sharing incident information for all hazards among federal, state, regional, and local emergency management agencies
- Providing timely, reliable information to travelers using low-cost and no cost media

Furthermore, the RTSOP will seek to instill an operations “mindset” and strategizing into the planning process – planners need a greater understanding of the role of operations projects and programs in the context of meeting regional goals and objectives, as well as a greater understanding of how they can help advance these activities. By the same token, transportation system operators need a greater understanding of how the long-range planning process can support management and operations activities, and how these activities fit into the context of regional goals and objectives in the planning process. In short, the RTSOP aims to instill “planning thinking” into operations.

Other aspirations of the RTSOP include improved collaboration between planners and operators in order to:

- Provide access to system-wide 24-hour travel data that can be used to better characterize existing system performance and travel conditions, and identify the most critical transportation problems
- Provide operations data and expertise to improve forecasts of future conditions, broaden the understanding of existing conditions, and analyze the effectiveness of alternative investments
- Foster greater consideration of the day-to-day functioning of the transportation network and the real conditions facing travelers, which can help frame regional transportation goals, objectives, and priorities
- Reveal how transportation plans can address issues such as reliability, security, and safety—issues that are generally difficult to address with traditional infrastructure investments alone
- Provide regional leadership and greater participation by stakeholders in regional operations efforts
- Clarify the role of operations in meeting a region’s transportation vision and goals
- Direct attention to the value of operations strategies
- Increase resources assigned to operations projects and programs

The RTSOP is envisioned to be a key component of the RTP, and will serve to provide input into the regional transportation planning process. The RTSOP document that will be developed is identified as one of the functional plans of the RTP, and elements of the document may be incorporated directly into the plan, as an attachment to the plan, included as a section of the plan, or added as an appendix. Segments of the RTSOP may be quoted in the RTP document as warranted. Projects identified within the RTSOP may be highlighted in regional policy discussion for consideration and coordination within the RTP process. The RTSOP can also be used as a stand alone, informational document to help ensure that operational projects receive equal consideration with other pressing regional needs during the project evaluation process. The RTSOP does not yet exist for the Birmingham metropolitan region. However, once the document has been completed, it will be adopted along with other functional plan components during subsequent updates to the RTP.

Ultimately, to be successful, the RTSOP implementation will require the collaboration of many stakeholders. However, to help move the implementation process forward, it is expected that the Birmingham MPO’s Congestion Management Committee will provide oversight and eventually be
responsible for championing the RTSOP and the programs and projects identified within it. This Committee will further track progress on implementation, oversee any “regional” projects, track performance measures and lead the update of any future RTSOP documents. The RTSOP will also need to address institutional concerns related to responsibilities in order to avoid obvious, and not so obvious, pitfalls which could potentially slow and/or inhibit implementation.

In the absence of a RTSOP to serve as a comprehensive, stand alone functional plan, the RTP provides an in-depth discussion about the elements that currently comprise the system management and operations function. This discussion is centered on the region’s needs as it relates to operations, and addresses:

1. Corridor Management
2. The Movement of Information
3. Transportation System Maintenance, and
4. Transportation System Safety and Security

Each of these discussion areas can easily inform stand-alone strategies/programs. However, the Birmingham MPO believes that by discussing each of these areas in concert with one another will likely yield the best outcomes. The combination is the basis for the Birmingham MPO’s “Smart Corridor” concept. Smart Corridors will be discussed further in the following sections.

5.4.3 Corridor Management – “SMART Corridors”

The definition of corridor management is “the coordinated application of multiple strategies to achieve specific land development and transportation objectives along segments of a transportation corridor.”

There is a need for the member agencies and municipalities in the Birmingham MPO area to provide a level of “uniformity” in the character and function of the differing types of roadways as they pass through and between jurisdictions. This uniformity also enables transportation users to anticipate what is ahead. For example, a roadway that functions as a principal arterial should have certain elements that are consistent throughout its length. Intersection spacing, lane width, transit stop location, bicycle and pedestrian accommodations, to name a few, should be substantially similar as it passes from a rural setting to suburban to urban and back again. This allows the agency with jurisdiction over the roadway to better manage the resources needed maintain that roadway, and it allows the entity with the adjacent land use authority to more accurately identify the potential impacts of land use decisions. In the future, the availability of transportation funding may depend upon the success of this type of collaboration.

To achieve the goal of consistency along a corridor also requires a significant increase in inter-agency cooperation. The Birmingham MPO, working with the Alabama Department of Transportation and its local planning partners, has made an effort to accomplish corridor management by developing “Smart Corridors.” Smart Corridors are multimodal transportation corridors that have applied a multi-modal advanced transportation management system to provide real-time traffic conditions to the public in order that they might make better travel decisions. Smart Corridors allow participating agencies to better manage congestion and incidents along major travel routes, improve transportation mobility, efficiency and safety, and provide timely, multi-modal local transportation information.

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The first step in the developing Smart Corridors is the development and/or identification of strategies to utilize proven corridor management principals. These include:

- Projects to better manage traffic flow through signalization improvements
- Applying selected intersection improvements
- Consideration of the land development context within which a roadway traverses, in order to better coordinate transportation and land use

A. Right-of-Way Maximization

In addition to the principals identified above, collaboration, coordination, and partnerships are also key to providing effective corridor management. Implicit to this are the conversations that occur between transportation facility owners/operators and other infrastructure/utility owners. Historically, transportation corridors have accommodated/hosted utility infrastructure such as communications, electric, water, gas, etc. This practice is one that makes sense as it serves to maximize the efficient use of existing transportation rights-of-way thereby reducing overall costs. The converse typically has not been true. Consideration should be given to using some utility rights-of-way for transportation corridors (motorized and non-motorized) as these other infrastructure rights-of-ways also provide good alignments for mobility. This coordination of uses is not only a smart and cost-effective investment that helps to minimize the overall cost to provide infrastructure and services, but provides opportunities for the public sector to seek out and engage in public/private partnerships that encourage economic development and improves the exchange of information.

B. Access Management

A key component of successful corridor management programs is access management. The Birmingham MPO has long recognized that it can play a critical role in establishing access management practices in the transportation planning area’s transportation planning process through the long range planning and programming activities. In particular, the MPO is responsible for addressing system and corridor preservation. It does so through its development of the RTP and the TIP, as well as through the 3-C planning process which enables the MPO to educate stakeholders and facilitate discussions. To this end, the MPO has actively participated in and supported short courses sponsored by ALDOT and the Alabama Section of the Institute of Transportation Engineers. The MPO also maintains a CMP of which access management is a key strategy for combating congestion. Finally, the MPO addresses access management through its regular planning activities such as corridor and subarea planning. A recent example of this type of planning activity is the US Highway 280 Access Management Plan, which included the development of inter-local agreements that described the relationship between cities located along the corridor as it related to the implementation of the recommended access management strategy. It also included a model access management ordinance that cities located along the corridor could choose to adopt.

For the most part, the Birmingham MPO has not advocated for any specific access management technique. However, recent work completed by the MPO and its hosting agency, the Regional Planning Commission of Greater Birmingham (RPC), on corridor specific plans, neighborhood and community plans, and subarea planning has espoused the use of regulatory tools to achieve access management outcomes. This includes the development of access management overlay districts and specifications for the inclusion of access roadways in the land development process. Planning projects funded through the MPO’s Building Communities Grant Program have incorporated administrative strategies to accomplish...
access management outcomes. This includes the development of subdivision regulations that address access management issues for new development along major arterial roadways and provide guidance for limiting vehicular use for non-conforming uses in existing developments.

Through this RTP, the Birmingham MPO is recommending that local project sponsors take the time to become familiar with the Principles of Access Management, and the MPO is committed to providing regular training on access management. Additionally, the RTP fully endorses the 2003 Transportation Research Board’s *Access Management Manual*, identifying it as key tool in the planning, development, and preservation of arterial roadways.

In terms of access management policies and strategies that the RTP is recommending, Chapter 3 of this document, RTP Goals and Objectives establishes a policy that all roadway capacity improvements be vetted through the CMP. Access management strategies are a recommended congestion management tool. Other recommended RTP policies related to the successful implementation of access management strategies include:

- Requiring all project sponsors that are proposing capacity expansions projects located on designated Regionally Significant Transportation Facilities (excluding interstates) and non-designated urban minor arterial roadways to:
  - Develop access management plans
  - Adopt the access management plan (all appropriate governing entities)
  - Identify and make preparations to put into place appropriate enforcement mechanisms in order to be eligible to receive Birmingham attributable surfaced transportation program funding (STP-BH) and to be programmed into the TIP, regardless of its federal funding source

- Requiring the project to include the access management plan’s recommended improvement strategies in the project scope

- Requiring plan sets to include the access management plan’s recommended physical modifications during the 60% design review

- Requiring all project sponsors that are proposing capacity expansions projects located on designated Regionally Significant Transportation Facilities (excluding interstates) and non-designated urban minor arterial roadways that have:
  - Previously completed capacity expansions with non-federal funding sources
  - Failed to develop and adopt an access management plan for the facility to develop and adopt an access management plan in order to be eligible to receive STP-BH funding and to be programmed into the TIP

  Note: STP-BH funding for applicable capacity projects not completing an access management plan that have been added to the TIP after November 2009 shall be limited to 50% of the total project’s cost.

- Requiring the project sponsor(s) to repay the federal share of the capacity expansion project’s total cost if agreed upon access management strategies previously identified in the 60% design review plan set are not constructed

Additionally, project sponsors’ whose proposed capacity projects fail to include access management strategies in their scope and/or in their design must demonstrate that the access management strategy
C. Intersection Improvements

Intersection improvements within major travel corridors are an essential part of a corridor management program. Intersections are in essence “choke points,” that if not managed correctly can contribute significantly to congested conditions. Inappropriate management of intersections can also impact traveler safety, particularly for pedestrians and other non-motorized travelers.

The Birmingham metropolitan transportation planning area has, for the past several years, addressed intersection management through a program called the Traffic Operations Program to Increase Capacity and Safety (TOPICS). TOPICS projects have provided for the physical expansion of intersection to include additional turning lanes, installation of new and/or upgrades to existing signal systems, and geometric improvements to correct alignment and/or sight distance problems. The Birmingham RTP proposes that the TOPICS name be dropped from the program because it does not accurately describe the intention or purpose for pursuing intersection improvements, that being congestion relief and maximizing operational efficiencies to the existing transportation system. The RTP reaffirms that the purpose of pursuing intersection improvements as an operational solution ahead of roadway capacity expansion is to improve safety and efficiency for motorists and pedestrian traffic through the provision short term solutions to bottlenecks and diminished traffic flow.

In addition to dropping the TOPICS name for the intersection improvement program, the RTP recommends:

- Using the Birmingham Congestion Management Process and the Building Communities planning process to identify and prioritize intersection improvements
- Employing a continuous monitoring and evaluation methodology in order to evaluate the ongoing need for traffic control and geometric improvements at intersections
- Encouraging project sponsors to identify intersection improvements as part of their comprehensive planning and/or thoroughfare planning processes.

The RTP also recommends that project sponsors consider strategies that would improve the intersection for all users. Examples of the elements that might be considered include:

- Signage
- Signal cabinet upgrades and installation
- Enhanced pavement markings for pedestrian crosswalks
- Wheelchair ramps, and
- Pedestrian signals

Consideration should also be given to relocating traffic signals (when appropriate), and modifying traffic signal timing.

It is believed that by making these modifications that an intersection improvement program will achieve consistency with the Congestion Management Process, as well as the desired effect for overall mobility and safety. It is also believed that the application of additional resources might help to minimize the installation of unwarranted traffic signals and other traffic control devices. Unwarranted traffic signals not only increase traffic delay, stops, and crashes but they also may be a tort liability risk and unnecessarily increase costs. Ongoing corridor monitoring will also help to ensure that signal systems within corridors cannot be reasonably implemented in order to maintain the project’s eligibility to receive STP-BH funding.
are working properly and that traffic is flowing efficiently and safely. The CMP will provide regular monitoring of traffic at signalized intersections in major travel corridors, and will provide data to inform the update of traffic control strategies, including signal timing plans, in response to changes in traffic. Changes to intersections should be made with an eye on design so that better integrate motorist and pedestrian activity. In some cases, this may include designs that reduce traffic speeds, especially within activity centers where pedestrians cross.

D. Arterial Signal Coordination and Maintenance Fund (ASCMF)

Arterial Signal Coordination and Maintenance Fund (ASCMF) paves the way for a more centralized traffic signal program that plans and coordinates activities, as well as operates and maintains signals at the corridor and regional levels. Signal coordination will be used to improve flow along arterial corridors during heavy traffic periods and will be used for traffic management during incidents. Signal timing at each intersection also can be modified to accommodate the traffic demand during recurring congestion and incidents.

The effectiveness of traffic signal timing is the result or outcome of operations and maintenance practices. An effective signal maintenance and management program that consists of both preventive and remedial maintenance of traffic signal hardware and software is essential to the successful performance of any traffic control system. A poorly maintained signal system can compromise travel efficiency and safety. As is the case with most equipment, signal systems that are neglected will likely perform inefficiently and experience premature failure.

Well timed and maintained traffic signals are also one of the most cost-effective methods to improve energy conservation in transportation. The Federal Highway Administration estimates that the benefit to cost ratio for signal optimization projects is near 40 to 1. That is, for every $1 spent on making improvements to a traffic signal, $40 is returned to the public in terms of fuel savings and time.

The 2007 Traffic Signal Report Card, assembled by the National Transportation Operations Coalition (NTOC), indicates that traffic signal operations historically have been performed on an "ad-hoc" basis resulting in inconsistent operation that varies from jurisdiction to jurisdiction. Signal management under the corridor management approach would employ "best practices" in signal operations and maintenance and provide for coordinated, ongoing signal maintenance programs which could include:

- Timely data collection about traffic movements at intersections
- Updates of signal cabinets and signal technology
- Signal head modifications
- Changes to signal power delivery and communications
- Modifications to signal timing

To accomplish signal coordination, traffic signals along the corridors and the signals on the arterial to freeway connectors should be interconnected so all signals can be controlled and the optimal timing plan for the corridors can be used. This will require strong coordination of local operators and/or agencies of traffic signals along the arterial corridors. All jurisdictions and agencies that fall within identified travel corridors need to have some participation in operating, managing, and maintaining traffic signals. Additionally, each agency will need to implement, support, and utilize the enhanced traffic signal components of the system. However, considering the local agencies staffing limitation, it is important that the operations and management of the system does not place additional burdens on the agencies.
Coordination with the Incident Management Function (IMF) group will also be needed to address identified institutional issues. The Birmingham MPO will likely be the champion of this effort. In addition to coordinating arterial traffic signal operations, the RTP recommends consideration of ramp metering on key freeway access points. Ramp metering is an operational technique for restricting freeway access and is proven to improve freeway speeds and reduce accidents at merge sections by regulating the number of vehicles entering the freeway. By essentially breaking up a platoon of vehicles entering the freeway, a ramp metering system appropriately limits the demand to prevent capacity reduction on the freeway. Ramp metering has been effective in reducing the number drivers using the freeway for short trips of less than three miles.

E. Incident and Emergency Management (IEM)

Incident management is the process of the response of multiple agencies to highway-related traffic disruptions. The development of an efficient and coordinated response to incidents reduces their adverse impacts on safety, congestion, and the regional economy. As a result of the wide range of agencies involved in emergency services, an incident management program can assist in identifying important regional stakeholders, coordinating joint operations efforts and reducing overall response time to incidents. As incident response time is decreased, the likelihood of secondary incidents can also be decreased. It is not uncommon for MPO’s to coordinate incident management programs as a method to assist in reducing congestion along major routes. Development and advancement of incident management in the transportation planning area supports the vision and goals of the RTP to reduce congestion and increase safety.

The Incident and Emergency Management (IEM) Function of the RTP defines the processes, procedures, and relationships needed to effectively manage incidents and emergencies. The central objective is to improve the time required to respond to incidents, natural or man-made events, in order to manage the processes safely, securely and efficiently. Improved management of incidents can significantly reduce congestion and enhance safety and mobility. Toward this end, this operations area focuses on:

- Comprehensive policies and procedures that are needed for managing and responding to incidents, special events, emergencies, and large-scale evacuations
- Consistency of incident management policies and procedures so that communications, responses, and protocols are uniform and seamless
- Defining and implementing a statewide infrastructure for managing incidents
- Strengthening relationships among incident management partners and developing regional IEM Response Teams

A substantial amount of work has already been completed as it relates to improving the incident management function within the Birmingham metropolitan transportation planning area. In April 2008, the Birmingham Incident Management Function (IMF) Group was formed. Led by the Birmingham MPO, representatives of ALDOT, the Jefferson County Emergency Management Agency (EMA), local law enforcement and fire rescue services met to discuss ways to approach improvements in incident management within the urbanized area using ITS solutions. The IMF Group reviewed past efforts in the area of incident management and developed a simple five-step strategy to approach the issue:

1. Examine the ITS tools currently in place
2. Identify technology gaps
3. Identify effective ideas and concepts from other areas of the country
4. Improve communications between incident management partners
5. Identify activities that support incident management activities

The IMF Group established a set of goals and objectives in order to help prioritize initiatives. The overwhelming consensus of the IMF Group was that the establishment of a strong communications system was the key to success. Subsequently, the initial discussion and high priority recommendations for action focus primarily on tools and strategies to improve communications. The goals and objectives are listed in Table 5.9.

The IMF Group agreed that once a strong communications system was implemented, incremental improvements for support activities should follow. Keeping with the prioritization strategy for incident and emergency management, the first set of recommended projects will focus on improving interagency communications and communications for scene management. Specific projects and timeframes for implementation will be developed as part of the RTSOP and programmed for funding in the Birmingham Transportation Improvement Program.

<table>
<thead>
<tr>
<th>Goals</th>
<th>Objectives</th>
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<tbody>
<tr>
<td>Goal 1: Maximize responder safety</td>
<td> Improve roadside environments</td>
</tr>
<tr>
<td>Goal 2: Implement safe, quick incident clearance</td>
<td> Enhance responder training</td>
</tr>
<tr>
<td>Goal 3: Establish prompt, reliable, interoperable communications</td>
<td> Maximize the use of existing equipment and resources</td>
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<tr>
<td></td>
<td> Build lines of communications, relationships and trust</td>
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<tr>
<td></td>
<td> Pursue technologies that improve interagency communications</td>
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</table>

In 2006, the Alabama Department of Transportation requested that the Birmingham MPO provide additional funding to the Alabama Service Assistance Patrol (ASAP) program to assist in the vehicle placement, fleet expansion service area expansion, and adding additional ASAP operators. ASAP patrols the region’s interstate system, identifying and reporting problems, and rendering assistance to disabled motorists. Additionally, ASAP operators respond to various types of incidents, supplying critical incident-scene reconnaissance to determine the emergency resources needed to respond. When permitted, they assist in clearing incidents and help to coordinate response efforts with other agencies. ASAP operators also provide preliminary assessments of roadway repair needs based on their observations. An ASAP vehicle is depicted in Figure 5.13.

The request was approved with the condition that the ALDOT consider expanding the ASAP program to include major arterial roadways. In particular, it is recommended that ASAP patrols be extended to cover:

- Red Mountain Expressway between I-20/59 to US 280
- US 280 between Red Mountain Expressway and Eagle Point Parkway in Shelby County
- State Routes 75 and 79 between I-20/59 and the Blount County Line
- US 78 between I-20/59 and the Walker County Line, and
- Corridor X (Future I-22) between Cherry Avenue and the Walker County Line
In addition to expanding ASAP coverage to the transportation planning area’s arterial roadways, the RTP recommends that other IEM operational activities also be pursued. Moreover, the RTP recommends a number of infrastructure improvement and institutional activities be undertaken in support of the IEM function as well. These activities are listed below:

**Operational Activities**
- Towing and recovery incentive program
- Improving reporting to Dynamic Message Signs (DMS)
- Media information exchange program
- Motorist Assistance Program

**Infrastructure Improvement Activities**
- Milepost markers (every tenth with route and directional information)
- Highway advisory radio
- Cameras in operational blind spots
- Expansion and/or enhancement of existing traffic control centers
- Special site clearance equipment
- Extension and repair of identified infrastructure
deficiencies

**Institutional Activities**
- Expansion/formalization of the IMF Group within the transportation planning area
- Expansion of the IMF Group to Blount, Chilton, St. Clair, and Walker counties – the four counties comprising the Heart of Alabama Rural Planning Organization (HARPO), the rural companion organization of the Birmingham MPO
- Customized and/or enhanced training activities for operators and emergency responders to include advanced use of communications technologies and post-incident debriefings
- Advocating for and/or drafting Driver Removal ("Move It") Legislation
- Identifying a “champion” agency to provide oversight and coordination
- Create a position(s) for
  - Regional Operations Engineer,
  - Regional ITS Coordinator, and/or
  - Regional Signals Manager;
- Establish dedicated funding for operations.
- Transition to the use of wireless communication systems
- While virtually every transportation project improves safety by bringing the transportation network up to current design standards, these are stand-alone projects to address specific safety issues. This includes projects to:
  - Eliminate sight distance problems at intersections;
  - Improve at-grade highway-rail crossings;
  - Improve pedestrian safety; and,
  - Address areas with high accident rates or crash clusters.
5.4.3 Information Movement Strategies

A series of strategies were developed to address the needs that restrict the efficient movement of information in the Birmingham metropolitan transportation planning area.

**Strategy 1: Implement Useful Real-Time Passenger and Travel Information Systems.**
As the ITS infrastructure continues to expand in the Birmingham metropolitan transportation planning area, it will be important to develop a reliable process to share relevant data with appropriate agencies. The Birmingham MPO should assist in the coordination of future efforts to enhance the distribution of real-time travel information in the transportation planning area.

**Strategy 2: Include ITS Equipment as Part of Transit and Roadway Improvement Projects.**
The Birmingham MPO should work in cooperation with the Alabama Department of Transportation, the Birmingham Jefferson County Transit Authority, and local communities to identify opportunities to include ITS equipment as part of future roadway, public transit, and bridge improvement projects.

**Strategy 3: Incorporate the Regional ITS Architecture into the RTP.**
Once a regional architecture is created, it is important that it serve as a resource for regional planning, project programming, designing, and deploying ITS projects. The architecture should serve as a tool to improve regional thinking on operations. Incorporation of the architecture into the RTP serves to promote its use and encourage consistency between the architecture and future ITS projects. This process also ensures that additional integration opportunities are considered in the future.

It will also be important to continue to update the regional ITS architecture after updates to the regional transportation plan. This process must include existing operations managers to identify how the architecture incorporates regional goals and objectives. The ITS architecture should also relate to other regional planning documents. The Birmingham MPO should continue to endorse future updates to the regional ITS architecture in order to use it as a framework to inform decision-making and promote communication.

**Strategy 4: Incorporate the Regional ITS Architecture into the RTP.**
Once a regional architecture is created, it is important that it serve as a resource for regional planning, programming, designing, and deploying ITS projects. The architecture should serve as a tool to improve regional thinking on operations. Incorporation of the architecture into the RTP serves to promote its use and encourage consistency between the architecture and future ITS projects. This process also ensures that additional integration opportunities are considered in the future.

It will also be important to continue to update the regional ITS architecture after updates to the regional transportation plan. This process must include existing operations managers to identify how the architecture incorporates regional goals and objectives. The ITS architecture should also relate to other regional planning documents.

**Strategy 5: Pursue Public/Private Partnerships (P³) to Reduce Costs and Enhance Information Accessibility.**
The development of public/private partnerships (P³) is an excellent way to expand the existing ITS infrastructure in a cost-effective manner. It will be important to identify and increase opportunities to utilize public rights of way to run conduit necessary for new communication links. It is also important to identify potential partnerships in the preliminary design stages of transportation improvement projects to help reduce construction costs and avoid the need to perform repetitive and costly maintenance work at a later date.
The Birmingham MPO should encourage the development of pilot projects to identify new and innovative uses of ITS equipment. Through partnerships with local colleges and universities additional research can be conducted on the benefits of new technologies. In addition, new technology can enhance the way data is currently collected in the region, which in turn could develop new methods to analyze and improve existing transportation problems.

Strategy 7: Implement ITS plans such as BJCTA’s ITS System Deployment Plan.
The development of regional ITS plans are a key component to identifying the future needs of the transportation system. It will be important to assist agencies such as the BJCTA to implement the preferred recommendations of the plan in order to ensure that the regional ITS infrastructure continues to grow.

Strategy 8: Provide Training for Local Communities and Stakeholders to Increase Their Understanding of Various ITS Technologies and Equipment.
The Birmingham MPO should work in cooperation with the Alabama Department of Transportation and other interested agencies to develop educational products and workshops to increase local awareness of the benefits of ITS technology. It will be important to identify potential local uses for ITS technology as part of recommendations developed for studies included in the UPWP. In addition, local assistance should be provided after implementation of ITS equipment to perform case studies on the effectiveness of the equipment in improving the local transportation system.

Strategy 9: Ensure Consistency with the Regional ITS Architecture.
It is a federal requirement for all ITS projects to be consistent with the regional architecture. As a result, it will be critical to identify if proposed projects do, in fact demonstrate consistency, early in the planning and design process. This will ensure compatibility with existing and future equipment and improve the efficiency of the design process.

Technology is constantly changing and improving. It will be important to stay current with changes in ITS technology that could be beneficial to the regional transportation system. In addition, it is also important to identify new uses for existing technology that could benefit the transportation planning area’s transportation system.

Strategy 11: Encourage and Promote Telecommuting and Video Conferencing.
As computer equipment becomes more sophisticated and the cost of equipment becomes more affordable, it will be much more practical to develop initiatives to encourage major employers to offer options for telecommuting either via a satellite office or their home. Improvements to technology also make video conferencing much more practical and reliable. The increase in use of both telecommuting and video conferencing could greatly reduce the rise in vehicle miles traveled in the region.
A. Traveller Information System (TIS)

Directly related to the discussion of moving information is the development of Intelligent Transportation Systems (ITS) is the discussion about the movement of information. The movement of information consists of the ability to utilize technology to maximize the efficiency of the existing transportation system and to convey information to the traveling public. Modern technology has continued to expand and become more affordable, making tools such as the cell phone and in-vehicle navigation systems more commonplace and the ideal tools for sharing information about transportation system with system users.

The Birmingham metropolitan transportation planning area benefits from having a robust communications network. It is important to maximize the efficient use of this existing network to advance ITS deployment in the region. Traveler Information Systems (TIS) builds on existing communications and ITS technologies, and is a key component of Incident and Emergency Management. However, the Travelers Information System Operations goes well beyond Incident and Emergency Management and the concept for the Birmingham metropolitan transportation planning area places emphasis on the dissemination of information to travelers in order that they might make informed decision about their travel times, travel routes, and travel modes.

On July 21, 2000 the Federal Communications Commission (FCC) designated 511 as the single travel information telephone number to be used across the United States. Calls placed to 511 will provide current travel information on weather and road conditions, traffic updates, and ongoing construction projects. There is no charge to utilize the 511 service. Traveler information through 511 is not currently available in the State of Alabama. However, the Federal Highway Administration is strongly encouraging the development and deployment of a 511 system, and is amenable to phasing its implementation on a region by region level in order to get the service up and running. Use of 511 could be an extremely effective way to keep motorists abreast of the status of real-time highway and transit information. As technology continues to advance, information will becomes much more readily available. As a result, it will be extremely important to improve the exchange of information between ITS users, stakeholders and providers. Towards that end, the RTP recommends that a comprehensive regional traveler information program be developed and deployed in order to better address identified regional needs. In particular, the RTP recommendations for a comprehensive TIS program include:

- Maximize the use of existing ITS infrastructure
- Define means, media, and methods for delivering reliable traveler information, especially so travelers can make informed pre-trip and en-route decisions
- Expand partnerships with media outlets in order to better disseminate information to travelers
- Examining best practices for using third-party vendor and infrastructure to deliver traveler information
- Foster public/private partnerships to improve access to information, and
- Develop and implement a regional 511 Traveler Information System

Needs to enhance the movement of information in the Birmingham metropolitan transportation planning area have been identified and are summarized in Table 5.10. These needs have been categorized as immediate, future and ongoing. Ongoing needs are areas that may already be considered as part of an existing program and will require updating as part of existing planning efforts or analyzed for inclusion as part of a transportation improvement project. Immediate needs will require attention in the short term to advance transportation planning studies and projects. Future needs are considered equally important, but will be advanced over a slightly longer timeframe.
### Table 5.10 Summary of Needs to Enhance the Movement of Information

<table>
<thead>
<tr>
<th>Needs</th>
<th>Priority</th>
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<tr>
<td>Expand the existing ITS infrastructure</td>
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<tr>
<td>Improve distribution and access of real-time highway and transit information</td>
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<tr>
<td>Take advantage of the existing communications infrastructure</td>
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<tr>
<td>Maximize the efficient use of existing rights</td>
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<tr>
<td>Educate communities on the advantages of ITS</td>
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<tr>
<td>Improve the transportation planning area’s use of ITS</td>
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<tr>
<td>Improve Incident Management on Major Routes</td>
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<table>
<thead>
<tr>
<th></th>
<th>Immediate</th>
<th>Ongoing</th>
<th>Future</th>
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<tbody>
<tr>
<td><strong>Immediate</strong></td>
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<tr>
<td><strong>Ongoing</strong></td>
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<tr>
<td><strong>Future</strong></td>
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**Existing ITS Infrastructure Expansion** - The Regional ITS Architecture for the Birmingham metropolitan transportation planning area needs to be updated. Within the update, there is need to include an Implementation Plan that addresses the planned components of the architecture and identifies key initiatives that are required to implement the expansion of the existing ITS infrastructure in the region. The 2035 Birmingham RTP recommends four short term needs to ensure expansion of the existing infrastructure. They are:

- **Event Reporting System**: An internet based tool serving as a central depository of information on events that could negatively impact the regional transportation system

- **Expansion of the Interagency Video Integration System (IVIS)**: Requires the expansion of the existing system of real-time video feeds. An audit of existing fiber optic connections as well as additional equipment is necessary for implementation of this system which would improve the ability to identify and analyze transportation related incidents on major roadways

- **511 Traveler Information System**: Calls placed to 511 will provide current travel information on weather and road conditions, traffic updates, and ongoing construction projects free of charge

- **Planning Data Archive**: This system coordinates the exchange of planning data archived through other existing ITS technology. Information on traffic volume and speed can be used in the development of regional transportation studies. Copies of past video feeds can be used to collect historical data on the impact and severity of areas of congestion. This information is extremely valuable to assist in the development of recommendations to decrease congestion and improve safety and is a natural product of the Regional Transportation Data Center’s Clearinghouse.
**ITS Infrastructure Maintenance** - Equally important to the development of the regional ITS infrastructure is its maintenance. The maintenance of the system goes hand in hand with the operation of the system. In response to estimates of lost productivity, money, time, and oil through traffic congestion, ITS technologies were developed that successfully increase safety and relieve congestion by improving traffic flow. The term ITS refers to technologies that help operators to better monitor and manage the system, to respond to incidents more quickly, and to disseminate traffic related information back to the public. Examples of ITS technologies include dynamic message signs, ramp meter signals on the freeway, cameras that monitor traffic flow and incidents, and transit related systems such as automated vehicle locators (AVL) which track the actual location of a vehicle at all times.

Most travelers are unconcerned by who owns and operates the various components of the transportation system, they expect it to work seamlessly and efficiently. The strength of the metropolitan planning organization is its ability to reach out to a vast array of stakeholders and to enable communication and cooperation among them. In this regard, the Birmingham MPO works with many different agencies who are interested in finding solutions for various transportation issues in the Birmingham metropolitan transportation planning area. For several years, the Birmingham MPO has attempted to facilitate a regional discussion with stakeholders about the development of the transportation planning area’s ITS infrastructure. However, these discussions have had limited success.

In order to foster system integration and agency cooperation for ITS technologies, the national ITS architecture was developed by FHWA in order to provide a unifying framework for ITS infrastructure deployment. The Alabama Department of Transportation's 3rd Division houses the regional ITS architecture. The Central Alabama Regional ITS Architecture identifies the organizations that provide ITS or those that have an interest in them. It defines the different operating systems, the functions they perform, and what and how the information is exchanged. Identifying the different types of technologies and interconnections not only helps to understand the existing systems but also to detect any gaps related to the information that is exchanged, or the agencies that could collaborate. The architecture ensures that institutional agreements and technical integration for the implementation of ITS projects are in place. Its primary goal is to facilitate the efficient deployment and use of ITS equipment, networks, and management structures to create a safer and more efficient transportation system across jurisdictions. All ITS projects using federal funding must conform to the regional ITS architecture before funding can be reimbursed.

**B. Public and Stakeholder Education**

It has been made clear through the many discussions about transportation being held throughout the Birmingham metropolitan planning area that both the general public and transportation system stakeholders do not fully understand the potential of intelligent transportation systems to positively impact travel. An effort needs to be made to inform the public and stakeholders that ITS is more than the installation of cameras and dynamic message signs. The impacts of intelligent transportation system technology have a wide range of applications beyond public information and being able pull up cameras on the internet. The information that is collected through these systems can help in the planning efforts and result in a more efficient and cost effective transportation system. It also helps local communities to better manage the transportation assets that they are responsible for operating and maintaining. Such applications have been used to reduce damage to infrastructure, manage parking in space limited areas, and warn of adverse weather conditions.

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9 Using Technology in Surface Transportation to Save Lives, Time, and Money by J. Collins, N. Y. Mineta
As the Birmingham metropolitan planning area moves forward with the development of transportation system, it will be important for the Birmingham MPO to plan an active role in educating the public and transportation system stakeholders about ITS and ITS applications that provide benefits to local communities. In addition, it will be important to identify future transportation improvement projects that could benefit from the integration of ITS systems in order to encourage and/or improve the overall use of technology solutions to manage congestion and address mobility.

5.4.4 Transportation System Maintenance

Transportation systems management and operations, and their related activities, revolve around two key areas:

1. The maintenance and preservation of existing transportation infrastructure
2. The efficient operation of the existing transportation system

Both of these efforts speak to the impacts of continuous use of transportation infrastructure, and strategies to implement changes that improve system operations and improve overall efficiency through the integration of management principles and technology.

In general, the agencies responsible for the development, maintenance, management, and operation of the Birmingham metropolitan transportation planning area’s transportation system have a history of struggling to provide adequate resources to operate and maintain its highways. Significant portions of the Alabama Department of Transportation’s budget have been programmed and spent on the maintenance of roads and bridges budgets, as well as other system preservation activities. The long-term financial forecasts developed for the 2035 Birmingham RTP identifies that nearly 56% of the transportation planning area’s future federal funding will be devoted to transportation system management and operations activities which includes both system maintenance and preservation. The assumption takes into account the funding that is given to those regional system expansion projects which also address system preservation through rehabilitation of existing facilities. However, financial assumptions exclude the road and bridge budgets of local agencies which are spent on system maintenance and preservation activities. At present there is insufficient data to estimate the total and annual costs to operate and maintain local roads in the transportation planning area.

The Birmingham Jefferson County Transit Authority has already taken steps to improve the condition of its rolling stock, and has used its allocation of American Recovery and Reinvestment Act (ARRA) formula funds to purchase upwards of 40 new transit vehicles. The BJCTA will completely rehabilitate another 40 transit vehicles, rebuilding engines, transmissions, electrical components and doing body work. In all, nearly 80% of the BJCTA’s vehicle fleet will be replaced or rehabilitated. The Birmingham MPO flexed approximately $1.4 million in ARRA funds to the BJCTA in order to assist the agency with replacing paratransit vehicles. This was on top of another $1.4 million in funding that the MPO flexed from its regular allocation of attributable Surface Transportation Program dollars.

The Birmingham MPO is committed to fostering an environment that encourages transportation system owners and operators to build upon the tradition of preserving, maintaining, and modernizing the Birmingham metropolitan planning area’s transportation system with the goal of having this system regarded as one of the best maintained in the State of Alabama and in the United States. As described numerous times throughout this document, the 2035 Birmingham RTP espouses a philosophy which has been translated into policy of “maintenance first”. This concept ensures that all system preservation funding needs are met before budgets are allocated to any new transportation projects.
• Some general goals that the Birmingham MPO has for transportation system maintenance include:
  Improvement of pavement conditions on all federal-aid roadways
• Once improved, sustain pavement conditions so that 75% of the transportation planning area’s federal-aid roadway’s pavement exceed the minimum pavement condition threshold
• Improve the overall condition of all county and locally maintained bridges located on federal-aid roadways
• Improve the overall condition of public transportation facilities, vehicles, and other capital assets
• Improve the overall condition of non-motorized transportation facilities to include bikeways, trails, and sidewalks
• Aid in the improvement of facilities that provide direct access to freight and goods movement transportation, and of freight and goods movement transportation facilities

A. Roadway Resurfacing
The Birmingham 2035 RTP recommends that the Birmingham MPO establish a programmatic line item fund to provide financial assistance to the two County governments and the 52 local governments that are located within the Birmingham metropolitan planning area for roadway resurfacing of federal-aid roadway. It is envisioned that the Birmingham MPO will make available funding specifically for these entities to resurface roadways and potentially other roadway maintenance activities, provided that no additional roadway capacity is provided. This funding will not be available for use on bridge maintenance, rehabilitation, or replacement projects. It is also envisioned that funding will be available to assist project sponsors bring the roadways for which they are responsible up to federal standards during the resurfacing process. This might include making safety improvements such as the addition of shoulders, shoulder stabilization, and straightening curves. It might also include adding pedestrian facilities and bringing roadway facilities into compliance with federal Americans with Disabilities Act (ADA) requirements. The 2035 Birmingham RTP financial plan identifies line item funding for these activities. The details of the programs will be defined by Birmingham MPO staff with guidance from the MPO’s committees.

This roadway resurfacing program, dubbed the Transportation System Maintenance Fund (TSMF), is intended to ensure that the maintenance needs of the existing transportation system are being met so that (a) transportation infrastructure is maintained in a state of “good repair”, and (b) the useful life of transportation infrastructure is extended. Assistance will be provided to projects that necessitate significant capital expenditures such that the project would be included in the Transportation Improvement Program, and are subject to the MPO’s minimum project cost policy. Funding for everyday pothole patching or crack sealing types of operations that are typically funded with local maintenance funds outside the TIP are excluded from using these monies.

Over time, as resources become available and/or additional transportation system maintenance needs are identified, the Birmingham MPO might consider making the TSMF available to pay for the reconstruction of existing roadways where the road is being rebuilt “down to the dirt”. Roadway reconstruction activities include measures such as tunnel or retaining wall (re)construction that are related to maintaining operations on an existing roadway, and wetland banking, which are directly related to a reconstruction project. It does not include projects that involve a combination of reconstruction and capacity expansion (adding through lanes).

B. Project Development
On the project development side, sponsors of new transportation system infrastructure will be asked to provide life-cycle cost information about their project in order that the Birmingham MPO and the project sponsor might better understand full cost of the infrastructure. This would include the costs for major
maintenance and rehabilitation activities beyond the initial construction costs. Finally, this approach will be used to help manage expectations. That is, it will inform project sponsors of the true costs to operate and maintain the infrastructure so that when these needs become manifest they do not have an unreasonable expectation that the Birmingham MPO will provide funding.

C. Signal Asset Management Systems
The RTP proposes to develop a regional Signal Asset Management System (SAMS) to be included with other asset management data collected by the Transportation Data Center. SAMS is envisioned as a tool to improve traffic signal planning, design, installation, maintenance, and operation by serving as a repository of traffic signal information (e.g., locations, type and age of equipment, traffic signal permits, signal conditions, timing plans, and other pertinent information).

In addition to obtaining a better understanding of signal assets, the Birmingham 2035 RTP also proposes that a Traffic Control Device Management System be included within the newly established transportation data center and that the traffic control devices owned and operated by the State of Alabama, Jefferson and Shelby Counties, and the region’s many local jurisdictions will be inventoried. Collection of this data will enable comprehensive, corridor-wide regional travel strategies to be undertaken and help local governments to better understand the location and number of traffic control devices that they may be required to maintain. This in turn helps them to limit their exposure to liabilities.

The development of these management systems is predicated on completing an inventory of traffic signals and other traffic control devices within the Birmingham metropolitan transportation planning area. The RTP proposes to build upon ongoing activities associated with the Birmingham Regional Congestion Management Process, particularly the Transportation System Monitoring Program’s Regional Transportation System Data Center (Transportation Data Center). The Transportation Data Center collects and disseminates information about the Birmingham metropolitan transportation planning area’s transportation system to include traffic counts, travel times, transportation asset conditions, and other characteristics. The Transportation Data Center is in the process of developing a website that will serve as a clearinghouse for information and provide tools including multi-municipal agreements, cost/benefit information on signal maintenance and upgrades, and training opportunities.

5.4.5 Transportation System Safety and Security

In the United States, over 42,600 people lost their lives in 2006 (117 daily) through traffic crashes, making motor vehicle crashes the leading cause of death for persons aged 4 to 34. These crashes result in an annual economic impact of $230.6 billion, an amount equal to 2.3 percent of the gross domestic product, or $820 for every person living in the United States.

For states and metropolitan areas struggling with congestion on freeways and other major roads, crashes represent a major source of congestion (referred to as “non-recurring” congestion due to its unpredictable frequency). Some estimates blame between 50 and 70 percent of urban congestion on crash-related incidents.

Safety has traditionally played an implicit role in organizations that plan and maintain highways and other surface transportation assets, though it was not always identified as a specific element in the long-range planning process. The importance of safety planning from a regional and statewide level was first recognized with the federal transportation bill TEA-21 and further emphasized in SAFETEA-LU.

SAFETEA-LU established a Highway Safety Improvement Program that is structured and funded to make significant progress in reducing highway fatalities. It nearly doubles the funds for infrastructure
safety. With safety being such a large emphasis item, the Alabama Department of Transportation has implemented a Comprehensive Highway Safety Plan (CHSP). The Birmingham MPO, like all other metropolitan planning organizations in the State of Alabama, is a partner in this effort. The Birmingham MPO understands that there is a clear need for safety to be considered as part of the planning process. The cooperation of many different agencies and groups involved in safety-related programs and efforts is critical in coordinating activities and exchanging information to make safety program activities more successful. For the years 2004 to 2006 alone, 126,567 crashes involving 341,603 people occurred within the transportation planning area, resulting in 313 fatalities and 3,191 serious injuries.

While virtually every transportation project improves safety by bringing the transportation network up to current design standards, there are also maintenance related stand-alone projects that may help address specific safety issues. Projects to eliminate sight distance problems at intersections, projects that improve at-grade highway-rail crossings, projects to improve pedestrian safety, and other projects that address areas with high accident rates or crash clusters may be remedied as part of the major maintenance activities. These types of projects shall be supported by the Birmingham MPO.

In order to improve transportation safety in the Birmingham metropolitan planning area, the Birmingham MPO is proposing the development of a Regional Safety Report as part of its normal planning functions. The safety report will serve as a resource document on general crash statistics in the transportation planning area as well as on a statewide and national level. It is envisioned that the report will provide an analysis of the most current crash data to determine where high-crash locations occur and what type of unsafe travel behaviors are prevalent in the transportation planning area.

The Birmingham metropolitan planning area’s communities are in agreement with ALDOT’s goal to reduce the number of fatalities statewide. While the transportation planning area’s fatality rate per 100 Million Vehicle Miles Traveled is below 1.0 (0.86 in 2006), it continues to be imperative to maintain and even lower fatality and injury levels of crashes. The Birmingham MPO and its stakeholders work on and plan to utilize a variety of activities that address the safety issues in the region. The MPO is greatly involved in local safety planning activities and has led the development of corridor specific safety plans, as well as taken steps to raise the awareness of non-motorized travelers’ (specifically cyclists) rights to access and use of roadway transportation facilities. While these projects were developed to address issues specific to a corridor or travel mode, they all have the same goal: To reduce the number of crashes in the transportation planning area through engineering, education, enforcement, and emergency management.

Many of the safety strategies identified in this plan have their origins in the discussion and feedback provided to the Birmingham MPO staff by the Birmingham MPO’s Transportation Citizen’s and Transportation Technical Committees, as well as the community planning process where stakeholders are able to speak with MPO staff face to face. However, a number of the proposed safety strategies were born from simple analyses of crash data. It is the Birmingham MPO’s objective to relate its safety efforts to ALDOT’s emphasis areas described in the Comprehensive Highway Safety Plan for Alabama. These five emphasis areas are structured as:

1. Emergency Medical Services
2. Restricted Drivers
3. Safety Legislation
4. Risky Driving, and
5. Run-Off

In addition to the ALDOT emphasis areas, the Birmingham MPO provides added attention to:
The five ALDOT emphasis areas and strategies to implement these are described in detail within The Comprehensive Highway Safety Plan for Alabama. The Birmingham MPO’s supplementary emphasis areas are described in the following subsection.

A. Regional Safety Strategies

The public expects, and demands, that the transportation system be safe and efficient for all users. Transportation is an essential part of modern existence, linking the various activities in which people participate: home, work, school, shopping, and recreation. Unfortunately, fatalities and injuries from motor vehicle crashes are a major public health problem.

In order to improve our transportation system, safety needs to be addressed from a perspective that not only considers current deficiencies in the infrastructure or social and behavioral shortcomings but also provides residents the chance to rethink and change travel behavior. Such efforts would include the implementation of transportation demand and land use planning strategies that provide for a multi-modal, safe, and efficient transportation system. The Birmingham metropolitan planning area should be a statewide leader in providing safe and efficient transportation access to all people through strategies that work across jurisdictions, agencies, and disciplines.

Safety Action Plan

- Support the Alabama Department of Transportation’s Highway Safety Plan recommendations;
- Provide high-quality crash data
- Improve communication between law enforcement, medical professionals, and crash data users
- Address unsafe locations and behaviors, as well as at-risk transportation users, through engineering, enforcement, and education
- Support multi-agency and inter-jurisdictional collaboration to share information and reduce redundant efforts

In the long term, safety planning needs to develop strategies that reduce vehicle miles traveled to best provide a safe and efficient transportation system that is available to all people and transportation mode user groups. These strategies need to be multi-jurisdictional and interdisciplinary and all agencies involved in transportation safety and planning should be actively involved in the discussion. Proposed safety emphasis areas are presented in the following text.

Emphasis Area 1: Improve the Quality, Availability, and Usability of Crash Related Data

- The quality, availability, and usability of data is essential to addressing Incident and Emergency Management and for transportation safety planning. Complete and accurate crash data on which to base planning activities is an essential part this process. The State of Alabama uses the Critical Analysis Reporting Environment (CARE) software, a data mining tool used to process and report safety data. CARE is considered to be one of the premier tools for safety analysis, and the software provides comprehensive summaries of the factors that contributed to fatal crashes. The CARE IMPACT module uses data mining techniques to evaluate particular factors in order to trace crash causes and effects. While the CARE database has proved extremely helpful in assisting the Birmingham metropolitan planning area in its
One such data improvement involves the use of Geographic Information Systems (GIS). GIS will enable the Birmingham metropolitan planning area’s high-crash locations to be addressed with greater accuracy. Understanding where most of the crashes occur is essential to finding solutions particularly for engineering and enforcement. Identified high-crash locations determined through analysis with GIS will be shared with the appropriate governments in order that they might determine if current projects already deal with these safety concerns. If not, it is hoped that the information will assist the jurisdiction to determine whether or not it should seek to develop a new project and/or seek funding to address affected intersections and roadway segments. It is envisioned that any GIS analysis will focus on arterial roadways, excluding the interstates and freeways, as these locations should already be addressed by ALDOT’s highway safety program.

Other uses of the GIS in transportation safety planning include:

- Use of GPS technology to increase the accuracy of locating crashes and assisting in the Incident and Emergency Management process. GPS technology can also be used to augment and/or supplement crash data
- Use of GIS to identify “gaps” in the reasonable access to emergency service response. That is, use GIS to determine expected response times to crashes, and identify areas where expected response times exceed reasonable acceptability

In addition to using GIS to assist in transportation safety planning efforts, improving the quality of crash data will help to prioritize projects. With every update of the Regional Transportation Plan, existing and new roadway projects are identified and then evaluated based on a set of project prioritization criteria. The criteria all relate to the three regional transportation goals. Safety is one of the criteria. The Birmingham MPO staff would like to have a more quantitative methodology on which to assess a project’s impact on transportation safety, and desires that a “Safety Score” for each project be developed in order to prioritize high-crash locations.

Many safety efforts are focused on highways and towards motorists while pedestrians or bicyclists receive less attention. The Birmingham MPO has been an advocate for non-motorized travelers and continues to bring related safety issues forward, both on a regional and statewide level. Additional information is needed to break this data down so that crashes by travel mode might also be evaluated. In particular, pedestrian and bicycle crash data is needed in order to inform the design of roadway facilities in order to accommodate non-motorized travel modes, and to identify appropriate countermeasures.

In order to enhance pedestrian and bicycle safety from a more regional perspective, the Birmingham MPO and its members will continue to identify areas with high non-motorized traffic, such as university campuses. These efforts require collaboration between law enforcement, hospitals, advocacy groups, and both State and local transportation departments to look at the problem. The Birmingham MPO already subscribes to the Federal Highway Administration’s guidance on Routine Accommodation which requires pedestrian and bicycle facilities to be included in any projects that use federal surface transportation funds. The Birmingham MPO has taken the next step, and has developed a Complete Streets Policy that directs all projects that use federal funds attributable to the Birmingham MPO adequately accommodate all travelers, regardless of travel mode, in the public right of way.
Emphasis Area 2: Address Congestion Related Crashes - Many of the described strategies are reactive measures. Reacting to existing safety issues and concerns is obviously important, but, in order to improve the transportation system as a whole, there is a need to act and plan for long-term safety. Instead of focusing on one specific location, one specific mode, or one specific behavior, there is a need to address safety with a variety of strategies related to safety as the outcome of increased traffic volumes on the street. Much of the congestion today is the result of a crash. The congestion then often contributes to secondary crashes. While traffic volumes in the Birmingham metropolitan planning area are already high, they are expected to increase even more in future years due to dispersion and growth of the population, as well as job growth. Congestion is certainly a safety concern. It also contributes greatly to poor air quality and other negative issues including, but not limited, impacts to the region’s overall economic vitality.

The Birmingham MPO is a strong advocate of improving safety on our roadways through transportation demand management strategies. Engineering, education, and enforcement are necessary components of increasing safety, but reducing the number of cars on the road can help even more. Implementing TDM strategies can serve as a proactive measure in preventing crashes by lessening congestion and increasing awareness of non-motorized travelers who use the roadway. In this regard, safety planning, land use planning, environmental planning, and multi-modal transportation planning utilizing Intelligent Transportation System technologies are closely linked with each other.

Emphasis Area 3: Support Multi-Agency/Multi-Jurisdictional Cooperation - Communication and collaboration is very important in achieving common goals with the least amount of resources. Sharing information and activities is done through the various committees and collaborative efforts at both the regional, local and statewide levels.

A recommended strategy of the 2035 Birmingham RTP is the development of communication tools that support collaboration. It is envisioned that a website solely dedicated to transportation safety be created, and that this website incorporate links to elements of the State Highway Safety Plan, metropolitan planning are a focused safety reports, corridor specific safety plans, safety initiatives, news links, and contact information. As described previously, the Birmingham MPO initiated a project to develop a regional transportation data center specific to the Birmingham metropolitan planning area. This proposed web portal should be linked to the transportation data center where it may be utilized as the transportation safety information clearinghouse.

Another recommendation for multi-agency/multi-jurisdictional cooperation builds off of the work conducted by the University Transportation Center for Alabama on the Comprehensive Highway Safety Plan for Alabama. The Safety Management, Action and Resources Task Force (SMART) that was brought together to help craft the State’s Highway Safety Plan discussed collaborative efforts to improve statewide trauma care. The 2035 Birmingham RTP recommends bringing together the transportation planning area’s trauma programs and other organizations interested in injury prevention in order that a dialogue might be established and common strategies developed to improve the information connection between crash data and hospital trauma data. The overall objective of the exercise will be to reduce injuries related to vehicular crashes and other transportation incidents.

Cooperation is the key to achieving improvement in safety for the transportation planning area. Agencies that oversee safety for the Birmingham area must continue to pull resources together to better identify and address issues impacting the community. It is with this cooperation and commitment that safety can be made a foundation for effective planning for the future.

Emphasis Area 4: Improve the Ability of First Responders - First responders, specifically in the rural communities of the transportation planning area, should be able to care for trauma victims at the crash site
as this would serve to reduce response times. As determined by the State highway safety plan, additional training for law enforcement and other non-EMS first responders would go a long way in helping to improve the survivability of seriously injured crash victims. The State plan also recommends that Volunteer Fire and Rescue Squads’ equipment be upgraded and/or configured differently, and that additional resources be provided in order to enhance response to trauma needs at crash sites including the ability to transport victims.

B. Regional Security Strategies

The transportation networks serve as the backbone of commerce and quality of life in communities. During emergencies, these networks allow first responders to reach the event site and to stage and manage operations. The Birmingham metropolitan planning area is subject to significant threats, such as floods, tornados, severe thunder storms, hurricanes, and severe drought. More recently, terrorism has been added to the threats that the region must prepare against. When a disaster occurs, infrastructure damage may severely restrict the abilities of emergency responders to provide service following a disaster. There is also a cascading effect on the infrastructure: transportation, utilities, communications, fuel, and water; the services and delivery systems on which we depend. When one of these critical elements in the support system breaks down, it has a domino effect on other elements. When multiple elements break down, the effect can be crippling.

The unexpected and complex nature of these natural and human-caused incidents requires extensive coordination, collaboration and flexibility among all the agencies and organizations involved in planning, mitigation, response and recovery. Transportation agencies support traffic control, damage assessments and the restoration of critical services, and ensure that public safety objectives, ranging from alternate routing around an incident scene to evacuations that require longer-term mode shifts during recovery are managed effectively. A continuing, cooperative and collective regional effort is needed to assist the region in the planning, preparation and response to emergencies, whether caused by natural or human elements. To assist in this effort, this subsection of the chapter identifies the Birmingham MPO’s potential role and responsibility in regards to homeland security and relative to other jurisdictions and agencies. It describes the current programs at the federal, state and local levels and identifies security issues in the transportation infrastructure. Previous, current, and future activities that support the strategies noted above will be identified as the Birmingham MPO works to achieve its goal and vision for the transportation security planning program. Table 5.11 illustrates the types of emergency events that impact transportation agencies.

The Birmingham MPO strategy for addressing transportation system security has relied heavily on identifying vulnerabilities in the transportation network and addressing them through the provision of redundant systems. While identifying system vulnerabilities is good, it is also necessary to develop the newly identified transportation system security planning strategies. These strategies are intended to help the Birmingham MPO and its planning partners to further strengthen the security of the transportation planning area’s transportation network.

Strategy 1: Work to promote and strengthen local emergency preparedness efforts

The Birmingham MPO is in an excellent position to act as a convener, coordinator, communicator, and advocate for training, planning, partnering, and funding opportunities from local, state, federal, or private resources within the Birmingham metropolitan planning area. A critical hole in the local emergency preparedness efforts of the Birmingham metropolitan planning area’s transportation system security planning is the lack of coordinated communications between local community first responders, the Alabama Department of Transportation, the county Emergency Management Agencies, and the traveling public. The Birmingham MPO has initiated discussions with the Alabama Department of Transportation, the Jefferson County Emergency Management Agency, and first responders about the potential for each of the agencies to better communicate with one another, as well as getting information to the public.
Strategies to close this hole were presented previously in this chapter under the Incident and Emergency Management discussion.

The Birmingham MPO also believes that the Evacuation Strategy (Population Protection and Evacuation EF-17) of the Comprehensive Emergency Management Plan’s for both Jefferson and Shelby Counties might be augmented in order to provide additional guidance and/or details regarding the evacuation needs of specific to transportation dependent populations. It is envisioned that this effort will integrate existing emergency preparedness plans and highlight the affected populations along with identified service gaps. It is also envisioned that officials representing transportation providers, Emergency Management Agencies, medical service providers, and human service organizations, both in the transportation planning area and in its adjacent rural counties, will collaborate on the development of strategies to ensure that these populations are provided multiple ways to access transportation during an evacuation situation.

Other activities, communications components and/or tasks that will be conducted, assembled, and completed as part of the MPO’s effort to address transportation security needs include:

- Memoranda of Understanding (MOUs) between public and private agencies
- Interagency pre-event logistics plans, (e.g. coordinate traffic signal systems)
- Creation of a mechanism for regional dispatching of resources
- Establishing a list of public and private transportation equipment and material suppliers;
- Ensuring timely information sharing of credible threats through all levels of government and hospitals
- Ensuring efficient information flow between all agencies and the public
- Standardize emergency field communications equipment
- Creation of a back-up traffic management center

Already, some of this is occurring. The discussion of the Incident and Emergency Management strategy presented earlier in this chapter described the work of the Incident Management Function Task Force related to the identification and deployment of advanced communications tools, specifically those that would enable cross-agency/cross-jurisdictional communication and information sharing. The Birmingham MPO will continue to serve in the roles of convener, coordinator, communicator, and advocate in order that processes like the one used with the Incident Management Function Task Force can continue to make good on its promise to bring disparate parties together.

**Strategy 2: Promote the improvement and maintenance of the transportation network**

There are several transportation system maintenance issues related to homeland security and emergency preparedness, particularly those that address Intelligent Transportation System Technologies, that need to be addressed as the transportation system continues to develop. These would include:

- Continued deployment and promotion of the use of intelligent transportation system technologies that enhance transportation security
- Integration of emergency preparedness components into the regional ITS architecture
- Emergency infrastructure repair
- Working with local, state and federal agencies to ensure the rapid repair of transportation infrastructure in the event of an emergency

**Strategy 3: Promote and encourage prioritization of projects and policies that incorporate emergency and security aspects.**

A recommendation of the 2035 Birmingham RTP is to identify and designate projects based on the system security needs and prioritizing them within the Transportation Improvement Program. Much like the determination of a project’s safety score, better information is needed to develop a quantitative
methodology to establish a transportation security “score”. The development of a ‘Transportation Security TIP’ will ensure the safety of the region’s transportation system and prioritize critical transportation infrastructure.

A large part of the transportation planning area’s transportation security deficiencies is related to land use, and the development regulations that drive the placement, design, and access conditions of local roadways. The 2035 Birmingham RTP continues to advocate for the integration of transportation and land use planning efforts and encourages the expansion of the Birmingham MPO’s Building Communities Grant Program. This program is incrementally assisting the transportation planning area’s communities to develop comprehensive plans, which include a major thoroughfare plan element, that considers its relationship with land uses and enables the establishment of transportation infrastructure and land use practices that promote and enhance security. In doing so, adopted plans might be considered favorably in the MPO’s project prioritization methodology.

C. Potential Birmingham MPO Roles in Transportation Security Planning
The metropolitan transportation planning process does not generally incorporate security considerations as an integral component, transportation agencies have traditionally focused on the development and maintenance of their infrastructure, leaving operational, safety, and security responsibilities to local police and fire departments. This, like everything else, is changing and the events of September 11, 2001, as well as the Gulf coast hurricanes in 2005 have made it quite clear that effective coordination and communication among the many different operating agencies in a region and across the nation are essential. Such coordination is needed to allow security and safety responses to occur in an expeditious manner, while at the same time permitting the transportation system to handle the possibly overwhelming public response to the incident. Parallel to this is the need to ensure that the public has clear and concise information about the situation and what actions they should take.
Table 5.11 Emergency Events Impacting Transportation Agencies

<table>
<thead>
<tr>
<th>Naturally Occurring</th>
<th>Manmade/Human-Caused</th>
<th>Unintentional</th>
</tr>
</thead>
<tbody>
<tr>
<td>Droughts</td>
<td>Bomb Threats and Other Threats of Violence</td>
<td>Accidental Contamination or Hazardous Materials Spills</td>
</tr>
<tr>
<td>Dust/Wind Storm</td>
<td>Disruption of Supply Sources</td>
<td>Accidental Damage to or Destruction of Physical Plant and Assets</td>
</tr>
<tr>
<td>Earthquakes</td>
<td>Fire/Arson</td>
<td>Accidents that affect the Transportation System</td>
</tr>
<tr>
<td>Electrical Storms</td>
<td>Fraud/Embezzlement</td>
<td>Gas Outages</td>
</tr>
<tr>
<td>Floods</td>
<td>Labor Disputes/Strikes</td>
<td>Human Errors</td>
</tr>
<tr>
<td>High Winds</td>
<td>Misuse of Resources</td>
<td>HVAC System Failures or Malfunctions</td>
</tr>
<tr>
<td>Hurricanes</td>
<td>Riot/Civil Disorder</td>
<td>Inappropriate Training on Emergency Procedures</td>
</tr>
<tr>
<td>Ice Storms</td>
<td>Sabotage: External and Internal Actors</td>
<td>Power Outages</td>
</tr>
<tr>
<td>Landslides</td>
<td>Security Breaches</td>
<td>Software/Hardware Failures or Malfunctions</td>
</tr>
<tr>
<td>Naturally Occurring Epidemics</td>
<td>Terrorist Assaults Using Chemical, Biological, Radiological, or Nuclear Agents</td>
<td>Unavailability of Key Personnel</td>
</tr>
<tr>
<td>Snowstorms and Blizzards</td>
<td>Terrorist Assaults Using Explosives, Firearms, or Conventional Weapons</td>
<td>Uninterruptible Power Supply (UPS) Failure or Malfunction</td>
</tr>
<tr>
<td>Tornadoes</td>
<td>Theft</td>
<td>Voice and Data</td>
</tr>
<tr>
<td>Tropical Storms</td>
<td>Vandalism</td>
<td>Telecommunications Failures or Malfunctions</td>
</tr>
<tr>
<td>Tsunamis</td>
<td>War</td>
<td></td>
</tr>
<tr>
<td>Wildfires</td>
<td>Workplace Violence</td>
<td>Water Outage</td>
</tr>
</tbody>
</table>


Homeland security has emerged as a major public policy field and is forcing many metropolitan areas in the country to realize the need for a regionally cooperative and collaborative approach in planning, preparation and response to emergencies, whether caused by natural or human elements. This increased emphasis on security is also reflected in SAFETEA-LU which specifies that MPOs shall conduct a metropolitan planning process that provides for consideration of projects and strategies that will “increase the security of the transportation system for motorized and non-motorized users.”

Dr. Michael D. Meyer of the Georgia Institute of Technology developed a model that enables MPOs to evaluate their potential role in homeland security in relationship to various phases of an incident or disaster. This model was applied in order to assist the Birmingham MPO’s define what its role might be in a disaster situation. As defined by Dr. Meyer, a security or disaster incident consists of the following six elements:
1. Prevention: Stopping an attack before it occurs; improved facility design; surveillance, monitoring
2. Response/Mitigation: Reducing impacts of an attack; evacuation; identifying best routes; effective communication system
3. Monitoring: monitoring and evaluating incidents; surveillance, monitoring, sensing, public information
4. Recovery: facilitating reconstruction, restoring operation of transportation system
5. Investigation: determination of causes, and responsible parties; security/police activity
6. Institutional Learning: self-assessment of actions; feedback to prevention element

As defined by the Association of Metropolitan Planning Organizations (AMPO), the roles of MPOs in regional planning vary from region to region. These may range from:

- **Traditional**: System management and operations role in ongoing transportation planning activities. The primary responsibility for projects rests elsewhere
- **Convener**: The MPO acts as a forum where operations plans can be discussed and coordinated with other plans in the region, still not responsible for operation and implementation
- **Champion**: The MPO works aggressively to develop regional consensus on operations planning. MPO planners develop programs and projects and the MPO takes the lead in developing regional agreements on coordinated operations
- **Developer**: MPO develops regional operation plans and incorporates operations strategies into the transportation plan. System-oriented performance measures would be used to identify strategic operations gaps in the transportation system
- **Operator**: The MPO would be responsible for implementing operations strategies that were developed as part of the MPO-led planning process

The Regional Planning Commission of Greater Birmingham (RPC), in its role as both a metropolitan planning organization and as a regional planning agency, can play a lead role in some areas, a minor role in others, or play no role at all. For example, the RPC has no role in the investigation aspect of security, only a minor role, as champion, in the recovery phase. However, the agency can play a lead role in championing and convening prevention and developing the institutional learning.

Table 5.12 illustrates potential roles of an MPO in regards to various phases of an incident based on its type and function. The role of the RPC, because of its traditional role in hosting the Birmingham MPO, is best suited to provide a forum where plans and data can be developed and coordinated with other regional planning efforts and would work towards developing regional consensus. This does not mean that the Birmingham MPO should abdicate its mandated transportation planning functions as a result of interagency struggles, terrorist attack or a man-made or natural disaster. As neither the RPC nor the Birmingham MPO has virtually any role in implementation, and there are various organizations already responsible for security planning and response, the key goal is to ascertain how RPC, in its role as the host of the Birmingham MPO, can enhance the security planning and activities already in place. The RPC could play a significant role in helping both the transportation planning area and the larger Greater Birmingham region which hosts the Heart of Alabama Rural Planning Organization counties, to coordinate planning in preparation and anticipation of potential future incidents and coordinate public information dissemination strategies.
Another way to incorporate security into transportation planning is through greater collaboration between transportation planning and operations. Interagency and cross-jurisdictional collaboration is particularly critical in congested corridors where numerous jurisdictions, agencies, and service providers are responsible for safety, security, and efficiently operating various aspects of the transportation system. A tool to assist with this is ITS.

ITS projects were originally designed to increase transportation efficiency. It was recognized early on that ITS investments may also serve to enhance the safety, security and emergency response capabilities of the region. ITS tools can aid in monitoring of the system to ensure that no infrastructure failures are in place as well as the preparedness for dealing with situations where the roadway network fails or where the roadway network could fail due to overcapacity usage. In this case, planning includes having a communication and cooperation strategy in place that contains the number and type of resources available in the region and the offices that are equipped to dispatch those resources to the locations and residents in need. A strategy plan should, therefore, include elements such as routing, sheltering, or public education.

### 5.4.6 Summary

There is a great deal of metropolitan level transportation planning occurring throughout the Birmingham metropolitan planning area. However, there remains a strong insular view of transportation planning that presents a challenge to execution of regional plans in a truly regional (inter-jurisdictional) manner. The Birmingham MPO has tried to drive home to its members that the Greater Birmingham region’s communities and organizations are interdependent, making regional cooperation and coordination essential to security. No significant emergency incident or event is truly local, as political boundaries are
not barriers to disasters, and local critical infrastructure may serve the entire region. No jurisdiction stands alone. The high risk, well-resourced municipality may be as dependent on a smaller jurisdiction for support in an emergency as the smaller jurisdiction is on a larger one.

The Birmingham MPO will continue to bring stakeholders together, and will continue to assume a strong role in efforts such as corridor and transit planning. The Birmingham MPO will also continue to facilitate inter-jurisdictional efforts to address transportation needs and work closely with other regional and local bodies that undertake similar efforts. In addition, the Regional Planning Commission of Greater Birmingham, the Birmingham MPO and the Heart of Alabama RPO, ALDOT, and county EMAs, local governments, as well as non-profit and private sector agencies, could work together to facilitate more engagement of regional stakeholders in the metropolitan and regional planning processes. Such engagement could lead to more consistency between priorities and needs identified through individual emergency preparedness plans, especially as they relate to transportation security issues.

The role that is appropriate for the Birmingham MPO will very much depend on the political and institutional context for the region, and the expertise and capabilities of the Birmingham MPO and its host agency, the RPC. Clearly, the security, public safety and transportation operating agencies have the primary responsibility for responding to such incidents. However, outside of a disaster situation, when agencies have the opportunity to think about the requirements for a coordinated response to potential incidents, the Birmingham MPO, as a forum for cooperative decision making, as a funder of regional transportation strategies, and as a region's core capability in technical analysis of the transportation network, has a critical role to play. This role will continue to evolve over time, as priorities continue to be identified and relationships are built.
5.5 Highways, Streets and Roads Program

5.5.1 Introduction

Roadways are, by far, the Birmingham metropolitan planning area’s most intensive and visible transportation infrastructure investment. The primary goal of the Highways, Streets, and Roads Program is to provide guidance for implementing a comprehensive strategy that supports the transportation planning area’s investment in programs and projects that:

- Maintain the roadway network
- Modernize the roadway network
- Lead to better management of the roadway system
- Expand the roadway network within the boundaries of sustainability

This would include programs and projects that provide for improved traveler safety and transportation system security, and improves the movement of people and goods across the Birmingham metropolitan planning area’s highways, arterial roadways, and major collectors. Proposed activities and improvement projects related to the transportation planning area’s roadways are presented in the following discussion.

5.5.2 Congested Travel

The Birmingham metropolitan planning area’s growth in congested vehicular travel is summarized in Figure 5.15. This graph illustrates the expected percentage increase in vehicle trips, vehicle miles of travel (VMT) and vehicle hours of travel (VHT) for functional classified roadways from 2005 to 2035. Because of continued outward expansion of the transportation planning area, it is anticipated that 23 percent more vehicle trips will be generated. VMT, or the total distance traveled on the road by motorized vehicles, is expected to increase even more. This is a result of the sprawling nature of development and the increased length of trips. The final summary measure, VHT, or the total time motorized vehicles spend on the road, will increase significantly. This is the result of increased trip lengths and increased congestion causing each trip to take longer.

![Figure 5.14 in Congested Travel Growth](image-url)
The Birmingham Regional Congestion Management Process (CMP) is the umbrella framework for all of the different ways to identify and evaluate future motorized travel needs. This includes maintaining the regional travel model to prepare motorized traffic and transit forecasts and report on region-wide travel statistics. It also includes reviewing the results of planning activities undertaken by local communities and ALDOT. This includes local comprehensive and thoroughfare plans and the state’s long range plan. Another part of the CMP is special corridor or area studies that look in more detail at particular travel problems and identify, evaluate and recommend transportation projects. Recommended highway projects include:

- Isolated intersection improvements
- Minor arterial widening (adding turning lanes at intersections and upgrading facility to standard lane widths)
- Major arterial widening (adding through lanes)
- New arterial or collector roadways
- Conversion of four lane divided arterials to freeways
- Freeway widening (adding through lanes)
- Freeway Interchange modifications
- New freeway interchanges

The cost to develop and construct each project was estimated from the results of special studies or generalized ALDOT cost estimating procedures. In total the 260 projects contained in the fiscally constrained RTP (both capacity and non-capacity projects), and the visionary plan’s capacity projects, are estimated to cost $8.5 billion in year of expenditure dollars. However, not enough funding is expected to be available over the RTP’s 25 year horizon to construct everything envisioned. As a result, only $4.5 billion in highway and other non-capacity projects are included in the fiscally constrained RTP.

The projects and strategies which impact vehicular travel are primarily geared towards reducing the amount of congested travel. Specific highway projects impact congested travel directly. However, the other modes such as transit, bike and pedestrian facilities as well as travel demand management strategies also work to reduce congestion by reducing the number of vehicles on the roadways. A generalized project listing is provided in Table 5.14 (page 5-116) for each of the projects as determined by the project prioritization methodology. A detailed listing of projects that have been included in the fiscally constrained plan is included in Appendix 5C. Project List of 2035 Regional Transportation Plan (RTP) for the Birmingham Metropolitan Planning Area. This listing in Appendix 5C also identifies the approximate time frame that each of the projects is expected to be open to public travel. The project listing also provides these projects’ estimated cost both in current dollars (2010) and their year of expenditure (YOE). Additional detail about the RTP’s financial expectations and costs are provided in Chapter 6.

5.5.3 Roadway Modernization Strategies

Modernization of the Birmingham metropolitan planning area’s highway system has several major advantages ranging from improvements to the overall quality of life to improvements to traveler safety and system security.
A. Roadway Safety Improvements: The “3E” Approach

The Birmingham metropolitan planning area will continue to address safety concerns in the development of all projects using the three E (3E) strategies of engineering, education, and enforcement. Strategies might include improvements to roadway shoulders in order to alert drivers, minimize roadway departures, and provide a safe space for disabled vehicles to be removed from the traffic stream. Other strategies might include those that improve roadway visibility, reduce travel speeds (where necessary), improve cyclists and pedestrian travel, and prevent cross-over crashes. The interstate lighting replacement on I-20/59 is an example of the type of safety project that the Birmingham metropolitan planning area will pursue. Other transportation system safety improvements that are needed in the Birmingham metropolitan planning area, which are supported by this RTP, include:

- Stripping and signage upgrades on all area interstates and arterial roadways to improve retro-reflectivity
- Lighting replacement projects on I-65 south of its junction with I-20/59 to SR 119
- Lighting replacement projects between I-459 between US 280 and I-59
- Roadway shoulder expansion and/or improvement (where necessary)

The RTP seeks to address transportation system safety and security by identifying programs and projects that speak directly to situations that contribute to congestion such as traffic incidents. It also addresses safety and security by identifying strategies to help preserve the transportation system and overcome vulnerability issues. Additional discussion on the movement of information, and how it impacts transportation security will be presented later in this chapter.

B. Transportation System Security

The security of the regional transportation system is an ever increasing priority. It is critical to ensure that the highest levels of security are provided for the users of the regional transportation system and that appropriate measures are taken to restrict access to critical transportation infrastructure. For starters, transportation network, like the interstate system, freeways, and arterial roadways, are the backbone of modern society. Consequently, the reliability or vulnerability of the transportation network is a critical factor not only in terms of market outreach and competition, but also in terms of continuity, especially as it relates to ensuring the 24/7 operation of the Birmingham metropolitan planning area’s communities. Any major accident or disturbance often illustrates exactly how vulnerable the transportation infrastructure is to disruption. These disturbances also remind system users, businesses, and transportation agencies how easily commuting, freight transportation, and general travel can be disrupted. It also reminds transportation system planners and operators of just how little it sometimes takes to disrupt the system’s reliability and impact its safety.

A key component of the Birmingham metropolitan planning area’s strategy to addressing transportation system security lies in the development of redundancy in the transportation network. Redundancy is the ability to utilize backup systems for critical parts of the system that fail. It is extremely important to consider in the development of a process or plan for emergency response and recovery.10 Ironically, the traditional development of cities along a grided street network offers some of the best security in terms of system redundancy. The Birmingham metropolitan planning area knows first hand the utility of having a redundant transportation system. On January 5, 2002, the southbound bridge of the I-65/20-59 route

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interchange was destroyed by a horrific crash and explosion. This forced the closure of both southbound and northbound I-65 through the heart of the Birmingham Central Business District. The redundancy of the surface transportation system allowed traffic to be redirected around the affected area. The transportation system was again tested when the westbound bridge of I-20/59 in the same route interchange was destroyed three years later.

The level of redundancy in the surface roadway transportation system that minimized congested conditions resulting from directional closures on the interchange is lacking in the suburban communities of the Birmingham metropolitan planning area. This is particularly evident along the US 280 corridor where there are essentially no parallel alternative travel corridors. The number of major east-west travel corridors, especially in northern Jefferson County and Southern Jefferson County, offers few redundant travel routes in the event of an emergency. Additionally, the traditional development pattern of suburban communities in the Birmingham metropolitan planning area has actively discouraged redundancy and connectivity, instead favoring single points of access for communities along capacity deficient roadways and cul-du-sacs within communities.

C. Regional Thoroughfare Planning

Generally described under the conversation about functional plans in the previous section, the regional thoroughfare plan is a detailed document that defines the transportation network for the transportation planning area. The regional thoroughfare plan will specify a hierarchy of functionally classified roadways, designating the role of each major route within the context of the regional transportation network. At the same time there is a need to develop roadways that are sensitive to their surroundings, recognizing the context of the area(s) being served. It is envisioned that the regional thoroughfare plan will inform roadway design, and in informing roadway design future right-of-way needs might be addressed. The regional thoroughfare plan also considers the relationship and integration of all modes of surface transportation in keeping with the concept for development of complete streets. This presents an interesting challenge for the development of the transportation planning area’s transportation system in that while it is desired to develop all streets for all modes of transportation, in practice it is often undesirable to accommodate all modes on a given street. The Birmingham RTP has established as policy the consideration of all modes of transportation in order to develop complete streets. The regional thoroughfare plan will address this issue by looking at layered networks, and take into account inputs from the regional bicycle and pedestrian plan in order to create a system of priority routes for cars, bikes, pedestrians and freight. It is very likely that many of these will be on the same roadway. However, it is equally as likely that these will require different routing.

The regional thoroughfare plan, when developed, will respect the individual needs of transportation planning area communities, and establish a solution to provide safe and efficient travel of vehicles into, out of, through, and within the transportation planning area for a 25-year planning horizon to correspond with the RTP planning horizon. Coordination with the RTP will help to establish expected timelines for the implementation of proposed projects. It is important to note that specific roadway alignments and detailed cross-sections are not completely established in a thoroughfare plan. Proposed upgrades, new roads, and additional services are recommendations for elected officials, the Alabama Department of Transportation, and both county and local transportation departments to follow as development occurs. As the need for roadway upgrades and additions arise, additional site specific planning will be necessary.

In short, the development of a regional thoroughfare plan will aid the metropolitan planning process by:

- Balancing the rights of property owners to reasonable access with the public need for efficient traffic flow
- Supporting the Birmingham MPO functions by providing a Functional Classification Map
Achieving federal guidelines for metropolitan transportation planning emphasized through ISTEA, TEA-21, SAFETEA-LU

Providing guidance to local development ordinance requirements for right-of-way, building setback, and construction projects

Establishing cooperative relationships to other planning documents such as Comprehensive Plans or Land Use Plans to assist local communities to achieve their overall visions for development

D. Multimodal Roadway Development – Complete Streets

As will be discussed in more detail in the description of the Active Transportation Program, roadway modernization includes the development of “complete” streets. Complete streets are designed and operated to enable safe access for all users. Pedestrians, bicyclists, motorists and transit riders of all ages and abilities must be able to safely move along and across a complete street. In advocating for the development of complete streets as part of the roadway modernization component, the RTP is acknowledging that it must change its discussion about highways, streets, and roads away from a singular focus of developing these facilities primarily for cars. Instead, the discussion, policy guidance, and investment of both financial and technical resources should accommodate and/or support routine design and operation of the entire right of way to enable safe access for all users. This does not mean that drivers are excluded or minimized in policy development and consideration of commitments of resources; they are still the largest user groups of surface roadway transportation facilities. However, the RTP policies, programs and projects that address the development of roadways strongly supports the development of these facilities so that they also work for transit users, pedestrians, cyclists, older people, children, and people with disabilities.

In keeping with the theme of safety and security, modernizing roadways in accordance with complete street principles will help to improve traveler safety. A Federal Highways Administration safety review found that streets designed with sidewalks, raised medians, better bus stop placement, traffic-calming measures, and treatments for disabled travelers improve pedestrian safety. Some features, such as medians, improve safety for all users because they enable pedestrians to cross busy roads in two stages, reduce left-turning motorist crashes, and improve bicycle safety.

From a public health perspective, roadway modernization through complete streets encourages walking and bicycling which in turn improves the health of the user. The National Institutes of Medicine recommends fighting childhood obesity by establishing ordinances to encourage construction of sidewalks, bikeways, and other places for physical activity. One study found that 43% of people with safe places to walk within 10 minutes of home met recommended activity levels; among individuals without a safe place to walk, just 27% were active enough.

Other benefits of roadway modernization through developing complete streets include:

- **Congestion Relief** - Streets that provide travel choices can give people the option to avoid traffic jams, and increase the overall capacity of the transportation network

- **Air Quality** - Poor air quality in the urban area is linked to increases in asthma and other illnesses. Yet if each resident of an American community of 100,000 replaced one car trip with one bike trip just once a month, it would cut carbon dioxide (CO2) emissions by 3,764 tons of per year in the community. Complete streets allow this to happen more easily

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- **Fiscal Responsibility** - Integrating sidewalks, bike lanes, transit amenities, and safe crossings into the initial design of a project spares the expense of retrofits later. “By fully considering the needs of all non-motorized travelers (pedestrians, bicyclists, and persons with disabilities) early in the life of a project, the costs associated with including facilities for these travelers are minimized”\(^\text{12}\)

- **Community Cohesion** - Complete streets can play an important role in developing and strengthening livable communities, where all people – regardless of age, ability or mode of transportation – feel safe and welcome on the roadways. A safe walking and bicycling environment is an essential part of improving public transportation and creating friendly, walkable communities

### 5.5.4 Goods Movement Strategy

The Birmingham metropolitan planning area is strategically located at a geographic crossroads that enables goods to be transferred, and distributed to destinations across the United States and around the world via truck, rail, and air. One third of the total population of the United States can be reached by an overnight delivery. Homeland security, national economic competitiveness, international trade, and commodity flow issues rely on the efficient movement of goods through the Birmingham metropolitan planning area. The availability of an efficient, multimodal transportation network to move goods through the region is also essential to both the State’s and Central Alabama’s economic vitality. Recognizing the importance that goods movement plays in the regional, state, and national economies, the Birmingham MPO has begun active involvement in planning for the needs of this unique sector of the transportation planning area’s economy. Several modes of transportation are available in the region to facilitate the movement of goods. These modes include truck, rail, air, and pipeline. As a result, the goods movement network provides vital connections between producers and consumers within the state, nationally and internationally.

Freight and goods movement clearly has an impact beyond local, regional, state, and even national borders. Thus, the ongoing discussions regarding mega-regions are directly related to freight activities. In particular, global trading patterns are shifting, and a competitive advantage will belong to regions that can not only attract high skilled workers and businesses that employ them, but places that provide affordable housing options, a high quality of life, and transportation hubs that act as gateways to the global economy. The Birmingham MPO and its sister organization, the Heart of Alabama Rural Planning Organization, are working to position both the Birmingham metropolitan planning area and the Heart of Alabama RPO district as an attractive area for workers and businesses. It is also important that the Birmingham MPO and its planning partners understand the transportation planning area’s role in the larger mega region, and that freight challenges span beyond regional boundaries.

As the Birmingham metropolitan planning area begins to realize increasing successes in the goods movement industry, so does the danger that the transportation planning area will become a victim of that success by not planning for the future accordingly. There are several challenges to the improved positioning of the region’s competitive advantage. Bottlenecks threaten the efficiency and productivity of this sector of the region’s economy. New rail structures, special consideration of truck traffic needs, and coordination with intermodal and air cargo facilities are all needed to ensure that the transportation planning area continues to play an important role in national and international goods movement.

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\(^{12}\) Jeff Morales, former Director of Caltrans.
Challenge 1: Communication - A large portion of the freight transportation system is privately owned and operated. As a result, it is critical to develop partnerships between state, regional and local agencies with the private sector to coordinate and maintain efficient freight planning and implementation. One such strategy specifically designed to minimize miscommunication between freight carriers and local and state officials charged with maintaining the road and transportation systems that the carriers depend on is the development of a Freight Advisory Stakeholders group. A Freight Advisory Stakeholders group would enable transportation officials to work with businesses, state governments, and freight carriers to maintain a favorable position in the global supply chain. A key goal of this Freight Advisory Stakeholders group should be assisting new and existing businesses to efficiently serve their markets from the Birmingham metropolitan planning area by identifying investments in all types of infrastructure located both in and outside the region. Infrastructure investments might include intermodal facilities or highway improvements, as well as other traditional and non-traditional strategies. The Birmingham Metropolitan Planning Organization should seek to open a useful dialogue between freight carriers and officials on areas of common concern. Strategies might also look at ways to shift freight from the highways to other transportation modes in order to maximize available capacity.

Challenge 2: Congestion - Congestion in the transportation network presents a special challenge for the movement of goods. Several industries depend on just-in-time delivery in order to function, and the ability of the transportation network to minimize congestion, whether it is through physical mitigation measures, operational strategies, or system redundancy may be the difference between potential industries choosing to locate in an area. This has a direct impact on the economic outlook of the region in terms of both jobs for its residents and tax revenues.

One of the leading issues confronting the Birmingham metropolitan planning area is the proliferation of large trucks using the major highway system, particularly the interstate system. The bottom line is that trucks are both impacting and being impacted by congestion. Along the I-65 corridor between US 31 and Alford Avenue headed north, and Lakeshore Parkway and Alford Avenue headed south, truck traffic impacts congestion during both the morning and evening peak travel periods. A significant grade change in the roadway as it attempts to traverse Shades Mountain is the primary culprit of trucks slowing down as they climb the mountain. Additionally, in the I-65 northbound side of the roadway, a short merging section at the on-ramp from US 31 puts traffic onto the roadway before it has achieved the speed limit, often in the paths of trucks that are attempting to “slingshot” themselves up the mountain using momentum that they’ve gathered cresting the I-65/I-459 interchange. This has occasionally led to traffic incidents.

Congestion also impacts rail facilities. Improvements at the Ports of Mobile and New Orleans have increased the amount of container traffic that is being shipped on rail. CSX rail has begun to address this issue by double-tracking its primary route from the Port of Mobile all the way to Chicago. On February 17, 2010, Norfolk Southern was awarded a $52.5 million federal TIGER (Transportation Improvements Generating Economic Recovery) discretionary grant to assist in the development of a new intermodal facility in the Birmingham metropolitan planning area. The facility is meant to make possible the movement of containerized cargo from truck to rail and vice-versa. The Alabama State Port Authority has also proposed linking the new $300 million container facility at the Port of Mobile with the planned McCalla facility as well. In addition, Norfolk Southern has stated that they will be pursuing improvements to the entire Crescent Corridor route in order to facilitate faster movement of goods. Trains must also slow their speed when they travel through communities with at-grade crossings. This impacts the average speed of the train as well as contributes to the congested conditions of the streets that cross the rail line. Both the Birmingham MPO and the Alabama Department of Transportation are actively looking to reduce the number of at-grade rail crossings, and making those crossings that cannot be eliminated safer.
Challenge 3: Accessibility - The accessibility of manufacturing and distribution facilities to the transportation network, specifically the facilities and roadways that accommodate goods movements and freight travel is also a challenge. Historically, the Birmingham MPO has supported projects that addressed access to intermodal facilities to include funding for the development of access roadways, improvements to curb turning radii at intersections with heavy truck movements, and roadway capacity improvements on heavily travelled truck corridors. The Finley Avenue project has its genesis as a freight project as well, originally being conceived to accommodate truck traffic between US 78 and State Route 79, paralleling I-20/59 as it travels through downtown Birmingham, providing an alternative route for truck traffic, as well as linking rail-to-truck intermodal facilities and the Birmingham-Shuttlesworth International Airport. The RTP supports projects that address access improvements or direct improvements to the rail freight or aviation networks. This includes projects that improve the integration of modes such as intermodal terminals.

A. Strategies for Improving Goods Movement

The Birmingham MPO is at the beginning phases of its freight and goods movement strategic planning program. In the absence of collaboration with a dedicated freight stakeholders committee, the Birmingham MPO has identified four specific strategies to address freight and goods movement in the Birmingham metropolitan planning area.

1. Collect, analyze, and disseminate data to include:
   - Maintenance of a database of freight components in the Birmingham metropolitan planning area
   - Continuous data analysis of developing trends
   - Meeting one-on-one with communities that are impacted by freight
   - Providing timely information via the web

2. Monitor transportation legislation that impacts the freight/goods movement community

3. Monitor and help coordinate regional efforts pursued by other public sector and private sector groups

4. Identify strategies and improvements that maximize air, rail, and truck modal contributions to the flow of goods
The Birmingham MPO is in the process of developing a freight specific functional plan in order to supplement the 2035 Birmingham RTP. It is envisioned that the regional freight and goods movement plan will assist the MPO to better understand interregional and intraregional freight flows. Additionally, the plan will help the MPO to identify deficiencies in the transportation planning area’s transportation system that directly impact goods movement. The plan will also help to identify strengths and opportunities on which the transportation planning area’s planning partners should capitalize. While recommendations presented throughout the 2035 Birmingham RTP will improve goods movement – for instance, projects and strategies that address congestion not only help the commuting traffic but also the movement of goods – items in this section address goods movement specifically.

Physical improvements to existing transportation facilities and infrastructure include those identified by the I-65 Mobility Matters project. The corridor specific alternatives analysis is currently being led by the Birmingham MPO in conjunction with the Birmingham Jefferson County Transit Authority and the Alabama Department of Transportation, and has recognized the impact that trucks have on the existing traffic flow. Initial recommendations from the study have recommended truck climbing lanes on I-65 northbound between US 31 and Alford Avenue. The study has also recommended the placement of truck climbing lanes along I-65 southbound between Lakeshore Parkway and Alford Avenue. Additionally, Mobility Matters recommends that the I-65 northbound on-ramp at US 31 be extended to allow merging vehicles to get up to speed before they enter the roadway. The recommended truck climbing lanes are included in the Visionary RTP’s project listing as this project is technically considered a capacity improvement, and fiscal constraint will not allow it to be placed onto the RTP. The ramp modification is included in the Visionary Project listing, and can be categorized as a bottleneck relief project. It is also discussed in more detail in Section 5.2.8, Proposed Highway, Streets and Roads Programs/Projects, of this Chapter.

Other physical improvements were identified in the early freight planning work conducted by the Birmingham MPO. In 1996, the Birmingham MPO completed an assessment of intermodal facilities in both Jefferson and Shelby Counties. This included airport terminals, intercity passenger facilities, bus transit facilities, ports, railroads, pipelines, and trucking facilities. This study, entitled The Intermodal Management System for Jefferson and Shelby Counties pointed out Birmingham’s superior position as a “crossroads” of transportation facilities, and its ability to foster the development of an intermodal transportation system. The Birmingham MPO’s Intermodal Management System Plan identified a number of roadway improvement projects, among them the extension of Finley Boulevard to State Route 79, the completion of the Future I-22, and the widening of I-65 through Shelby County. With the exception of Finley Boulevard, these projects are either nearing completion or in the midst of construction at the time of this writing. Other proposed changes to the transportation system include the construction of the Corridor X1, a.k.a. the Northern Beltline, the expansion of both I-20/59 and I-59 in northeastern Jefferson County to add roadway capacity, and the development of a new intermodal freight facility in order to accommodate truck to rail transfers.

B. Summary

The movement of freight is an important aspect of regional planning. Freight transport is integrally linked to economic growth and prosperity, the quality of life, and traffic volumes and patterns. The Birmingham metropolitan planning area is emerging as an international freight gateway with access to major rail, truck, and warehousing facilities.

The flow of commercial goods over the freight transportation system is of intense federal, state, and local interest. Commerce is regulated, and the freight system employs fee and financing methods different from
the passenger transportation system. In addition, other than roads and airports, most of the region’s freight facilities are privately owned.

This poses unique challenges to fully incorporating freight concerns into the metropolitan planning process. Both public and private sectors engage in freight planning. The public process entails lengthy timelines and extensive public involvement, while the private process is based on market trends, is limited to business and industry transactions and occurs in a short time frame.

The Birmingham MPO has taken a position that it will lend its support to freight strategies that demonstrate a benefit to the regions economic health while embracing the local planning process and respecting overall community cohesion. The strategies involve consistent and ongoing efforts to improve coordination among freight system owners and operators and those concerned with the economic benefits an efficient freight system can provide.

By understanding the freight and goods movement trends in the Birmingham metropolitan planning area, the Birmingham MPO can develop its freight planning program to community priority areas with appropriate planning strategies. A key goal of this process is to engage community, political, and business leaders in a public-private partnership to achieve prosperity through the increased mobility of freight and goods. Advancing the region’s freight movement must be accomplished in a reliable, multimodal and intermodal, efficient, cost effective, safe, and environmentally responsible manner. This goal and supporting strategies will help the Birmingham MPO to achieve the regional vision for the development of the transportation system. In addition, the creation of policies that encourage investment in freight transportation infrastructure will undoubtedly contribute to the transportation planning area’s economic prosperity. Transportation policies should support the needs of manufacturers, carriers and consumers to cement the freight network’s place as a cornerstone in regional efforts to support economic development.

5.5.5 Roadway Operations and Management Strategies

Through the SAFETEA-LU legislation, the RTP is required to contain “operational and management strategies to improve the performance of the existing transportation facilities to relieve vehicular congestion and maximize the safety and mobility of people and goods.” Individual transportation agencies within the Birmingham MPO have their own practices and/or policies for addressing areas such as corridor management, access management, Intelligent Transportation Systems (ITS), multimodal needs, and asset management. These strategies are used to preserve, improve and enhance the existing multimodal transportation system. Each of these is described in more detail below.

Operational Improvements are geared toward improving the “supply side” of the transportation system. These efforts are intended to enhance the operation of the transportation system and make it as efficient as possible. Operational Improvements include things such as intersection upgrades, access management, reversible lanes, traffic signal improvements, and Intelligent Transportation Systems.

Operational and management strategies also help to preserve the transportation system. System preservation activities and policies identified in the RTP encompass work that extends the life of existing facilities, associated hardware, and equipment in order that the facility retains its existing value and its ability to perform as designed. System preservation, as described within the RTP, is strategies and associated activities meant to counter the wear and tear of physical infrastructure that occur over time due to traffic loading, climate, crashes, and aging. The RTP calls for this to be accomplished through capital projects, programmatic maintenance actions, and both regional and local policies. Special attention will be provided to those activities that provide for the repair of damages that impedes mobility or safety.
A. Intelligent Transportation Systems

Intelligent Transportation Systems (ITS) enables the movement of information, and uses technology to maximize the efficiency of the existing transportation system and to convey information to the traveling public. ITS technology can include devices that integrate with traffic signal systems, provide real-time schedule information and electronic fare payment. In addition, information sharing between agencies can reduce duplicative data collection and assist in the completion of ongoing studies. Additional discussion is provided about Intelligent Transportation Systems in Section 5.4, Systems Management and Operations Program, of this document. Figure 5.17 presents the existing regional ITS infrastructure to include camera and digital message board locations.

B. Intersection Improvements

Intersection improvements are often one of the first operational improvements undertaken to address congestion. By their nature intersections are “choke points” for roadways, and taking action to separate turning movements serves to enhance roadway operations. They can be an especially cost effective method to address congestion as they often require the acquisition of less right-of-way than a traditional widening project and are not as invasive. General considerations in deciding whether or not a turn lane is warranted are outlined in Table 5.13:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Hourly Turning Volumes (vehicles per hour - vph)</th>
<th>Signal Phasing</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exclusive Left Turn Lane</td>
<td>75 vph – 150 vph&lt; 150 vph - &lt;</td>
<td>Permitted/Protected</td>
<td></td>
</tr>
<tr>
<td>Dual Left Turn Lane</td>
<td>300 vph</td>
<td>Protected</td>
<td></td>
</tr>
<tr>
<td>Exclusive Right Turn Lane</td>
<td>150 vph - &lt;</td>
<td>Permitted/Protected</td>
<td>Depends on approach volumes</td>
</tr>
</tbody>
</table>

In general, an exclusive left turn lane should be considered when hourly traffic volumes exceed 75 vehicles per hour (vph). In most cases, left turns would only be allowed with an “arrow” signal phase. This phase, also known as a “protected” signal phase, provides an exclusive signal phase to all left turning vehicles to proceed through the intersection unencumbered. When turns are allowed on a green phase, (non-arrow) the phase is considered “permissive” and drivers turn when a gap becomes available. When left turn volumes exceed 300vph, a double left turn lane is likely to be required.

An exclusive right turn lane generally would be considered when the right turning volume exceeds 150vph. The right turning signal phase could be operated either as a permissive or protected movement depending on pedestrian interference. If pedestrian interference/conflict is present, the right turn movements may be restricted with “No Right Turns on Red When Pedestrians Are Present” signage. Channelization or turn lanes improve the through lane capacity by separating out the turning vehicles allowing through movements to continue unimpeded. It also improves the general safety of the intersection and reduces the potential for rear-end and sideswipe accidents.

Another consideration for intersection improvements are the modern roundabout. Roundabouts, according to the Highway Capacity Manual, are “unsignalized intersections with a circulatory roadway around a central island with all entering vehicles yielding to the circulating traffic.” Roundabouts can help to greatly reduce vehicle conflicts, simplify access management, and calm traffic. In addition, the modern roundabout can also be used to correct geometric deficiencies and facilitate the movement of transit vehicles, cyclists, and pedestrians across and along corridors.

Finally, roadway congestion might be adequately addressed by considering the spacing between the intersections.
Figure 5.17 Regional Intelligent Transportation System Infrastructure
5.5.6 Roadway Expansion Strategies

Truly, the heart of the Birmingham metropolitan planning area’s transportation program is its ability to continue the expansion of the area’s roadways. The detailed discussion of the transportation program included in the RTP started off with a declaration that the RTP was actively promoting a “maintenance first” strategy for the plan in an effort to encourage the development of a sustainable transportation system. The major part of available highway funding over the 2035 Plan period is designated to meet the serious needs for highway and bridge maintenance and improvements in the Birmingham metropolitan planning area.

Capacity expansion focuses on the actions needed to expand the service provided by the existing system for both people and freight. Capacity expansion can be achieved either by adding physical capacity to an existing asset, or acquiring/constructing a new facility. This may include:

A. Roadway & Bridge Widening

Capacity expansions include the addition of Single Occupancy Vehicle (SOV) lane(s) i.e. “through” lanes to an existing roadway or roadway or bridge in order to provide additional carrying capacity. This includes widening projects that only add a continuous two-way center turn lane. These projects often include some level of reconstruction of the existing facility as well.

B. New Roadways, Interchanges and Bridges

Construction of roadways, interchanges, or bridges on new alignments result in additional mileage being added to the transportation network. This would include the extension of existing roadways and construction of HOV lanes. It also includes the construction of a new bridge when the old bridge is still being left in service.

C. Interchange Completion

There are upgrades to existing interchanges where missing ramps are being added and/or existing ramps are being widened. This does not include projects which create new interchanges.

D. Other Capacity Adding Strategies

There are investments or expenditures that add capacity or are a significant betterment to the function of a facility (for example, additional travel lanes, interchange reconstruction or additional ramps, transit service coverage or frequency expansion, new road or transit corridor, short line railroad load capacity upgrade, railroad bypasses of urban areas, or construction of intermodal facilities). Capacity improvements are typically the last measures transportation professionals consider, because they are often the most expensive and can have adverse impacts on community and the environment. Capacity projects can also have the effect of inducing additional travel or relocating existing trips from other nearby congested corridors. This, in turn, may result in the roadway becoming congested again in the future.

Historically, the Birmingham metropolitan planning area has pursued capacity expansion as the primary solution to congestion. This has been a reasonable approach as many of the historic rural roadways that once served a farm to market function now accommodate traffic from a host of residential communities located along their lengths. Capacity expansions have also been pursued to facilitate economic opportunities. This would include projects such as those that add capacity to existing roadways to facilitate improved freight mobility, close gaps between roadways, or might be part of a regional
economic development incentive to induce/attract development. Still, other capacity expansions have been identified to facilitate improved mobility in parts of the transportation planning area where travel is still very difficult because of a lack of connected and continuous roadways.

A number of capacity projects have been proposed to address the identified deficiencies and/or needs within each of the transportation planning area’s major travel corridors. These deficiencies and needs were presented in Chapter 4, Transportation System Needs Assessment. Figure 5.18 presents the roadway capacity projects that have been included in the fiscally constrained regional transportation plan. That is, these are the projects that are proposed to be pursued for development within expected funding constraints. Figure 5.19 presents the roadway capacity projects that have been included in the visionary regional transportation plan, an unconstrained, non-conforming transportation plan that presents a list of desired projects. The detailed listing of both fiscally constrained and visionary projects is included in Appendix 5C, Project List of 2035 Regional Transportation Plan (RTP) for the Birmingham Metropolitan Planning Area. A summary listing of the fiscally constrained highway capacity projects is included as Table 5.14. A summary listing of the visionary highway capacity projects is included as Table 5.15.
Figure 5.18 Fiscally Constrained Transportation Plan - Capacity Projects
<table>
<thead>
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<tbody>
<tr>
<td>7</td>
<td>ALDOT</td>
<td>SR 79 North Jefferson County</td>
<td>2025</td>
<td>2</td>
<td>4</td>
<td>Yes</td>
<td>$24,185,341</td>
<td>$30,231,676</td>
<td>$38,088,317</td>
<td>To improve continuity of corridor geometric configuration, improve operational efficiency, and address roadway safety</td>
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<td>9</td>
<td>ALDOT</td>
<td>SR-70 Central Shelby County</td>
<td>2017</td>
<td>2</td>
<td>4</td>
<td>No</td>
<td>$4,286,735</td>
<td>$5,358,419</td>
<td>$6,268,592</td>
<td>To improve corridor operational efficiency, address expected increase in travel demand, and address roadway safety</td>
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<td>22</td>
<td>ALDOT</td>
<td>I-65 Central/South Shelby County</td>
<td>2015</td>
<td>4/6</td>
<td>6/8</td>
<td>Yes</td>
<td>$75,206,943</td>
<td>$94,008,678</td>
<td>$104,469,523</td>
<td>To address both existing and expected transportation demands, and address identified congested conditions</td>
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<td></td>
<td>State Route 119 – Cahaba Valley</td>
<td>2025</td>
<td>2</td>
<td>4</td>
<td>No</td>
<td>$39,172,510</td>
<td>$48,965,637</td>
<td>$60,619,908</td>
<td>To improve operational efficiency, address roadway safety, and address transportation security</td>
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<td>34</td>
<td>ALDOT</td>
<td>US 78 - Birmingham</td>
<td>2015</td>
<td>4</td>
<td>6</td>
<td>Yes</td>
<td>$16,371,733</td>
<td>$20,464,666</td>
<td>$24,432,218</td>
<td>To improve corridor operational efficiency, address identified congested conditions, and replace deficient bridge</td>
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<td>59</td>
<td>ALDOT</td>
<td>From I-20/59 to Finley Boulevard Bridge Replacements at US 78 and Dugan Ave US 78 and CSX Railroad</td>
<td>2025</td>
<td>8</td>
<td>10</td>
<td>Yes</td>
<td>$19,489,327</td>
<td>$21,654,807</td>
<td>$25,333,062</td>
<td>To improve corridor operational efficiency and address identified congested conditions</td>
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<tr>
<td>67</td>
<td>ALDOT</td>
<td>I-20/59 – Birmingham/Ensley</td>
<td>2017</td>
<td>0</td>
<td>5</td>
<td>No</td>
<td>$15,061,479</td>
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<td>To provide accessibility, improve mobility, and address identified local congested conditions</td>
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<td>$21,752,301</td>
<td>To provide accessibility, improve mobility, and address identified local congested conditions</td>
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<td>ALDOT</td>
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<td>2015</td>
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<td>4</td>
<td>No</td>
<td>$5,302,191</td>
<td>$6,627,738</td>
<td>$6,764,179</td>
<td>To improve corridor operational efficiency and address identified congested conditions</td>
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<td>84</td>
<td>Birmingham</td>
<td>Finley Boulevard Extension (Phase 1)</td>
<td>2015</td>
<td>0</td>
<td>4</td>
<td>No</td>
<td>$14,990,111</td>
<td>$18,737,638</td>
<td>$20,355,401</td>
<td>To improve connectivity between major freight travel routes, address transportation system security (redundancy), improve accessibility</td>
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<td>108</td>
<td>Jefferson County</td>
<td>Caldwell Mill Road</td>
<td>2015</td>
<td>2</td>
<td>2</td>
<td>No</td>
<td>$1,479,800</td>
<td>$1,849,749</td>
<td>$2,077,067</td>
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<td>109</td>
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<td>Morgan Road/CR 52</td>
<td>2015</td>
<td>2</td>
<td>4</td>
<td>No</td>
<td>$9,148,488</td>
<td>$11,435,559</td>
<td>$11,809,782</td>
<td>To improve corridor operational efficiency, address identified congested conditions, and address roadway safety</td>
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<tr>
<td>112</td>
<td>Jefferson County</td>
<td>*Patton Chapel Road</td>
<td>2015</td>
<td>2</td>
<td>2</td>
<td>No</td>
<td>$69,837</td>
<td>$87,296</td>
<td>$1,462,323</td>
<td>To improve corridor operational efficiency and better facilitate turning movements onto adjacent streets</td>
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<td>Hoover</td>
<td>Hoover TOPICS Phase 3 (Patton Chapel Road)</td>
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<td>2</td>
<td>2</td>
<td>No</td>
<td>$2,015,807</td>
<td>$2,519,758</td>
<td>$2,709,925</td>
<td>To improve corridor operational efficiency and better facilitate turning movements onto adjacent roadways</td>
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<td>4</td>
<td>Yes</td>
<td>$19,907,692</td>
<td>$24,884,615</td>
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<td>Shelby County Road -11</td>
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<td>2</td>
<td>2</td>
<td>No</td>
<td>$5,435,783</td>
<td>$6,794,728</td>
<td>$7,710,888</td>
<td>To improve corridor operational efficiency, address expected increase in travel demand, and address roadway safety</td>
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</table>
### Table 5.14 Birmingham 2035 RTP Fiscally Constrained Roadway Capacity Projects

<table>
<thead>
<tr>
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<tr>
<td>125</td>
<td>Jefferson County</td>
<td>Gardendale Main Street From Tarrant Drive to Redmayne Road</td>
<td>2015</td>
<td>2</td>
<td>2</td>
<td>No</td>
<td>$1,709,846</td>
<td>$2,137,308</td>
<td>$2,390,452</td>
<td>To improve mobility and accessibility, and reduce congestion in downtown Gardendale</td>
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<tr>
<td>128</td>
<td>Birmingham</td>
<td>* East Lake Blvd. (Phase 2) From SR-79 (Vanderbilt Rd) to 40Th Street North</td>
<td>2015</td>
<td>2</td>
<td>2</td>
<td>No</td>
<td>$400,154</td>
<td>$500,192</td>
<td>$883,488</td>
<td>To improve corridor operational efficiency, and address identified local congested conditions</td>
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<td>129</td>
<td>Birmingham</td>
<td>Tarrant-Huffman Road From Treadwell Rd. to Briarmon Dr. to Roebuck Drive</td>
<td>2015</td>
<td>2</td>
<td>2</td>
<td>No</td>
<td>$6,071,386</td>
<td>$7,589,232</td>
<td>$7,892,801</td>
<td>To improve corridor operational efficiency and address roadway safety</td>
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<td>2</td>
<td>No</td>
<td>$3,412,792</td>
<td>$4,265,990</td>
<td>$4,614,095</td>
<td>To improve corridor operational efficiency and address roadway safety</td>
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<td>141</td>
<td>ALDOT</td>
<td>State Route 261 - Hoover/Pelham From CR-105/Bearden Road to US 31</td>
<td>2017</td>
<td>2</td>
<td>4</td>
<td>No</td>
<td>$18,551,569</td>
<td>$23,189,462</td>
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<td>To improve corridor operational efficiency, address identified local congested conditions, and address expected increase in travel demand</td>
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<tr>
<td>151</td>
<td>ALDOT</td>
<td>Corridor X From Coalburg Road to I-65 From I-65 to US 31 Gardendale</td>
<td>2015</td>
<td>0</td>
<td>6</td>
<td>Yes</td>
<td>$237,349,383</td>
<td>$296,686,729</td>
<td>$301,043,116</td>
<td>To complete Corridor X and connect it with I-65</td>
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<tr>
<td>162</td>
<td>ALDOT</td>
<td>I-65 - South Shelby County From CR-87 to US 31 Calera</td>
<td>2017</td>
<td>4</td>
<td>8</td>
<td>Yes</td>
<td>$24,610,294</td>
<td>$30,762,867</td>
<td>$37,169,790</td>
<td>To address congestion, and both existing and expected increase in travel demand</td>
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<tr>
<td>172</td>
<td>ALDOT</td>
<td>Corridor X-1 (Northern Beltline) From US 78 Adamsville to I-59 Northeast Jefferson From SR-79 to SR-75 From I-65 to US 31 From US 78 to I-65 From US 31 to SR-79 From SR-75 to I-59</td>
<td>2015 2017 2025 2025 2025</td>
<td>0 6 6 6 6</td>
<td>Yes</td>
<td>$1,305,084,001 $1,638,009,908 $2,192,148,140</td>
<td>$2,192,148,140</td>
<td>$2,192,148,140</td>
<td>To provide increased accessibility and mobility, facilitate freight/goods movement, and support economic development</td>
<td></td>
</tr>
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</table>

*ALDOT* = Alabama Department of Transportation

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Chapter 5 Transportation Investment Strategy  
2035 Birmingham Regional Transportation Plan  
5-118
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<td>ALDOT</td>
<td>State Route 150 - Ross Bridge</td>
<td>2015</td>
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<td>$18,319,409</td>
<td>$18,630,608</td>
<td>To improve corridor operational efficiency, and address roadway safety</td>
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<td>226</td>
<td>ALDOT</td>
<td>Calera Northern Bypass</td>
<td>2015</td>
<td>0</td>
<td>4</td>
<td>No</td>
<td>$5,135,770</td>
<td>$6,419,712</td>
<td>$6,582,817</td>
<td>To address congestion and expected increase in travel demand</td>
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<td>263</td>
<td>Hoover</td>
<td>Valleydale Road (CR 17) Inverness</td>
<td>2015</td>
<td>2</td>
<td>4</td>
<td>No</td>
<td>$12,414,834</td>
<td>$15,518,542</td>
<td>$16,009,492</td>
<td>To improve corridor operational efficiency, and address identified local congested conditions</td>
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<td>265</td>
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<td>Coalburg Road</td>
<td>2015</td>
<td>2</td>
<td>2</td>
<td>No</td>
<td>$11,173,319</td>
<td>$13,966,649</td>
<td>$13,966,649</td>
<td>To improve corridor operational efficiency, address expected increase in travel demand, and address roadway safety</td>
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<td>273</td>
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<td>16th Street Interchange</td>
<td>2017</td>
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<td>2</td>
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<td>$7,074,270</td>
<td>$8,672,701</td>
<td>$10,084,593</td>
<td>To improve access and mobility to downtown Birmingham</td>
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<td>332</td>
<td>Homewood</td>
<td>Lakeshore Parkway at Wildwood</td>
<td>2015</td>
<td>4</td>
<td>6</td>
<td>Yes</td>
<td>$3,366,349</td>
<td>$4,207,936</td>
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<td>To improve corridor operational efficiency and address identified congested conditions</td>
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<td>342</td>
<td>Birmingham</td>
<td>Daniel Payne Drive</td>
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<td>No</td>
<td>$1,976,366</td>
<td>$2,470,458</td>
<td>$2,672,047</td>
<td>To improve corridor operational efficiency and better facilitate movement to and from Corridor X</td>
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<td>Cherry Avenue/Blossburg Road</td>
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<td>No</td>
<td>$2,710,733</td>
<td>$3,388,416</td>
<td>$4,200,934</td>
<td>To improve accessibility and mobility between local population centers and Corridor X, and address roadway safety</td>
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<td>345</td>
<td>Hoover</td>
<td>* Chapel Lane Extension</td>
<td>2015</td>
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<td>2</td>
<td>No</td>
<td>$3,452,766</td>
<td>$4,315,957</td>
<td>$6,218,920</td>
<td>To improve mobility and accessibility and address transportation system security (redundancy)</td>
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### Chapter 5 Transportation Investment Strategy
#### 2035 Birmingham Regional Transportation Plan

#### Table 5.14 Birmingham 2035 RTP Fiscally Constrained Roadway Capacity Projects

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<td>2</td>
<td>4</td>
<td>No</td>
<td>$0</td>
<td>$0</td>
<td>$4,780,389</td>
<td>To improve corridor operational efficiency, address expected increase in local travel demand, and support local economic development</td>
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<td>Morgan Road/CR 52</td>
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<td>No</td>
<td>$10,798,694</td>
<td>$13,498,368</td>
<td>$17,776,595</td>
<td>To improve corridor operational efficiency, address identified local congested conditions, and address roadway safety</td>
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<td>411</td>
<td>ALDOT</td>
<td>I-65 - Central Jefferson County</td>
<td>2035</td>
<td>6</td>
<td>8</td>
<td>Yes</td>
<td>$4,049,510</td>
<td>$5,061,888</td>
<td>$9,860,054</td>
<td>To improve corridor operational efficiency, address identified congested conditions, and address expected increase in travel demand</td>
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<td>420</td>
<td>ALDOT</td>
<td>I-65 S. Jefferson/N. Shelby County</td>
<td>2025</td>
<td>6/8</td>
<td>8/10</td>
<td>Yes</td>
<td>$58,479,006</td>
<td>$67,588,858</td>
<td>$74,410,482</td>
<td>To improve operational efficiency between interchanges and address identified congested conditions</td>
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<td>Shelby County</td>
<td>CR-17 - Helena</td>
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<td>4</td>
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<td>$15,654,068</td>
<td>$31,275,661</td>
<td>$45,429,151</td>
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<td>425</td>
<td>Shelby County</td>
<td>CR-26 (Kent Dairy Rd)</td>
<td>2025</td>
<td>2</td>
<td>4</td>
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<td>$2,834,658</td>
<td>$3,543,322</td>
<td>$5,244,982</td>
<td>To improve corridor operational efficiency, address expected increase in travel demand, and address roadway safety</td>
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<td>426</td>
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<td>CR-11 - Shelby County (Phase 1)</td>
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<td>4</td>
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<td>$9,403,853</td>
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<td>CR-11 - Shelby County (Phase 2)</td>
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<td>$5,595,358</td>
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<td>$13,667,097</td>
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<td>***CR-26 - Shelby County</td>
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<td>$1,856,026</td>
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<td>***CR-22 Montevallo</td>
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<td>535</td>
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<td>US 280 Access Mgmt</td>
<td>2017</td>
<td>4/6</td>
<td>6/8</td>
<td>$17,299,508</td>
<td>$21,624,386</td>
<td>$24,997,689</td>
<td>To improve corridor operational efficiency, address identified congested conditions, and address expected increase in travel demand</td>
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<td>539</td>
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<td>Gurley Creek Bridge Replacement</td>
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<td>$1,124,864</td>
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<td>$1,779,140</td>
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<td>541</td>
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<td>$18,306,085</td>
<td>$22,882,606</td>
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<td>Acceleration/Deceleration Lanes to facilitate movement between Corridor X and I-65</td>
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<td>**I-65 Auxiliary Lanes Hoover</td>
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<td>$3,720,000</td>
<td>$4,650,000</td>
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<td>658</td>
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<td><strong>I-65 Auxiliary Lanes Hoover/Homewood</strong> From Alford Ave to Lakeshore Pkwy (NB/SB)</td>
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<td>Yes</td>
<td>$8,032,000</td>
<td>$10,040,000</td>
<td>$14,861,653</td>
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<td>659</td>
<td>ALDOT</td>
<td><strong>I-65 Auxiliary Lanes Homewood</strong> From Lakeshore Pkwy to Oxmoor Rd (NB/SB)</td>
<td>2025 6 8</td>
<td>Yes</td>
<td>$7,464,000</td>
<td>$9,330,000</td>
<td>$14,102,583</td>
<td>To improve operational efficiency between interchanges and address identified congestion bottleneck</td>
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<td>660</td>
<td>ALDOT</td>
<td><strong>I-65 Auxiliary Lanes Birmingham</strong> From Oxmoor Rd to Greensprings Rd (NB/SB)</td>
<td>2025 6 8</td>
<td>Yes</td>
<td>$3,368,004</td>
<td>$4,210,005</td>
<td>$6,740,354</td>
<td>To improve operational efficiency between interchanges and address identified congestion bottleneck</td>
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<td>ALDOT</td>
<td><strong>I-65 Auxiliary Lanes City Center</strong> From Greensprings Rd to University Blvd (NB/SB)</td>
<td>2025 6 8</td>
<td>Yes</td>
<td>$6,984,000</td>
<td>$8,730,000</td>
<td>$10,621,380</td>
<td>To improve operational efficiency between interchanges and address identified congestion bottleneck</td>
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Sub-Total All Capacity Projects $2,085,093,048 $2,698,669,574 $3,438,227,035
Minus O&M (**) Funded Capacity Projects $ 29,568,004 $ 36,960,005 $ 53,209,106
Total Capacity Projects $2,055,525,044 $2,661,709,568 $3,385,017,929

* Denotes projects funded in whole or in part under American Recovery and Reinvestment Act (ARRA) i.e. “Stimulus” Program

** Denotes projects modeled as capacity projects for air quality conformity purposes, but funded as Operational and Maintenance (O&M) projects does not count against forecast funding availability for roadway capacity projects

*** Denotes 100% locally funded projects

Title 23 United States Code 217 states that “Bicyclists and pedestrians shall be given due consideration in the comprehensive transportation plans developed by each metropolitan planning organization and State.” Policy 10 of the Birmingham 2035 Regional Transportation Plan provides direction that bicycle and pedestrian facilities shall be established in all new federal-aid roadway construction and roadway reconstruction projects (to include resurfacing and restriping) unless exceptional circumstances exist. Project sponsors shall give due consideration to the accommodation of bicycles, pedestrians, citizens with disabilities, and transit supportive infrastructure in planning and design for all projects. Refer to Policy 10 in Chapter 3 (p 3-34) for additional details regarding complete streets and routine accommodation.
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2035 Birmingham Regional Transportation Plan

Figure 5.19 Visionary Transportation Plan – Capacity Projects
<table>
<thead>
<tr>
<th>Map ID</th>
<th>Sponsor</th>
<th>Project Name/Limits</th>
<th>Lanes Before</th>
<th>Lanes After</th>
<th>Project Purpose/Description</th>
<th>Federal Cost (Current $ 2010)</th>
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<td>6</td>
<td>ALDOT</td>
<td>State Route 145 Extension from CR-61 to SR-25 Wilsonville</td>
<td>0</td>
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<td>To provide accessibility, improve mobility, and address transportation security concern (redundancy)</td>
<td>$12,884,581</td>
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<td>33</td>
<td>ALDOT</td>
<td>State Route 119 Improvement US 78 to Jefferson-Shelby County Border</td>
<td>2</td>
<td>4</td>
<td>To improve continuity of corridor geometric configuration, improve operational efficiency, and address roadway safety</td>
<td>$5,850,746</td>
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<td>66</td>
<td>ALDOT</td>
<td>I-59 - Birmingham/Center Point From 1st Avenue North to I-459</td>
<td>4</td>
<td>6</td>
<td>To improve corridor operational efficiency, address identified congested conditions, and address expected increase in travel demand</td>
<td>$32,307,893</td>
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<td>84</td>
<td>Birmingham</td>
<td>Finley Avenue Extension From Fred Shuttlesworth Drive to State Route 79/Tallapoosa Street From SR-261 east to Johnson Street</td>
<td>0</td>
<td>4</td>
<td>To improve connectivity between major freight travel routes, address transportation system security (redundancy), improve accessibility</td>
<td>$28,572,910</td>
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<td>132</td>
<td>Bessemer</td>
<td>Parkwood Road Improvements From I-459 to State Route 150</td>
<td>2</td>
<td>2</td>
<td>To improve corridor operational efficiency and address roadway safety</td>
<td>$638,240</td>
</tr>
<tr>
<td>139</td>
<td>ALDOT</td>
<td>US 411 - Leeds/Moody From Dawson Street Connector to End of 4-lane</td>
<td>2</td>
<td>4</td>
<td>To provide improve corridor operational efficiency and provide roadway geometric consistency</td>
<td>$1,034,279</td>
</tr>
<tr>
<td>162</td>
<td>ALDOT</td>
<td>I-65 South Shelby County – Bridge Expansion I-65 @ Mile Post 236</td>
<td>4</td>
<td>8</td>
<td>To accommodate proposed additional lanes on I-65 from CR-87 to US 31 Calera</td>
<td>$8,729,719</td>
</tr>
<tr>
<td>168</td>
<td>Hoover</td>
<td>US 31 - Hoover From I-65 @ I-65 Hoover to Riverchase Parkway</td>
<td>4</td>
<td>6</td>
<td>To facilitate mobility and address congested conditions</td>
<td>$13,138,412</td>
</tr>
<tr>
<td>172</td>
<td>ALDOT</td>
<td>Corridor X-1 (Northern Beltline) From I459 to CR-46 From CR-46 to US 78 From I-59 to I-20</td>
<td>0</td>
<td>6</td>
<td>To provide accessibility, improve mobility, facilitate freight/goods movement, support economic development, and complete planned roadway corridor</td>
<td>$587,118,655</td>
</tr>
<tr>
<td>271</td>
<td>ALDOT</td>
<td>I-20/59 - Southwest Jefferson From I-459 to Valley Road</td>
<td>4</td>
<td>6</td>
<td>To improve corridor operational efficiency and address expected increase in travel demand</td>
<td>$49,924,057</td>
</tr>
<tr>
<td>349</td>
<td>Birmingham</td>
<td>40th Street North From I-20/59 to 400' South of 10th Avenue North</td>
<td>2</td>
<td>2</td>
<td>To improve corridor operational efficiency</td>
<td>$761,513</td>
</tr>
<tr>
<td>351</td>
<td>ALDOT</td>
<td>Hillcrest Road Additional Lanes US 78 to Corridor X</td>
<td>2</td>
<td>4</td>
<td>To improve mobility to and from Corridor X</td>
<td>$14,019,068</td>
</tr>
<tr>
<td>361</td>
<td>ALDOT</td>
<td>US 31 Alabaster/Calera From I-65 Calera (Exit 231) North to Unknown Quarry Road</td>
<td>2</td>
<td>4</td>
<td>To improve corridor operational efficiency, address identified local congested conditions, address expected increase in travel demand, and address roadway safety</td>
<td>$9,898,803</td>
</tr>
</tbody>
</table>
Table 5.15 Birmingham 2035 RTP Visionary Roadway Capacity Projects

<table>
<thead>
<tr>
<th>Map ID</th>
<th>Sponsor</th>
<th>Project Name/Limits</th>
<th>Lanes Before</th>
<th>Lanes After</th>
<th>Project Purpose/Description</th>
<th>Federal Cost (Current $ 2010)</th>
</tr>
</thead>
<tbody>
<tr>
<td>362</td>
<td>ALDOT</td>
<td>US 31 - Calera</td>
<td>2</td>
<td>4</td>
<td>To improve corridor operational efficiency and address expected increase in travel demand</td>
<td>$9,898,803</td>
</tr>
<tr>
<td>363</td>
<td>ALDOT</td>
<td>US 31 - South Shelby County</td>
<td>2</td>
<td>4</td>
<td>To improve corridor operational efficiency and address expected increase in travel demand</td>
<td>$9,448,858</td>
</tr>
<tr>
<td>383</td>
<td>Jefferson County</td>
<td>Springville Road From Chalkville Mountain Road to Clayton Road</td>
<td>2</td>
<td>4</td>
<td>To improve corridor operational efficiency and address identified local congested conditions</td>
<td>$16,198,042</td>
</tr>
<tr>
<td>385</td>
<td>ALDOT</td>
<td>I-59 - Northeast Jefferson County</td>
<td>4</td>
<td>6</td>
<td>To improve corridor operational efficiency and address expected increase in travel demand</td>
<td>$21,216,000</td>
</tr>
<tr>
<td>386</td>
<td>ALDOT</td>
<td>US 31 - North Shelby County</td>
<td>4</td>
<td>6</td>
<td>To improve corridor operational efficiency and address congestion</td>
<td>$10,123,776</td>
</tr>
<tr>
<td>387</td>
<td>ALDOT</td>
<td>State Route 269</td>
<td>2</td>
<td>4</td>
<td>To improve freight accessibility and mobility between Port Birmingham and Corridor X</td>
<td>$41,619,968</td>
</tr>
<tr>
<td>388</td>
<td>ALDOT</td>
<td>I-459 - Southwest Jefferson County</td>
<td>4</td>
<td>6</td>
<td>To improve corridor operational efficiency, address identified congested conditions, and address expected increase in travel demand</td>
<td>$29,246,464</td>
</tr>
<tr>
<td>390</td>
<td>Jefferson County</td>
<td>Allison-Bonnet Memorial Drive From Corridor X-1 to Hueytown Rd.</td>
<td>2</td>
<td>4</td>
<td>To improve corridor operational efficiency, and address identified congested conditions</td>
<td>Funding not identified</td>
</tr>
<tr>
<td>396</td>
<td>ALDOT</td>
<td>I-20 East Birmingham/Jefferson County</td>
<td>4</td>
<td>6</td>
<td>To improve corridor operational efficiency and address identified congested conditions</td>
<td>$30,371,328</td>
</tr>
<tr>
<td>398</td>
<td>ALDOT</td>
<td>I-59 - Birmingham</td>
<td>6</td>
<td>8</td>
<td>To improve corridor operational efficiency, address expected travel demand increase.</td>
<td>$8,773,939</td>
</tr>
<tr>
<td>399</td>
<td>ALDOT</td>
<td>I-59 Northeast Jefferson County</td>
<td>4</td>
<td>6</td>
<td>To improve corridor operational efficiency, address expected travel demand increase.</td>
<td>$23,397,171</td>
</tr>
<tr>
<td>401</td>
<td>ALDOT</td>
<td>I-20/59 Eastern Birmingham</td>
<td>8</td>
<td>10</td>
<td>To improve corridor operational efficiency, address identified congested conditions, and address roadway safety</td>
<td>$17,547,878</td>
</tr>
<tr>
<td>403</td>
<td>ALDOT</td>
<td>US 78 - Birmingham/Fultondale</td>
<td>4</td>
<td>6</td>
<td>To improve corridor operational efficiency and address expected increase in travel demand for freight/goods movement</td>
<td>$35,095,75</td>
</tr>
<tr>
<td>404</td>
<td>ALDOT</td>
<td>US 78 Fultondale/Graysville</td>
<td>4</td>
<td>6</td>
<td>To improve corridor operational efficiency and address expected increase in travel demand for freight/goods movement</td>
<td>$24,297,062</td>
</tr>
</tbody>
</table>
Table 5.15 Birmingham 2035 RTP Visionary Roadway Capacity Projects

<table>
<thead>
<tr>
<th>Map ID</th>
<th>Sponsor</th>
<th>Project Name/Limits</th>
<th>Lanes Before</th>
<th>Lanes After</th>
<th>Project Purpose/Description</th>
<th>Federal Cost (Current $ 2010)</th>
</tr>
</thead>
<tbody>
<tr>
<td>405</td>
<td>Shelby County</td>
<td>Stadium Trace Parkway From current terminus to Ross Bridge Parkway Extension</td>
<td>0</td>
<td>4</td>
<td>To improve mobility and accessibility, and address expected increase in travel demand</td>
<td>$18,897,715</td>
</tr>
<tr>
<td>406</td>
<td>Jefferson County</td>
<td>Academy Drive - Bessemer/Jefferson From US 11 to Old Tuscaloosa Highway (Phase 1)</td>
<td>2</td>
<td>2</td>
<td>To improve corridor operational efficiency, improve mobility and accessibility, and address expected increase in travel demand</td>
<td>Funding not identified</td>
</tr>
<tr>
<td>409</td>
<td>Jefferson County</td>
<td>Old Rocky Ridge Road Widening From Altadena Road to Dolly Creek Lane</td>
<td>2</td>
<td>4</td>
<td>To improve corridor operational efficiency and address roadway safety</td>
<td>Funding not identified</td>
</tr>
<tr>
<td>410</td>
<td>ALDOT</td>
<td>SR 79/Tallapoosa Street From 400' South of I-20/59 to East Lake Blvd</td>
<td>4</td>
<td>6</td>
<td>To improve corridor operational efficiency, address identified congested conditions, and facilitate improved freight movement</td>
<td>$3,374,592</td>
</tr>
<tr>
<td>412</td>
<td>ALDOT</td>
<td>State Route 269 Avenue F to Minor Parkway State Route 25 (exit 228) to US 31 Calera</td>
<td>4</td>
<td>6</td>
<td>To improve corridor operational efficiency and address expected increase in travel demand</td>
<td>$3,239,608</td>
</tr>
<tr>
<td>413</td>
<td>Jefferson County</td>
<td>Lakeshore Parkway - Wildwood From Wildwood Avenue North to Oxmoor Road</td>
<td>4</td>
<td>6</td>
<td>To improve corridor operational efficiency and address identified local congestion</td>
<td>Funding not identified</td>
</tr>
<tr>
<td>414</td>
<td>Jefferson County</td>
<td>Lakeshore Parkway - Oxmoor Valley From Oxmoor Road to Industrial Drive</td>
<td>4</td>
<td>6</td>
<td>To improve corridor operational efficiency and address identified local congestion</td>
<td>Funding not identified</td>
</tr>
<tr>
<td>416</td>
<td>Jefferson County</td>
<td>Brooklane Drive (CR-51) From Davey Allison Boulevard to Allison-Bonnet Memorial Drive</td>
<td>2</td>
<td>4</td>
<td>To improve corridor operational efficiency, address accessibility and mobility, and address roadway safety</td>
<td>Funding not identified</td>
</tr>
<tr>
<td>418</td>
<td>ALDOT</td>
<td>US 78 – Birmingham From Cherry Avenue to Pratt Highway</td>
<td>4</td>
<td>6</td>
<td>To improve corridor operational efficiency and address expected increase in travel demand for freight/goods movement</td>
<td>$4,724,429</td>
</tr>
<tr>
<td>420</td>
<td>ALDOT</td>
<td>Valleydale Road (CR 17)Interchange Mod. Valleydale Road at I-65</td>
<td>n/a</td>
<td>n/a</td>
<td>To facilitate vehicle movements to I-65 from Valleydale Road and accommodate planned additional lanes on I-65</td>
<td>$20,328,674</td>
</tr>
<tr>
<td>428</td>
<td>Shelby County</td>
<td>Smokey Road (CR 12) From CR- 107 to CR-22</td>
<td>2</td>
<td>4</td>
<td>To improve corridor operational efficiency and address roadway safety</td>
<td>$5,275,167</td>
</tr>
</tbody>
</table>
## Table 5.15 Birmingham 2035 RTP Visionary Roadway Capacity Projects

<table>
<thead>
<tr>
<th>Map ID</th>
<th>Sponsor</th>
<th>Project Name/Limits</th>
<th>Lanes Before</th>
<th>Lanes After</th>
<th>Project Purpose/Description</th>
<th>Federal Cost (Current $ 2010)</th>
</tr>
</thead>
<tbody>
<tr>
<td>431</td>
<td>Shelby County</td>
<td>CR-47 From US 280 to SR-145</td>
<td>2</td>
<td>4</td>
<td>To improve corridor operational efficiency and address roadway safety</td>
<td>$50,996,834</td>
</tr>
<tr>
<td>469</td>
<td>ALDOT</td>
<td>State Route 119 Alabaster From CR-80/Mission Hills Road to CR-26/Fulton Springs Road</td>
<td>2</td>
<td>4</td>
<td>To improve corridor operational efficiency and address roadway safety</td>
<td>$6,074,266</td>
</tr>
<tr>
<td>537</td>
<td>ALDOT</td>
<td>US-11 - Trussville From I-459 to Tutwiler Drive</td>
<td>4</td>
<td>6</td>
<td>To improve corridor operational efficiency, address identified local congested conditions, and address roadway safety</td>
<td>$4,724,429</td>
</tr>
<tr>
<td>629</td>
<td>ALDOT/Hoover</td>
<td>South Shades Crest Road Interchange From Ross Bridge Parkway Extension @ I-459 west of exiting SR 150/I-459 Interchange</td>
<td>0</td>
<td>2</td>
<td>To improve mobility and accessibility, and address expected increase in travel demand</td>
<td>$32,000,000</td>
</tr>
<tr>
<td>630</td>
<td>Hoover</td>
<td>Ross Bridge Parkway Extension From SR-150 to CR-52 (Paralleling S. Shades Crest Rd)</td>
<td>0</td>
<td>4</td>
<td>To improve mobility and accessibility, and address expected increase in travel demand</td>
<td>$23,664,000</td>
</tr>
<tr>
<td>631</td>
<td>ALDOT</td>
<td>I-65 Additional Lanes From SR-25 (exit 228) to US 31 Calera</td>
<td>4</td>
<td>8</td>
<td>To improve corridor operational efficiency, and address expected increase in travel demand</td>
<td>$20,247,552</td>
</tr>
<tr>
<td>643</td>
<td>TBD</td>
<td>I-20/59 Reconstruction I-65 to US 31/E.B. Stevens Expressway</td>
<td>8</td>
<td>8</td>
<td>To improve corridor operational efficiency, address identified congested conditions, and roadway safety</td>
<td>$580,000,000</td>
</tr>
<tr>
<td>644</td>
<td>ALDOT</td>
<td>US 280 Corridor Improvements (West Segment) From E.B. Stephens Expressway to Eagle Point Pkwy</td>
<td>6</td>
<td>8</td>
<td>To improve corridor operational efficiency, address identified congested conditions, and address expected increase in travel demand</td>
<td>$568,000,000</td>
</tr>
<tr>
<td>645</td>
<td>ALDOT</td>
<td>US 280 – Limited Access Road (East Segment) From Eagle Point Pkwy to Shelby/Talladega County Line (Coosa River)</td>
<td>4</td>
<td>6</td>
<td>To improve corridor operational efficiency, address identified congested conditions, and address expected increase in travel demand</td>
<td>$28,186,667</td>
</tr>
<tr>
<td>662</td>
<td>ALDOT</td>
<td>US 280 Frontage Roads (Eastbound) From Eagle Point Pkwy (CR 39) to Shelby/Talladega County Line (Coosa River)</td>
<td>0</td>
<td>2</td>
<td>To improve corridor operational efficiency, address identified congested conditions, and address expected increase in travel demand</td>
<td>$28,186,667</td>
</tr>
<tr>
<td>662</td>
<td>ALDOT</td>
<td>US 280 Frontage Roads (Westbound) From Shelby/Talladega County Line (Coosa River) to Eagle Point Pkwy (CR 39)</td>
<td>0</td>
<td>2</td>
<td>To improve corridor operational efficiency, address identified congested conditions, and address expected increase in travel demand</td>
<td>$28,186,667</td>
</tr>
</tbody>
</table>
### Table 5.15 Birmingham 2035 RTP Visionary Roadway Capacity Projects

<table>
<thead>
<tr>
<th>Map ID</th>
<th>Sponsor</th>
<th>Project Name/Limits</th>
<th>Lanes Before</th>
<th>Lanes After</th>
<th>Project Purpose/Description</th>
<th>Federal Cost (Current $ 2010)</th>
</tr>
</thead>
<tbody>
<tr>
<td>673</td>
<td>Jefferson County</td>
<td>Grants Mill Road</td>
<td>2</td>
<td>4</td>
<td>To improve corridor operational efficiency, address roadway geometry, and address roadway safety</td>
<td>$4,800,000</td>
</tr>
</tbody>
</table>

From Old Leeds Road to Overton Road
5.5.7 Future Approaches to Roadway Planning

Roadway planning in the Birmingham metropolitan planning area historically has been conducted in a reactive manner. That is, plans to add roadway capacity, improve roadway segments, or modify intersections have been developed in reaction to congested conditions, roadway incidents, or economic development interests. This reactionary approach to roadway planning is partially the result of the existing funding environment in which county, district, and division engineers do not want to publicly present that a project will be completed ahead of identified funding in fear of overpromising and under delivering. By the same token the reactionary planning approach to roadway planning is also a product of the political climate in which local and state elected officials use the promise of infrastructure to appease their constituency whether or not the project is actually needed to address some identified deficiency. Fully, the economic climate within which the 2035 Birmingham RTP was developed exposed several of these projects, many of which were subsequently removed from the fiscally constrained plan because of financial concerns.

The Birmingham MPO, through the 2035 Birmingham RTP - a technically based policy document, has determined that future planning efforts for the transportation planning area’s roadway system will be conducted using a planning approach that considers both existing and expected future conditions as a basis for developing regional roadway plans. It will also look to locally developed and adopted plans to inform the design of roadways and the components associated with the roadway that complement and/or support both motorized and non-motorized travel. Finally, future planning efforts for the transportation planning area’s roadway system will look to two new tools to inform future roadway system planning efforts. These tools are:

- Regional Thoroughfare Plan
- Corridor Specific Plans

Local thoroughfare plans and/or area wide transportation plans will also be used to inform regional transportation planning efforts. These are especially useful for looking at the roadway system across jurisdictional boundaries.

It is envisioned that the basic structure of the regional thoroughfare plan will be based on the adopted functional classification system of roadways and will rely heavily on the SmartCode™. The SmartCode is a unified land development ordinance template for planning and urban design. The thoroughfare plan is envisioned to be a template for local communities and a tool that will help them to identify new roadway connections and existing infrastructure updates, as well as include an advisory guide for typical road cross-sections. The thoroughfare plan template may also make recommendations for modification of roadway functional classification in order to reflect observed changes to the roadway’s function and character. Other considerations of the regional thoroughfare plan may include:

- Consideration of non-motorized travel modes and public transportation
- The rights of property owners to reasonable access balanced against the public need for efficient traffic flow
- Federal guidelines
- Local ordinance requirements for right-of-way, building setback, and construction projects
- Relationship to other planning documents such as Comprehensive Plans or Land Use Plans in order to assist local communities to achieve their overall visions for development

The regional thoroughfare plan, corridor specific plans, and their recommended improvements serve as a guide for decision-making by state, county and local officials for improving the movement of people and goods. It is important to note that road locations and layouts may not be completely established in a thoroughfare plan. Proposed upgrades, new roads, and additional services are recommendations for elected officials and transportation departments to follow as development occurs. As the need for roadway upgrades and additions arise, additional site specific planning will be necessary.
5.5.8 Highway, Streets, and Roads Programs/Projects
Fiscally Constrained and Visionary Regional Transportation Plan

Chapter 4, Transportation System Needs Assessment, identified several proposed and/or planned projects for the transportation planning area’s travel corridors. These projects are meant to address recognized transportation system needs. This section of the RTP document will provide a discussion of the major new roadway programs and projects included in both the Fiscally Constrained and Visionary RTP document.

A. Fiscally Constrained Transportation Plan – Project Highlights

A1. I-65 Auxiliary Lanes

The I-65 Mobility Matters project recommended that auxiliary lanes be placed in the I-65 South corridor. An auxiliary lane is a lane that extends between a freeway on-ramp and off-ramp without passing through any interchanges in between. The lane is created when an entrance ramp meets the highway, and drops out (with an "exit only" sign) to become the ramp at the next exit. These projects do not necessarily provide additional roadway capacity. They are added on freeways to reduce impacts of heavy on-ramp traffic merging with a freeway through lane by giving drivers more time to merge in or out. They serve to improve corridor operations by providing bottleneck relief. They also provide additional stacking capacity for vehicles queuing at intersections on exiting ramps, allowing these vehicles to move out of the through traffic stream. Often thought of as an operational improvement, auxiliary lanes may qualify to complete a Categorical Exclusion for federal environmental documentation requirements under 23 CFR 771.117(d)(1) which includes "modernization of a highway by resurfacing, restoration, rehabilitation, reconstruction, adding shoulders, or adding auxiliary lanes (e.g., parking, weaving, turning, climbing)."

The proposed auxiliary lanes for I-65 have been assigned funding from the operations and maintenance funding category. The auxiliary lanes that have been proposed for the I-65 South corridor meet the design criteria for auxiliary lanes. That is, they extend between freeway on and off ramps without continuing through the interchange. Federal Highway Administration guidance advises that "the addition of an auxiliary lane should also classified as a Type 1 project, if the auxiliary lane is long enough

Figure 5.20 Auxiliary Lane between Interchange Ramps
Source: Manual of Uniform Traffic Control Devices Figure 3B-8 Sheet 2

to function as a through-traffic lane and/or increase capacity. An auxiliary lane that is added between interchanges to improve efficiency should be classified as a Type 1 project, if the lane is at least 1.5 miles long or if the lane is made continuous through a series of successive interchanges.\textsuperscript{14} In short, if the auxiliary lane facilitates weaves and merges between interchanges and improves operations of the existing travel lanes, but is not lengthy enough that it provides additional capacity for through traffic then it is an operational improvement, otherwise, it is a capacity addition.

Based on the Federal Highway Administration’s guidance, particularly as it relates to the length of the lanes, each of the identified freeway segments meet the criteria for auxiliary lanes as defined by the Federal Highway Administration guidance. Each of the proposed auxiliary lanes for the I-65 South corridor has been included in the fiscally constrained RTP, and each also has been modeled for air quality conformity. Funding for the auxiliary lane segments has been appropriately assigned to a funding category (capacity or operations and maintenance), and a federal funding program. Table 5.16 lists each of the proposed auxiliary lane freeway segments. Figure 5.20 provides an illustration of an auxiliary lane.

<table>
<thead>
<tr>
<th>Table 5.16 Proposed I-65 Auxiliary Lanes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Segment</td>
</tr>
<tr>
<td>From Greensprings Ave to University Blvd</td>
</tr>
<tr>
<td>From University Blvd to Greensprings Ave</td>
</tr>
<tr>
<td>From West Oxmoor to Greensprings Ave</td>
</tr>
<tr>
<td>Greensprings Ave and West Oxmoor Rd</td>
</tr>
<tr>
<td>From Lakeshore Pkwy to West Oxmoor Rd</td>
</tr>
<tr>
<td>From West Oxmoor Rd to Lakeshore Pkwy</td>
</tr>
<tr>
<td>From Alford Ave to Lakeshore Pkwy</td>
</tr>
<tr>
<td>From Lakeshore Pkwy to Alford Ave</td>
</tr>
<tr>
<td>From US 31 to Alford Avenue</td>
</tr>
<tr>
<td>From Alford Avenue to US 31</td>
</tr>
</tbody>
</table>

A2. I-65 South Corridor Interchange Modifications

The I-65 South corridor has no shortage of projects, and the I-65 Mobility Matters alternatives analysis has identified several potential projects to improve mobility. The identified projects include:

- Seven (7) interchange reconfigurations;
- Four (4) High Occupancy Vehicle Interchanges/Ramps;
- Two (2) bridge replacements;

The 2035 Birmingham RTP is limited in the amount of money that can be spent on certain types of projects, particularly projects that add roadway capacity. As such, the capacity improvements (i.e. high-occupancy vehicle (HOV) lanes and the truck climbing lanes) cannot be included in the Fiscally Constrained Plan document. However, they are just as important as the other proposed improvements for the I-65 South corridor and have been incorporated into the RTP’s Visionary Plan.

The proposed interchange reconfigurations and bridge replacement projects meet the criteria for exempt project types (i.e. projects that need not be included in regional air quality conformity analysis based on the guidance provided in 40 CFR Chapter 1 § 93.126 and § 93.127). While these projects are not synonymous with non-capacity projects, they typically tend to be improvements that do not add additional roadway capacity and could qualify as operational improvements. As such, they are included in the fiscally constrained plan and have been identified as non-capacity projects.

The proposed interchange reconfiguration projects, in particular, represent a minimal level of effort in operational improvements that are needed in order to make travel in the I-65 south travel corridor better.

\textsuperscript{14} This document can be obtained at: http://www.fhwa.dot.gov/environment/noise/type1mem.htm
A transit element which identifies express bus services in the corridor is generally discussed in Section 5.2, Public Transportation Program. Roadway improvements include the addition of high occupancy vehicle (HOV) lanes and auxiliary lanes. The Alabama Department of Transportation is currently constructing additional roadway lanes between Alabama State Route 119 and US 31 in Alabaster, widening the roadway from four lanes to six lanes. However, the roadway has physically been widened to eight lanes, with the eighth lane being striped out so as to preclude its use as a travel lane. It is proposed that the eighth lane will open to traffic as an HOV facility once it has been determined how HOV traffic might make the transition onto I-459 and also across I-459 in order to continue on I-65 through downtown Birmingham. Both the HOV facility and the auxiliary lanes are included in the Visionary Plan.

Following is a description of the proposed interchange reconfiguration improvements and bridge replacement projects for the I-65 south corridor. Auxiliary lanes were not included in the following project descriptions. However, they are certainly capacity projects as they run continuously between each of the interchanges identified in Table 5.17.
### Table 5.17 I-65 South Corridor Proposed Interchange Modifications

<table>
<thead>
<tr>
<th>Project</th>
<th>From/To</th>
<th>Description</th>
<th>Total Capital Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valleydale Road - Proposed Interchange Modification</td>
<td>I-65 Ramps @ Valleydale Road</td>
<td>Reconstruction of both loop ramps to accommodate the widening of the main lanes. It also includes the addition of a third eastbound lane on Valleydale Road.</td>
<td>$12.19 Million</td>
</tr>
<tr>
<td>Old Rocky Ridge Road- Bridge Replacement</td>
<td></td>
<td>Replace the bridge in order to provide a sufficient span length to accommodate auxiliary lanes on the main lanes.</td>
<td>$3.49 Million</td>
</tr>
<tr>
<td>US-31 – Proposed Interchange Modification</td>
<td>I-65 Ramps @ US 31</td>
<td>Reconstruction of all ramps and reconfiguration of the Columbiana Road and Lorna Road intersections to reduce turning conflicts and the number of signal phases in order to improve operations.</td>
<td>$15.25 Million</td>
</tr>
<tr>
<td>Alford Avenue – Proposed Interchange Modification</td>
<td>I-65 Ramps @ Alford</td>
<td>Reconstruction of all ramps in order to improve the ramp grades and to accommodate the lane balance for proposed northbound and southbound auxiliary and truck lanes.</td>
<td>$7.76 Million</td>
</tr>
<tr>
<td>Lakeshore Parkway – Proposed Interchange Modification</td>
<td>I-65 Ramps @ Lakeshore Parkway</td>
<td>Reconstruction of all ramps in order to accommodate the lane balance for the proposed auxiliary and truck lanes in addition to providing an additional lane on Lakeshore Parkway to improve the signal timing of at the ramp terminals.</td>
<td>$15.02 Million</td>
</tr>
<tr>
<td>Oxmoor Road – Proposed Interchange Modification</td>
<td>I-65 Ramps @ Oxmoor Road</td>
<td>Reconstruction of all ramps in order to widen the ramps and improve horizontal and vertical geometry and improve traffic signal phasing at the ramp terminals.</td>
<td>$10.89 Million</td>
</tr>
<tr>
<td>Valley Avenue- Bridge Replacement</td>
<td></td>
<td>Replace the bridge in order to provide a sufficient span length to accommodate auxiliary lanes on the main lanes.</td>
<td>$4.93 Million</td>
</tr>
<tr>
<td>Green Springs Avenue– Proposed Interchange Modification</td>
<td>I-65 Ramps @ Green Springs Avenue</td>
<td>Reconstruction of all ramps in addition to providing an additional lane on Green Springs Avenue to improve the signal timing at the ramp terminals.</td>
<td>$7.01 Million</td>
</tr>
<tr>
<td>University Boulevard and Sixth Avenue Proposed Interchange Modification</td>
<td>I-65 Ramps @ Green Springs Avenue</td>
<td>Reconfigure the I-65 ramp and access between University Boulevard and Third Avenue South to improve the existing ramps grades; provide a split diamond interchange between University Boulevard and Sixth Avenue South; connect Third and Fourth Avenues South to 10 Street at a single intersection, and; eliminate the Fourth Avenue exit and the Third Avenue entrance ramps.</td>
<td>$17.9 Million</td>
</tr>
</tbody>
</table>
B. Visionary Regional Transportation Plan – Project Highlights

B1. I-65 High Occupancy Vehicle Lanes

The I-65 Mobility Matters project produced recommendations for several new projects. Among these was the recommendation to add high-occupancy vehicle (HOV), auxiliary, and truck climbing lanes along the I-65 South corridor. The recommendation for HOV lanes in the I-65 South corridor is not new, and in fact the recommendation for the facility was first identified in a Blue Ribbon study of public transportation conducted during the mid-1990s. The recommendation was again made during the development of the Strategic Regional Multimodal Plan, the Birmingham metropolitan planning area’s first Congestion Management System (CMS), and predecessor of the Birmingham Regional Congestion Management Process (CMP). The 2004 Birmingham Regional Alternatives, the transportation planning area’s first comprehensive transit system plan, explored the idea of implementing HOV lanes in the I-65 South Corridor. The Mobility Matters project, described previously, is a further refinement of this effort.

High occupancy vehicle lanes, as proposed by the Mobility Matters project, would run between University Boulevard in the City of Birmingham and Valleydale Road in the City of Hoover. The Birmingham Regional Alternatives Analysis called for the facility to extend to US 31 in Alabaster. The updated Unified Birmingham Regional Transit Plan calls for the HOV lanes to extend all the way to Alabama State Route 25 in the City of Calera at the southern edge of the transportation planning area. The Unified Birmingham Regional Transit Plan is the Birmingham Jefferson County Transit Authority’s Comprehensive Transit Development Program, the Birmingham Regional Alternatives Analysis, and the corridor specific Alternative Analysis projects. These individual plan’s recommendations have been incorporated into a summary brochure, Regional Transit System 2009, and are presented in Figure 5.4, Page 5-21.

An HOV lane (sometimes called carpool or diamond lanes) is a lane on the highway that is reserved for vehicles carrying two or more people. There are different restrictions on HOV use depending on the region and/or State that operates the HOV facility; some areas restrict HOV use to three or more people (some regions/States do not count children), allow single-occupant vehicles after a certain time of day, and allow alternative fuel or small vehicles. The proposed HOV facilities for the I-65 South corridor are proposed to be HOV-2/24 (i.e. restricted to two or more people and operate 24-hours a day).

HOV lanes are typically marked with a diamond icon every few hundred feet (hence the nickname "diamond lane"), and may be separated from other travel lanes by double broken white lines, a continuous pair of double yellow lines, or just a single broken white line. In some cases they may be physically separated from other travel lanes by Jersey barriers or bollards with access and egress occurring at slip ramps before and after the physical separation points. They may even be separate facilities all-together. Some HOV facilities are reversible, meaning that the travel lanes may be reversed to allow traffic to move in directional flows. Reversible HOV facilities are typically used to provide additional roadway capacity in areas where right-of-way is restricted. However, because of the history of numerous crashes reversible lanes are rarely used. It is envisioned that directional HOV lanes (one running North and one running South) will be implemented on I-65 South, and that these facilities will be separated from general travel lanes using double broken white lines. HOV lanes will be located at the center (inside left-most lanes) of the interstate. Access to and from the lanes will be provided via slip ramps and four dedicated HOV interchanges/ramps. The HOV interchanges/ramps are proposed to be located at:
Figure 5.21 illustrates the HOV facility placement in relationship to the I-65 South travel corridor, HOV interchange/ramp locations, interchange modification locations, and the location of auxiliary and truck lanes.

Figure 5.21 I-65 Mobility Matters Recommended Facility Improvements
B2. I-65 Truck Lanes

In addition to the HOV facilities and auxiliary lanes that the Mobility Matters project recommends to be added to the I-65 South corridor, truck lanes have been proposed to be added between US 31 and Alford Avenue in the northbound direction and between Lakeshore Parkway and Alford Avenue in the southbound direction. The proposed lane would serve as a truck climbing lane, and would allow large trucks their own lane on the long and steep uphill stretch of I-65 as it crosses Shades Mountain. The addition of the facility along this stretch of high-speed roadway will enhance the ability of vehicles which can maintain speed up the incline to pass those vehicles which cannot. Likely the lane will be marked only on the uphill stretch and for a short distance afterward (for regaining speed). While the Heavy vehicles such as RVs may also use the lane as these vehicles also often have challenges traversing steep terrain. The proposed I-65 truck lanes also provide safety, congestion, and environmental benefits. These include:

- **Safety** - Providing a truck climbing lane allows vehicles traveling at the speed limit to safely pass slow-moving vehicles.
- **Congestion Reduction** - The new climbing lane will increase mobility by reducing traffic back-ups on the steep grades and allowing for faster vehicle speeds.
- **Environment**. Improved stormwater treatment likely will be incorporated.

In addition to these benefits, the proposed truck lanes will help to optimize pavement performance and minimize pavement fatigue. This is especially helpful in this stretch of I-65 where truck traffic is taking its toll on the pavement crossing I-65 as well as on the ramps entering and exiting from I-459.

As described previously, the truck lanes would extend between the US 31 and Alford Avenue interchange in the northbound direction, and the Lakeshore Parkway and Alford Avenue interchange in the southbound direction. Truck climbing lanes are described as “exempt projects” in federal air quality regulations. However, this only applies to truck climbing lanes in rural areas. In addition, because the truck lane technically fits the definition of an auxiliary lane as provided in 23 CFR 771.117(d)(1), it is also subject to the FHWA guidance about the characteristics of an auxiliary lane and what may be considered as an operational improvement. Because of this, the proposed truck lane is considered to be a capacity addition.

Because the 2035 Birmingham RTP is limited in the amount of funding that may be spent on capacity projects, at present, there is no readily available federal, State, or local funding sources that can be applied to this project in order to bring it into the Fiscally Constrained RTP. This does not mean that this is not a good project. It simply means that all available funding is currently committed to other projects. Figure 5.22 presents an illustration of what a truck lane looks like on an interstate roadway.
B3. I-20/59 De-Elevation

The City of Birmingham, through its City Center Master Plan, has proposed that a 1.5 mile segment of I-20/59, which passes through downtown Birmingham beginning at 31st Street and terminating at I-65, be removed and the rebuilt roadway lowered. A formal request to add the project to the 2035 Birmingham Regional Transportation Plan was made by the City of Birmingham in March 2009, via letter from the City of Birmingham’s Chief Executive Official, at that time Mayor Larry P. Langford. The request, although reasonable, is unable to be placed into the fiscally constrained plan at this time for the following reasons:

- **Project Request Protocol** - All requests for modifications to interstate roadways must be made by the Alabama Department of Transportation.

- **Fiscal Constraint** - The 2035 - Birmingham RTP cannot achieve fiscal constraint with the addition of this project, which is estimated to cost between $600 and $800 million.

Because of these limitations, the requested project to remove and lower the segment of I-20/59 between I-65 and 31st Street as it travel through downtown Birmingham has been placed into the RTP’s Visionary Plan. The Visionary Plan is an unconstrained, non-conforming transportation plan that presents a list of desired projects. Figure 5.23 provides an illustration of the proposed project.

![Figure 5.23 I-20/59 De-Elevation Concept](image-url)
B4. I-459 Corridor Projects

The communities in the I-459 corridor have grown very rapidly since the opening of I-459 to traffic during the 1980s. They have continued to flourish through much of the start of this new century, and cities such as Bessemer and Helena are starting to benefit directly from their placement along I-459. The City of Hoover, in particular, has benefited substantially from the development of I-459, and cities along the I-459 corridor, the I-65 corridor, the I-20 corridor, and the I-59 corridor are all trying to emulate Hoover’s success. Likewise, communities located along the proposed Northern Beltline corridor also want to emulate the City of Hoover’s success. It is this desire that has fueled the overwhelming push for developing new roadways and/or improving/upgrading existing facilities.

While Hoover has capitalized on I-459’s opening, its growth in size, population, and employment has fueled a steady demand for new and/or improved transportation infrastructure and services. Included in this are demands for new access points and new roadways to serve developing areas. There also exists a demand for transportation infrastructure to support economic development, whether it is to improve existing facilities in order to provide congestion relief at retail locations or extensions of existing roadways to overcome both natural and man-made barriers so that connectivity is provided to and between areas. Following is a listing and description of proposed projects in the I-459 corridor that are meant to accomplish and/or address many of the issues that were just discussed.

**Ross Bridge Parkway Extension** - The City of Hoover has proposed extending the existing Ross Bridge Parkway from its terminus at State Route 150 to connect with a proposed interchange at I-459, west of I-459’s existing interchange with State Route 150. Ross Bridge Parkway would extend through the interchange and cross South Shades Crest Road west of the roadway’s northern crossing of the CSX rail line. It will end southward, paralleling the South Shades Crest Road, and terminate either at one of two locations - Elvira Road which eventually runs into Shelby County Road 52, or south of this location directly at Shelby County Road 52. The roadway would provide an alternate route to I-459 for traffic traveling on Shelby County Road 52 out of the North Shelby County communities of Helena, Alabaster, and Maylene. It would also provide improved access to The Grove, a retail activity center located at the interchange of I-459 and State Route 150.

**South Shade Crest Road Interchange** - In 2007, the City of Hoover completed an interchange justification study (IJS) for a new interchange proposed to be located to the west of South Shades Crest Road’s crossing with I-459. The interchange would connect with a proposed extension of Ross Bridge Parkway, and provide access to residents of both the Ross Bridge mixed-use community and residents living along South Shades Crest Road. The IJS was submitted to the Alabama Department of Transportation for review.

**Stadium Trace Parkway Extension** – The City of Hoover has proposed to extend the existing Stadium Trace Parkway from its existing terminus within the Trace Crossings neighborhood to the proposed extension of Ross Bridge Parkway. The extension of Stadium Trace Parkway would effectively provide a southern access point to the Trace Crossings neighborhood, shortening trips for residents traveling to and from the North Shelby County communities of Helena, Alabaster, and Maylene, and providing additional access to Hoover High School and Region’s Park (see Figure 5.24).
B5. U.S. 280 Toll Facility/Elevated Lanes

The US 280 corridor has generated a multitude of proposed strategies for addressing the chronic and pervasive congestion that presently impacts travel in the corridor. As described in the discussion about previous and ongoing studies, the Alabama Department of Transportation is currently pursuing the development of an elevated roadway structure to provide additional capacity to the US 280 corridor. ALDOT is currently undertaking the design of the facility and it is anticipated that they will initiate the environmental review process in 2010. The proposed roadway was submitted by the Alabama Department of Transportation to the US Department of Transportation for funding under the American Recovery and Reinvestment Act’s (ARRA) Transportation Improvement Generating Economic Recovery (TIGER) discretionary grant program. The project has received strong support from the Governor’s Office. Governor Bob Riley has stated that development of the project is his office’s top transportation priority. At the writing of this document, no word has been received on the status of the project or the award of funding.

Despite the Alabama Department of Transportation’s efforts to develop the elevated roadway concept as a solution for the US 280 corridor, no consensus has been reached on the effectiveness or appropriateness of the project for the corridor. Further, the Birmingham MPO has been unable to establish whether or not the proposed elevated roadway was evaluated in relationship to other roadway design and/or mobility alternatives as recommended in the Birmingham Regional Congestion Management Process. This has limited the MPO’s ability to compare the project’s merits and determine its feasibility.

The proposed US 280 Toll Facility/Elevated Lanes project is unable to be placed into the Fiscally Constrained RTP at this time for the following reasons:

- **Fiscal Constraint** - The 2035 - Birmingham RTP cannot achieve fiscal constraint with the addition of this project, which is estimated to cost between $600 and $800 million.

- **Project Development** – The ALDOT has developed preliminary concepts for toll facility/elevated lanes for U.S. 280, but has not officially requested that the project be included in the Regional Transportation Plan. Consensus among the residents and elected officials would be beneficial for inclusion in the RTP. In addition, the transit Alternatives Analysis project for the U.S. 280 Corridor, being developed under the Federal Transit Administration New Starts guidelines, will provide the environmental process with non-single occupant vehicle alternatives.

Even though the MPO has not made a recommendation about the merits of the proposed US 280 project, the project is being included in the RTP’s Visionary Plan. This is being done in order that the project might be further developed and refined, as well as positioned to receive any federal funding that may become available. In the event that funding is provided for the proposed project through the TIGER discretionary grant program or some other source of funding, the Birmingham MPO will take the appropriate actions to address the project’s inclusion and/or omission from the Fiscally Constrained RTP project listing. Figure 5.25 presents the proposed concept for the development of the US 280 Corridor.
Figure 5.25 Proposed US 280 Modifications
Source: Birmingham News & Figg Engineering
**B6. Corridor X (Future I-22) Extensions**

Once completed, Corridor X will terminate at US 31 in North Birmingham. The termination of the roadway at US 31 will effectively end the through movement of traffic attempting to reach I-20/59, forcing traffic that desires to continue to I-20/59 onto I-65 through the I-20/59 interchange and through downtown Birmingham. This interchange and the segment of I-20/59 that passes through downtown Birmingham are already congested. They are expected to experience even more congestion in 2035. With this being said, consideration should be given to extending Corridor X to State Route 79.

The proposal for extending Corridor X is not a new idea, and is not without disagreement. Given the history of the interstate system’s development as it relates to minority and low-income communities, there are political sensitivities to making such recommendations. As such, both local government agencies and the Alabama Department of Transportation have attempted to avoid projects that potentially could cause controversy, even if the project proposal is a good idea. The 2035 Birmingham RTP wants to recognize the primary issues and concerns with the proposal, acknowledging them as challenges that might be overcome in order that a workable solution might be achieved. However, like most of the other projects included in the Visionary Plan, the proposed extension of Corridor X cannot be included in the Fiscally Constrained RTP for the following reasons:

- **Fiscal Constraint** - The 2035 - Birmingham RTP cannot achieve fiscal constraint with the addition of this project.
- **Lack of Consensus** - There is a lack of popular and political consensus among the residents and elected officials of the communities that are immediately adjacent to and impacted by the Corridor X extension, primarily because of Environmental Justice considerations and the historic development of the interstate roadway system.

The two primary issues and/or concerns that will most certainly need to be addressed in the planning process are issues of environmental justice and cost. First of all, the proposed extension poses an environmental justice challenge. That is, the proposed Corridor X extension will presumably impact the low-income minority neighborhoods of North Birmingham. Secondly, the cost to extend the roadway, although not yet determined, is believed to be beyond the expected available federal funds which would be applied to the project’s construction. This is especially true if the project were to be constructed at the existing typical section, complete with an interchange at State Route 79.

In order to advance this proposal from concept to project, the 2035 Birmingham RTP proposes that a two-phased initial planning process be pursued. The first phase involves conducting a feasibility study to assess whether or not the idea of extending Corridor X from its terminus at US 31 to State Route 79 can realistically be accomplished given the set of known challenges. If the project is found to be feasible, the next phase in the project’s development should be the active engagement of area residents and businesses in order to craft a draft conceptual design of the proposed roadway extension. This process will enable residents and businesses alike to provide input to the ALDOT about the key features that the roadway should include, and the issues/concerns that need to be addressed. It also enables the community to take ownership of the project on the front end versus putting the ALDOT in a position to defend a design. Concurrent to the phase two efforts, the ALDOT should also develop the necessary environmental documentation needed to advance the project through its federal approvals.
B7. Finley Boulevard Extension

Highway alignments or projects through the northern sector of Birmingham in the vicinity of the Finley Boulevard Extension East have been under consideration for over 40 years. Phased development of design and construction began in the early 1960s leading to the Finley Bypass and the extension of Finley Avenue to 26th Street in North Birmingham. Planning for the proposed extension of Finley Avenue to Vanderbilt Road/Tallapoosa Street began in 1968 with preliminary designs for an arterial roadway. Finley Avenue and East Lake Boulevard both were included in the Major Thoroughfare Plan, Birmingham Urban Area, approved in 1971, and have been consistently included in the Birmingham Area Transportation Improvement Program ever since.

The project addresses a transportation safety and security issue for the Collegeville neighborhood located within the City of Birmingham. Collegeville is surrounded on all sides by active rail lines that cross the entrance roadways at-grade. Trains often block these roadways, preventing access to and from the neighborhood for long periods of time. This lack of accessibility has prevented emergency vehicles from entering the neighborhood and has contributed to the loss of life. It has also endangered the lives of neighborhood children who often risk crossing blocked tracks in order to reach school on time. This too has contributed to the loss of limb for at least one child, and endangered the lives of many others. The Birmingham Metropolitan Planning Organization assisted the City of Birmingham in the provision of closed circuit video cameras to monitor neighborhood entrances and inform emergency dispatchers. However, the proposed Finley Boulevard project would help to create a permanent unobstructed access point to the Collegeville neighborhood.

At present, the Birmingham Area Transportation Improvement Program has $6,572,744 in federal funds ($8,215,930 total) programmed for the Finley Boulevard project’s implementation. An additional $18,017,960 is programmed in year of expenditure dollars in the fiscally constrained element of the 2035 Long-Range Transportation Plan and $47,000,000 is programmed in year of expenditure dollars in the visionary element of the 2035 Long-Range Transportation Plan.
5.5.9 Studies and Programs

In addition to the physical projects that are listed in both the RTP’s Fiscally Constrained and Visionary Plan documents, there are a number of studies that need to be undertaken in order to identify potential transportation infrastructure projects and other solutions to known travel issues. These would include the corridor and area studies undertaken directly by the Birmingham MPO, as well as plans that are developed and/or studies that are undertaken by the Alabama Department of Transportation, the local municipalities and county governments of the Birmingham metropolitan planning area, or other agencies responsible for transportation infrastructure and transportation service delivery.

The 2035 Birmingham RTP is making a strong recommendation that local governments consider requiring traffic impact studies for new development that meets certain thresholds. The traffic impact studies may vary in intensity and scope. However, it is the position of the Birmingham MPO that this scope should be established by the local government and not the land developer. Further, it is recommended that the local governments use the results of the traffic studies to obtain needed transportation infrastructure improvements, particularly if this infrastructure will be directly impacted by the development. Improvements may range from the simple preservation of right-of-way all the way to requiring a developer to construct improvements as part of their project’s local approval.

Following is a brief description of the plans and/or studies specific to roadway development that should be undertaken during the life of the 2035 Birmingham RTP.

- **US 78 Corridor Study** - With the completion and opening of Corridor X to traffic, the Birmingham MPO is recommending that a corridor study be completed for the US 78 corridor between I-20/59 and the City of Graysville. The study’s purpose will be to reevaluate the need for the planned/programmed capacity projects for US 78 as directed by the Birmingham Regional Congestion Management Process. In reevaluating the existing planned and/or programmed projects, it is hoped that other improvement types might be determined in order that the newly emerging needs of the corridor might be adequately addressed. It is envisioned that the corridor study will look at opportunities to reorganize and/or influence land uses in the corridor in relationship to the changes in the roadway’s traffic and travel characteristics, and that the transportation infrastructure will complement/support these changes. Solutions will seek to follow the guidance provided in the Birmingham Regional Congestion Management Process.

- **US 11 West Corridor Study** - The Birmingham MPO has been fortunate enough to obtain federal funding over the past decade to conduct corridor specific transit alternatives analysis studies in order that identified projects from the studies might successfully compete for Federal Transit Administration New Starts Program funding. The US 11 West Corridor (i.e. Bessemer Super Highway) is one of the corridors that is fortunate enough to have available federal funding. The study is intended to provide the Birmingham MPO, the cities having jurisdiction along the corridor, and Jefferson County with an agreed upon menu of transportation alternatives to improve travel in the corridor. It is also meant to determine how the transportation system might aid in restoring the corridor’s economic vitality, supporting the development of places, and facilitating reduced vehicle miles travelled. It is envisioned that the study will build upon the recommendations from the Birmingham Regional Alternatives Analysis of 2004 which developed the basis of the regional transit system plan.

- **Regional Thoroughfare Plan** - The purpose of the Regional Thoroughfare Plan is to establish for the counties and local jurisdictions within the metropolitan planning area a framework for analyzing, planning, and developing the future roadway network to include consideration of
capacity expansion along existing roadways, the placement of new roadways, and accommodations for non-motorized travel. As described in Section 5.5.7, it is envisioned that local thoroughfare plans and area wide transportation plans will be used to inform the regional transportation planning effort.

It is also envisioned that the basic structure of the Regional Thoroughfare Plan will draw from the adopted functional classification system of roadways and rely on the SmartCode, a unified land development ordinance template for planning and urban design. The thoroughfare plan will provide local governments with a template that serves as a tool which helps in identifying new roadway connections and updating existing infrastructure updates. The thoroughfare plan template may also make recommendations for modification of roadway functional classification in order to reflect observed changes to the roadway’s function and character. The Regional Thoroughfare Plan will be supported by a number of functional plans, most notably the Non-Motorized Transportation Plan and Freight and Goods Movement Plan.
5.6 Project Prioritization Methodology

5.6.1 Introduction

The development of the 2035 Birmingham Regional Transportation Plan (RTP), the long range transportation plan for the Birmingham metropolitan planning area, is a collaborative effort of the Alabama Department of Transportation, the Alabama Department of Environmental Management, the Environmental Protection Agency, the Birmingham-Jefferson County Transit Authority, the Jefferson County Department of Health, the Regional Planning Commission of Greater Birmingham, the Birmingham Metropolitan Planning Organization, the Federal Highway Administration and the jurisdictions of both Jefferson and Shelby County, Alabama. The projects and strategies included in the Regional Transportation Plan represent the consensus of these entities as to the transportation system investments that are to take place through the year 2035 considering the federal, state, local, private, and other funding sources that are reasonably expected to be available for the planning area within the time period.

This section of Chapter 5 describes the process for evaluating and prioritizing projects for inclusion in the 2035 Birmingham Regional Range Transportation Plan and Transportation Improvement Program (TIP). The Birmingham MPO has designed this process to assist with developing the RTP and TIP within a fiscally constrained environment. Detailed project evaluation (questionnaires and ranking table) are included in Appendix 5D.

The following guiding principles framed the Birmingham MPO’s design of the project evaluation process:

- The evaluation of projects should be linked to the adopted goals of the RTP within which are several objectives meant to guide MPO policies, strategies, and activities, each of which helps to accomplish the required SAFETEA-LU planning factors
- Every project should be evaluated based on its likelihood to aid in attaining the Birmingham MPO’s stated RTP goal
- The criteria used to evaluate projects should include a mix of quantitative criteria (objective) and expertise-based criteria (objective and subjective)
- The evaluation process conducted within the framework of available Birmingham MPO resources and capabilities

Technical Advisory Work Group (Work Group) provided input to the 2035 Birmingham RTP development process. The Work Group was comprised of representatives of the MPO’s Transportation Technical Committee and both transportation planning and community planning professionals from the Birmingham region’s consulting community as well as public agencies. Other regional stakeholders representing citizens, business, and elected officials alike were also consulted in the development of the prioritization criteria and project evaluation methodology. Their comments have been appropriately integrated.

The RTP goals articulated by the Birmingham MPO encompass three broad areas that are reflective of a regional set of Guiding Principles, or beliefs about how the transportation system should develop and function in order to achieve its envisioned end state. They are:
Goal 1: Transportation System Sustainability
Manage, maintain and enhance the existing transportation system over time

Goal 2: Transportation System Integration and Connectivity
Develop a regional transportation system that improves the ability to move around and provides access to services and opportunities

Goal 3: Community Driven RTP
Develop a regional transportation system that involves the community in the decision-making process, reflecting their vision and values

The RTP’s Guiding Principles, Goals, Objectives, and Policies can be found in Chapter 3, RTP Goals and Objectives.

The RTP goals also reflect the SAFETEA-LU planning factors. Evaluation measures are based on these goals and attempt to assess the merits of individual projects relative to the RTP goals. All roadway capacity projects included in the RTP, with the exception of those projects that are included in the currently adopted, Fiscally Constrained Transportation Improvement Program (FY 2008-2011) and have both completed the preliminary engineering process and an approved environmental document, have been evaluated and prioritized based on the measures identified within this document. The project exceptions are referred to as “grandfathered” projects. Separate, but similarly constructed evaluation measures have been developed for non-motorized transportation projects and public transit projects, allowing similar, standalone projects to be compared against one another. With these items as a foundation, the Birmingham MPO designed the process to facilitate an evaluation of projects in a manner that is credible and understandable.
5.6.2 Project Evaluation and Rating Concept

As shown in Figure 5.26, the project review and ranking process consists of four steps:

Step 1 Project Identification
Step 2 Project Screening
Step 3 Project Evaluation and Rating; and
Step 4 Project Selection and Implementation

Each step is dependent on inputs from the prior step; the process therefore works in a logical, “building-block” manner.

Figure 5.26 Overview of the The Birmingham Metropolitan Planning Project Review and Ranking Process

A. Step 1: Project Identification
The first step in the process is to identify the pool of projects that are candidates for evaluation and prioritization. For each RTP and TIP Update cycle, projects may be identified based on information and input from a variety of sources. These may include:

- Committed projects already in the current Transportation Improvement Program (TIP) i.e. projects that have advanced beyond the preliminary engineering and environmental phases
- Projects identified and prioritized in the currently adopted long range transportation plan
- Projects identified through the ongoing MPO planning process and local and state government transportation studies

Projects might also be identified through:

- State or local transportation studies
- The scenario planning process, and/or
- An ongoing public involvement process
The Congestion Management Process - The Birmingham Metropolitan Planning Organization (MPO) recently reconstituted its congestion management process. This entailed updating information about the Birmingham metropolitan planning area’s transportation system, reaffirming and modifying the toolbox of congestion management strategies, and clearly defining roles, responsibilities, policies, procedures, and expectations for the Congestion Management Process (CMP). The CMP is the umbrella framework for all of the different ways to identify and evaluate future motorized travel needs. This includes maintenance and expansion of the Regional Travel Demand Model to prepare motorized traffic and transit forecasts in order to report on regional travel statistics. It also includes reviewing the results of planning activities undertaken by local communities as well as the Alabama Department of Transportation (ALDOT). Such planning activities include, but are not limited to:

- Local Master Plans/Comprehensive Plans
- Corridor Studies
- Thoroughfare Plans
- Transit Studies and Plans

The Congestion Management Process is also charged with consideration of special corridor or area studies that look at particular travel problems in more detail in order to identify, evaluate, and recommend transportation projects. Finally, the CMP is charged with evaluating specific strategies for effectiveness. This will be done with “before and after” studies (i.e. post-project implementation studies).

Public Input and Other Considerations - Public input always plays a role in determining the projects included in the RTP. The public is provided a number of opportunities to contribute thoughts and ideas to the RTP during its development process. In addition, the public is also afforded the chance to provide input on specific plan elements. Therefore, it is very probable that the compilation of projects and strategies contained in the RTP might also include and/or remove potential projects resulting from public input and other considerations.

B. Step 2: Initial Project Screening

Step 2 consists of an initial project screening process. The Step 2 screening assists in “weeding out” projects and programs that may need additional consideration and/or development before they are considered for inclusion in the fiscally constrained RTP. Key considerations in the screening process include determination of the necessity for the candidate project in relation to regional transportation system needs. The initial screening process also provides a very basic indication of project feasibility. Other considerations include the level of local support for candidate projects and programs, and identification of potential fatal flaws that might pose significant obstacles to project implementation. The screening of each project asks the following questions:

- **Eligibility**
  - Is the candidate project eligible to receive federal funding?
  - Project affordability?
  - Does the candidate project’s total cost exceed 50% of the Birmingham MPO’s expected revenues for three or more consecutive fiscal years?
  - Has the candidate project already been included in the Fiscally Constrained Regional Transportation Plan or otherwise eligible for consideration to be amended into the Fiscally Constrained RTP?
• **Environmental Impacts**
  - Are there any obvious environmental impacts resulting from the construction and/or continued operation of the project that cannot be avoided, minimized, or mitigated?

• **Local Support**
  - Does the candidate project have support from affected agencies/governments that will be impacted and/or will be responsible for implementation, maintenance, or operations?
  - Does the candidate project have support from the local community (i.e. residents and businesses located within the affected city/community)?

The Birmingham MPO used the answers to the Step 2 process to determine whether or not a candidate project or program would be advanced to the review and rating process (Step 3) so that it might be included within the RTP. It is important to recognize that a negative answer to any of the screening questions did not necessarily mean a project would be prohibited from being evaluated. However, the Birmingham MPO reserves the right to determine the extenuating factors, circumstances, and context associated with a project that do not pass the Initial Project Screening and may decide, based on these considerations, whether or not the project is eligible to advance further into the evaluation process.

In addition, a project that does not meet the initial screening criteria may be identified for informational purposes in the RTP’s Visionary Plan, placing the candidate project outside of the realm of fiscal constraint and conformity determination. Finally, the Birmingham MPO may decide to not continue consideration of a project and direct that the project be dropped from the RTP all together.

**C. Step 3: Project Review and Rating Process**

Candidate projects that remained after Step 2 were evaluated in further detail within Step 3. The Step 3 evaluation involved assessing each of the candidate projects to determine how well they addressed regional transportation system development goals. This assessment was done by using a combination of quantitative and qualitative questioning. Separate, but similarly constructed evaluation processes exist for non-motorized transportation projects and public transportation projects.

**Goal 1: Transportation System Sustainability**

The effectiveness of programs and/or projects to satisfy Goal 1 is evaluated according to the following prioritized methodology which is itself based on the Birmingham Regional Congestion Management Process:

• **Maintenance and Operation of Existing Facilities** – Strategies that physically or operationally maintain a transportation facility in order that new or expanded transportation facilities do not need to be constructed.

• **Efficiency Improvements** – Strategies to improve the operational efficiency of existing transportation facilities and services, regardless of travel mode. This includes transportation system management strategies such as access management and intelligent transportation systems.

• **Removal of Trips from the Transportation System and/or Shift Travel Modes** – Strategies include travel demand management programs, and land use strategies. It also includes induced mode shifts such as those that discourage travelers from traveling by single-occupant auto and traveling by public transit, carpool/vanpool, cycling, or walking.

• **Increasing Capacity** – Strategies would include projects that add lanes that are accessible by single-occupant vehicles to roadways.

Funding is the last consideration for determining how well a project addresses Goal 1.
Goal 2: Transportation System Integration and Connectivity
The effectiveness of programs and/or projects to satisfy Goal 2 is evaluated according to the following measures of effectiveness:

- **Traveler Safety** - Assesses the extent to which the candidate project addresses identified travel safety problems. Such problems may include, but not be limited to:
  - High accident locations
  - Areas with high levels of pedestrians and vehicles interfacing
  - Roadway segments with higher than average accident rates, etc.

- **Transportation System Security** – Assesses the extent to which the candidate project addresses identified transportation system security issues. Such issues may include, but not be limited to:
  - Mass Evacuation
  - Hazardous Materials Movement
  - Critical Connections/Junctions
  - System Monitoring

- **Mobility** - Assesses the extent to which the project helps to improve mobility by reducing congestion on regional facilities. The evaluation of projects under this criterion should consider whether or not the project provides (a) a long-term congestion mitigation solution or (b) a short-term congestion relief action that will likely require further action within the next few years.

- **Accessibility** – Assesses the extent to which the candidate project helps to improve access to transportation facilities, services and/or activity centers. Such projects may be passenger and/or freight specific, may be any mode, and may include facility and/or service extensions, new facilities and/or services, or some combination of these.

- **Connectivity** - Assesses the extent to which a project helps improve travel options, efficiency and effectiveness that connect the Birmingham metropolitan study area with areas outside the study area. Such projects may be passenger and/or freight specific, may be any mode, and may include facility capacity expansion, entirely new facilities, or some combination of these.

- **Land Use** - The evaluation measure(s) assesses how well the candidate project complies with or clearly supports the achievement of adopted regional, county and local master plans and/or functional plan. This would also include an assessment of the extent to which the project provides transportation investment directly within, or for facilities that support, existing regional activity centers and targeted sub-regional or local activity centers and transportation corridors within the Birmingham metropolitan planning study area. The evaluation measures will also assess the extent to which the candidate project supports or enhances the addition of economic activity and/or jobs in the Birmingham study area.

- **Environmental Considerations** - The evaluation measure(s) assesses the extent to which the project would have direct development or construction impacts on the environment, including wetlands, historical and cultural resources, endangered species and the Birmingham region’s identified natural and built environments. Measures also consider the extent to which the project contributes to the goals and objectives of the Alabama State Implementation Plan (SIP) for achieving compliance with National Ambient Air Quality Standards (NAAQS). Finally, consideration is given to the extent that a project supports an equitable distribution of transportation investments across the region.
Goal 3: Community Driven RTP
The effectiveness of programs and/or projects to satisfy Goal 3 is evaluated according to the following measures of effectiveness:

Rational Planning Linkage – The evaluation measure(s) assesses the origins of the candidate project, specifically looking at whether or not a project is included within an adopted plan document that was developed through a rational planning process with input from the public and other community stakeholders. Documentation of the plan’s public involvement process either within the plan or as an appendix to the plan should be considered when determining the extent of the community’s involvement in the plan’s development.

5.6.3 Other Considerations

Multimodal Projects - The independent utility of roadway project improvements is the primary focus of the RTP evaluation process. However, roadway projects that include multimodal elements (i.e. addition of bike lanes, sidewalks, transit accommodations, etc.) are rewarded through the provision of additional evaluation points in order that the project might increase its placement within the overall prioritization of roadway projects. This directly supports the MPO’s policy for developing “Complete Streets,” and encourages project sponsors to make good roadway projects better by considering travel modes other than the single occupant vehicle.

The multimodal assessment is only applicable to roadway improvement projects. As described previously in this Section, a separate but similarly constructed evaluation process has been developed to assess the independent utility of stand alone non-motorized projects in order that these project types that are not associated with a roadway improvement might be compared against one another in order to determine their relative merits.

Roadway Congestion - An important consideration in the evaluation of all projects is the congested condition of the adjacent roadway. In the case of off-road trails, transportation greenways, or bicycle facilities, the congested condition of the closest parallel arterial or collector roadway (up to ½ mile away) which the non-motorized facility provides an alternative travel path is evaluated. The more congested a facility is in terms of travel time, as identified in the Birmingham Regional Congestion Management Process, the higher priority it is provided. The assumption of the RTP is that projects targeted at battling congestion are more effective and therefore are more important than projects intended to address other travel issues. The exception to this is safety and security projects. However, safety and security considerations are captured in the overall project evaluation methodology, and are weighted heavier than other evaluation criteria.

Roadway congestion accounts for 50% of the total score of roadway projects. This percentage varies for non-motorized projects as the focus for these projects differs from roadway projects.

5.6.4 Final Project Rating

A three-level rating system provides a generalized prioritization for each project considered for inclusion in the RTP. Project ratings are generally shown as:

- A full moon represents a high priority rating
- A half-moon represents a medium priority rating
- An empty moon represents a low priority rating
The intention of the rating system described above is to convey an easy way for readers of the RTP to understand which projects have been identified as most important from a regional perspective. More importantly, the rating system is meant to aid the project evaluation process to achieve transparency by making the basic concepts and intent of the project evaluation and rating process clearer. Decision-makers, project sponsors, and the public alike might all understand the rationale for a projects’ placement within the plan, and the level of effort with which the Birmingham MPO pursues the advancement of projects. Figure 5.27 illustrates Step 3 of the Project Review and Rating Process. The detailed questioning for both Step 2 and Step 3 with the final awarded rankings for highway capacity projects is included in Appendix 5.D, Project Prioritizations Methodology and Results.

5.6.5 Project Selection and Implementation – Transportation Improvement Program Development

The final step in the project evaluation and rating process is project selection. The term “selection” is a misnomer as projects are not actually selected. Instead, project selection relates to the placement of projects into the Transportation Improvement Program (TIP) which is an administrative process that encumbers real funding for a project’s implementation. Therefore, project selection is an element of the TIP development and project financing process. It is an important follow-on to the RTP project rating process, in that the TIP is the means by which the RTP is implemented.

A. RTP Priority

The TIP project selection and implementation step will consider the RTP project rating. Projects rated as high-priority within the RTP should be given greater preference for funding than a project with a lower rating. Note, that the RTP rating is to be used as a guide for TIP development. The final selection of projects to be programmed within the TIP depends on several factors. These factors include:

- **Local Priority**

  The local priority of candidate projects is a consideration in the selection of projects to be programmed into the TIP. Local jurisdictions shall submit a prioritized list of projects for consideration. These might include state led projects as well as local projects. Only projects on the federal aid highway system are eligible to receive federal road funding. All projects, regardless of their funding source must be listed in the TIP.

  The local jurisdiction’s prioritized list should be based on a plan document developed through a rational planning process, and has been adopted by the local jurisdiction. Plan documents include:
  - Community Master Plans (i.e. Comprehensive Plans)
  - Capital Improvements Plans/Budgets
  - Specialized Local/Regional Transportation Studies

  Studies/plans containing regional projects (i.e. projects that affect two or more local jurisdictions) should be endorsed by resolution by the majority of the affected jurisdictions within the study corridor/area.
**Project Readiness**
As part of the project selection and implementation step, candidate projects will be evaluated to ascertain their “readiness.” Assessing the readiness of candidate projects as part of the selection process for the TIP helps to ensure that projects are truly ready to be programmed into the TIP, and will be implemented within the life of the TIP. The project readiness screening process for the TIP should ask the following questions:

- Is the project contained in the fiscally constrained RTP?
  - What is the project’s priority within the fiscally constrained RTP?
- Is the project CMP compliant
  - The project is a stand alone congestion management strategy
  - The project includes/incorporates a congestion management strategy
  - The project sponsor has demonstrated that even with the inclusion of a congestion management strategy, a capacity expansion is necessary
- Is there community support for the project as demonstrated by comments received during a public involvement process?
- Have any known or documented constructability or implementation problems affecting the project been identified and considered?
- What is the overall state of the project’s readiness?
  - Has the project sponsor demonstrated a financial commitment to the project; will the project sponsor be able to provide adequate match/funding to cover the project’s full cost?
  - Has the project sponsor completed or is in the process of completing preliminary engineering and final design?
  - Will the project sponsor be able to construct/implement the project within the timeframe of the TIP?

Projects sponsors are requested to provide a written statement verifying their understanding that the project is deliverable within the requested funding time frame. This written statement should also include a brief summary of the anticipated project development schedule.

**Modal Evaluation**
The project selection and implementation step also considers candidate projects by mode and/or project type. This step enables like projects to be compared, helping to rank candidate projects within modal categories. Primary considerations within this step include:

- Project Achievement of RTP Goals and/or mode specific objectives
- Project Efficiency, and
- Project Effectiveness

**Funding Commitment**
Consider the local financial commitment to the project at the time of the funding request. Project sponsors should have documented proof of their financial commitment to the project to cover all project development and implementation phases. Project sponsors who provide overmatch funding will be rewarded by being given priority consideration on future projects.
B. TIP Status Report

The Birmingham MPO TIP Subcommittee will need to decide which projects that the Birmingham MPO has previously endorsed through their inclusion in the adopted TIP should be re-evaluated in light of the current planning environment. To assist in the determination of whether or not a project should be reevaluated, the Birmingham MPO TIP Subcommittee is provided with the following guidance:

- **Consider the level of project readiness** looking at such things as:
  - The level of project activity since the project’s initial entry into the TIP (i.e. determination of reasonable progress). As a rule of thumb, projects not implemented within two TIP cycles (four years) should be reevaluated
  - Completion of supporting planning documentation
  - Status of preliminary engineering, and environmental studies

  **Note:** Consideration of project readiness is an ongoing process of the TIP Subcommittee which is provided a bi-monthly report on project status and TIP funding balance

- Consider the priority placed on the project by its sponsor
- Consider the level of political support that the project has beyond that of the local project sponsor
- Consider the level of public support for the project
- Consider available funding

C. Funding Availability

The forecasts of funds that are reasonably expected to be available through year 2035 are established for each of the various federal, state, local, private, and other funding sources used to fund transportation system improvements and modifications. As part of the Project Selection and Implementation Process, each project or strategy will be matched to the appropriate funding source(s). In aggregate, the compilation of project types and strategies in the RTP must align with the available funding to cover the costs of those types of projects and strategies.
**Figure 5.28 Project Evaluation, Prioritization and Selection Process**

- **Goals Achievement**
  - How well does the project address the 3-RTP Goals?
  - 50% of Total Score

- **Goal 1**: How well does the project help to address transportation system sustainability?

- **Goal 2**: How well does the project address transportation system integration?

- **Goal 3**: Is this a project that the affected communities support?

- **Project Priority**
  - **High Priority** = Projects that have the greatest regional impact
  - **Medium Priority** = Projects that have a moderate regional impact
  - **Low Priority** = Projects that have the least regional impact

- **Fiscally Constrained Modal Project List**

- **Project Status**
  - What is the project’s status in terms of federal funding obligation?

- **Funding Availability**
  - How much does the project cost?
  - How much funding is forecast to be available within the RTP?

- **Local Priority**
  - What is the local community’s priority for the project?

- **Transportation Improvement Program**

**Project Readiness**

- How ready is the project to advance?

- What is the project sponsor’s financial capacity/commitment to the project?
D. Public Input and Other Considerations

Although the previous documentation describes attempts to capture the major considerations in selecting projects, there are always some special considerations. These considerations need to be addressed in either an area wide strategy or, if necessitated, with regard to a particular project. Such considerations might include:

- The needs of special populations not adequately captured/reflect in the project evaluation criteria
- Environmental considerations
- Development and economic impacts

Figure 5.28 presents a generalized description of the project evaluation and selection process for the TIP. In particular, this process is tied back to the Congestion Management Process where on-going monitoring and evaluation of implemented RTP projects occurs. It is through this monitoring and evaluation process that the Birmingham MPO will obtain information to guide its development, selection, and ultimately the implementation of future projects.

It should be noted that this process is dynamic in nature, and is subject to modification between RTP updates and TIP development cycles. Modifications made to this process will incorporate new federal guidance when it becomes available. Performance measures will also reflect the availability of new/better data about the transportation system, and use new analytical tools from which information might be derived. Other modifications to the evaluation criteria might be made in order to reflect changes in regional priorities, changes in funding sources or levels, and changes in public attitudes.