Dothan Urbanized Area

Southeast Wiregrass Area MPO

2040 Metropolitan Transportation Plan

SOUTHEAST WIREGRASS AREA METROPOLITAN PLANNING ORGANIZATION

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2040 METROPOLITAN TRANSPORTATION PLAN

Southeast Wiregrass Area Metropolitan Planning Organization

For additional information, please contact:

Todd L. McDonald AICP, City of Dothan Planning Director
Southeast Wiregrass Area Metropolitan Planning Organization (MPO)
City of Dothan
Department of Planning and Development
P. O. Box 128, Dothan, Alabama 36302
334-615-4410 (tel)
334-615-4419 (fax)
Email: tmcdonald@dothan.org

Website address: www.dothan.org

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This document was prepared as a cooperative effort of the U.S. Department of Transportation, Federal Highway Administration, Alabama Department of Transportation, Federal Transit Administration, and local governments in partial fulfillment of requirements in amended 23 USC 134 and 135 (MAP-21 Sections 1201 and 1202, July 2012) and Task 3.5.1 of the Southeast Wiregrass Area MPO FY 2015 Unified Planning Work Program. The contents of this document do not necessarily reflect the official views or polices of the U.S. Department of Transportation.

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Mr. Andres Ramirez*	Community Planner, Federal Transit Administration

*Indicates non-voting member

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Robert Cox	Assistant Traffic Engineer, City of Dothan
Todd McDonald, AICP	Planning Director, City of Dothan
Barkley Kirkland	County Engineer, Houston County Road and Bridge Department
Myer Holloway	Assistant County Engineer, Houston County Road and Bridge Department
Derek Brewer	County Engineer, Dale County Road & Bridge Department
Joshua Knight	Engineer-In-Training, Dale County Road & Bridge Department
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To Be Determined

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Mr. Todd McDonald, AICP	Director of Planning and Development, City of Dothan
Mr. Reginald Franklin, **MPO Secretary**	Transportation Planner, City of Dothan

SOUTHEAST WIREGRASS AREA METROPOLITAN PLANNING ORGANIZATION

RESOLUTION NO. 09-24-2015-1

Adopting the 2040 Metropolitan Transportation Plan (MTP)

WHEREAS, the Southeast Wiregrass Area Metropolitan Planning Organization (SWAMPO) is the organization designated by the Governor of the State of Alabama as being responsible, together with the State of Alabama, for implementing the applicable provisions of amended 23 USC 134 and 135 (MAP-21, Sections 1201 and 1202, July 2012); 23 CFR 450; 42 USC 7401 et al., 2000d; 40 CFR Parts 51 and 93; and

WHEREAS, the U. S. Department of Transportation requires all urbanized areas, as established by the U. S. Bureau of the Census, conducting area-wide urban transportation planning, to submit a 2040 Metropolitan Transportation Plan as a condition for meeting the provisions of amended Title 23, U. S. Code, Sections 134 and 135; and

WHEREAS, consistent with the declaration of these provisions, the Southeast Wiregrass Area Metropolitan Planning Organization (SWAMPO), in cooperation with the Bureau of Transportation Planning and Modal Programs of the Alabama Department of Transportation, has prepared a 2040 Metropolitan Transportation Plan; and

WHEREAS, pursuant to its duties, functions and responsibilities, the Southeast Wiregrass Area Metropolitan Planning Organization (SWAMPO), in session this 24 day of September, 2015, did review and evaluate the aforementioned 2040 Metropolitan Transportation Plan, summarized on the attached pages; now

THEREFORE, BE IT RESOLVED, by the Southeast Wiregrass Area Metropolitan Planning Organization (SWAMPO), that the same does hereby endorse and adopt said 2040 Metropolitan Transportation Plan.

Adopted this 24 day of September, 2015

MPO Chairman — Date: 9/24/15

ATTEST:

MPO Secretary — Date: 9/24/15

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EXECUTIVE SUMMARY

ES.1 INTRODUCTION

The 2040 Metropolitan Transportation Plan (MTP) is the multimodal, long range transportation plan for the Dothan Metropolitan Planning Area (MPA). It sets a regional vision and course of action for addressing the transportation needs of the Dothan MPA over the next twenty-five years.

The recommendations of the MTP are the result of public input, technical analysis, and close coordination between local municipalities and counties, the Wiregrass Transit Authority, the Southeast Alabama Regional Planning and Development Commission (SEARPDC), the Alabama Department of Transportation (ALDOT), and other members of the Southeast Wiregrass Area Metropolitan Planning Organization (SWAMPO).

The Dothan MPA, comprised of the Dothan, AL urbanized area and nearby areas expected to urbanize in the next twenty years, is federally required to maintain an MTP with at least a twenty year horizon. The 2040 MTP serves this purpose for the next five years, at which point it must again be updated.

Scope of the Planning Process

Chapter 1: Introduction summarizes relevant legislation and federal and state requirements of the 2040 MTP. The SAFETEA-LU Planning Factors are retained in MAP-21 as the *Scope of the Planning Process*. The factors themselves remain unchanged. In general, the MTP should address the following eight planning factors:

1. Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency;
2. Increase the safety of the transportation system for motorized and non-motorized users;
3. Increase the security of the transportation system for motorized and non-motorized users;
4. Increase accessibility and mobility of people and freight;
5. Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and state and local planned growth and economic development patterns;
6. Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight;
7. Promote efficient system management and operation; and
8. Emphasize the preservation of the existing transportation system.

ES.2 PLAN DEVELOPMENT PROCESS

In order to develop a truly effective transportation plan that addresses the needs of all system users, it is necessary to obtain meaningful input from the public and all stakeholders and ensure that no person is denied an opportunity to participate in the planning process on the basis of race, ethnicity, disability, or language barriers. To this end, the MPO followed the public involvement procedures spelled out in its Public Participation Plan (2013). All public and stakeholder involvement activities and Title VI accommodations are discussed in greater detail in Chapter 2: Plan Development Process.

Several opportunities for public and stakeholder participation and input were provided. Input received from the public and stakeholders provided valuable insight on current and future transportation needs and ultimately led to the development of a regional vision.

This vision laid the groundwork for the MTP's performance-based approach to metropolitan transportation planning that is described in Chapter 2: Plan Development Process. The generalized approach is summarized below:

1. Set Regional Vision
2. Define Goals and Objectives
3. Establish System Performance Measures
4. Assess Baseline System Performance
5. Identify Desired System Performance
6. Forecast Future Conditions and Need
7. Develop Implementation Strategy

ES.3 SETTING AND ACHIEVING THE VISION

As mentioned, a Regional Vision was synthesized from public and stakeholder input. From this vision, goals and objectives were developed that support achievement of the stated vision.

After defining goals and objectives, the ALDOT Livability Principles and Indicators were selected as performance measures for the MTP because federal guidance on national performance measures is still forthcoming and the livability indicators are consistent with the MTP's goals and objectives.

The regional vision and related goals are summarized below. The objectives and performance measures that provide a means to achieve and monitor progress towards the goals and vision are provided in Chapter 3: Visioning and Performance Measures.

Vision

"A seamlessly-integrated, multimodal transportation system that connects people of all backgrounds and abilities to their desired destinations in a safe, convenient, and efficient manner. A transportation system that promotes a sustainable region with a high quality of life."

Goals

Goal 1: *Affordable, Convenient, and Reliable Access to Destinations by Multiple Modes of Transportation*

Goal 2: *A Connected Regional Economy Accessible to National and Global Markets*

Goal 3: *A Well-Maintained and Efficient Transportation System*

Goal 4: *A Safe, Secure, and Resilient Transportation System*

Goal 5: *A Transportation System That Creates a Sense of Place and Improves Public Health*

Goal 6: *A Transportation System That Distributes Benefits and Burdens in an Equitable Manner*

Goal 7: *A Transportation System That Minimizes Detrimental Impacts to the Natural and Historic Environment and Practices Environmental Stewardship*

Goal 8: *A Meaningful Public Involvement Process That Influences Transportation Decision-Making*

Goal 9: *A Fiscally-Constrained 25-year Transportation Improvement Program That Addresses Existing and Future Needs While Maximizing Projected Revenues.*

ES.4 ASSESSING CURRENT PERFORMANCE AND FORECASTING FUTURE NEEDS

The 2040 MTP analyzes current environmental factors, land use patterns, travel patterns, and socioeconomic patterns to better understand the existing demand for transportation. It then assesses existing conditions of all transportation modes by means of an asset inventory, technical analysis, and input received from the public and stakeholders. This analysis provides a snapshot of current performance and a baseline for performance monitoring.

Next, the 2040 MTP used public and stakeholder input and geospatial analysis of environmental attributes, land use patterns, and socioeconomic patterns to develop future population and employment forecasts for 2020, 2030, and 2040 for small geographic areas called Traffic Analysis Zones (TAZs). The county level population and employment projections developed by University of Alabama's Center for Business and Economic Research were used as control totals to set lower and upper limits on forecasts.

Roadways

In general, there is a lack of widespread congestion in the Dothan Metropolitan Planning Area in the base year. However, there is considerable maintenance needs, as evidenced by the extent of state-maintained roadways with marginal pavement conditions and bridges classified as functionally obsolete or structurally deficient. After the travel impacts of the forecast change in population and employment were modeled with travel demand modeling software, congestion was only forecast to increase moderately. Still, future projects identified in the public and stakeholder visioning exercises were then evaluated for their ability to reduce travel delay. Projects were evaluated both individually and as part of larger packages of projects.

Bicycle and Pedestrian

For bicycle and pedestrian needs, a regional demand analysis, facility inventory, and crash analysis were undertaken to better understand current performance and future needs. While there are many areas with relatively high demand for bicycle and pedestrian infrastructure, most places in the MPA lack sufficient sidewalks or any bicycle accommodations. Given the fine-grain analysis and input necessary to identify specific bicycle and pedestrian projects, only projects from locally-adopted plans were considered for inclusion in the MTP. The only locally-adopted bicycle or pedestrian plan in the MPA is the City of Dothan's Bicycle and Pedestrian Plan.

Public Transit

For public transit, current performance and future needs were assessed primarily by means of a regional demand analysis, peer analysis, and review of the MPO's 2010 *Fixed Route Feasibility Study* and SEARPDC's 2011 *Human Services Coordinated Transportation Plan*. The existing conditions analysis supports the findings of the previous plans, that there are areas of existing transit demand within the Dothan MPA and that a deviated fixed-route system should be explored in greater detail.

Freight

For freight, a regional demand analysis and inventory of existing resources was conducted. Given the lack of actual freight volume data, future needs were assumed to be greatest in designated freight corridors where peak period congestion is the greatest and there is significant surrounding freight demand.

Aviation

For aviation, future needs are best represented by projects identified in an airport's Airport Layout Plan and Airport Capital Improvement Plan. The MPO should coordinate with ALDOT and the Federal Aviation Administration (FAA) as necessary to implement projects identified in these plans for the Dothan Regional Airport and Headland Municipal Airport.

ES.5 PRIORITIZING PROJECTS TO ACHIEVE VISON

The MTP prioritizes roadway projects identified by the public and stakeholders and stand-alone bicycle and pedestrian projects previously identified in the City of Dothan Bicycle and Pedestrian Plan. The first step in prioritization was developing project costs, which were estimated based on typical costs, or if local or project-specific information was available this was utilized instead.

The MTP prioritization process utilizes multiple criteria to evaluate projects for their potential to help achieve the regional vision, goals, and objectives. These criteria are summarized in Table ES.1 for roadway capacity projects and Table ES.2 for bicycle and pedestrian projects. The results of the prioritization process can be found in Chapter 10: Project Development and Prioritization.

Table ES.1 Roadway Capacity Project Prioritization Criteria

Criteria	Rationale	Maximum Points
Cost Benefit	Make most efficient use of limited funding.	50
Connectivity/Continuity	Connectivity benefits exceed quantifiable model outputs, especially as it relates to the provision of alternative routes and street connectivity for bicyclists and pedestrians.	20
Intermodal/Multimodal Benefits	Encourage projects that benefit both the movement of people and goods and/or have the potential to improve bicycle and pedestrian conditions.	10
Plan Consistency	Encourage projects that have been vetted through locally-adopted plans.	10
Potential Impact to Minority and Low-Income Population*	Environmental Justice.	5
Potential Impact to Community or Natural resources	Avoid negative and costly environmental impacts.	5

**If support for a project was supported by Environmental Justice groups, a project was not penalized for potential impacts to minority and low-income populations.*

Table ES.2 Pedestrian and Bicycle Prioritization Criteria

Category	Criteria	Measure	Pedestrian	Bike
Land Use	Activity Density	Population and Jobs per Acre	30	35
	Popular Destination	Distance to Popular Destination(s)[1]	20	25
Demographic	Income	Households receiving food stamps per acre	20	25
	Disability	Disabled Population per acre	10	0
	Age	Elderly (65+) and Youth (<15) Population per acre[2]	10	15
Travel Environment	Speed Score	Within quarter mile of multi-lane roadway with speed limit 40 mph+	10	0
		Total Points Possible	100	100

[1]Popular destinations are major parks and recreation centers, schools, libraries, hospitals, grocery stores, pharmacies, convenience stores, cafes, and restaurants/bars. Distance is half mile for pedestrian, 1.5 mile for bicycle.
[2]Age includes elderly and youth for pedestrian, but only youth for bicycle.

ES.6 FISCALLY CONSTRAINED IMPROVEMENT PLAN AND VISIONARY PROJECTS

ALDOT provided the MPO with estimated federal funding that the MPO can expect through 2040 for capacity and maintenance and operations (MO) projects. ALDOT also instructed the MPO to increase all project costs by one (1) percent every year in order to account for inflation. While forecasted future funding was available for future projects, ultimately the 2040 MTP does not include additional roadway capacity projects beyond those already committed in the 2014-2019 Statewide Transportation Improvement Program.

The three roadway capacity projects that represent recently completed (existing) and committed projects are summarized in Table ES.3 and illustrated in Figure ES.1.

The fiscally constrained plan includes sufficient funding to continue operating transit at its current level of service.

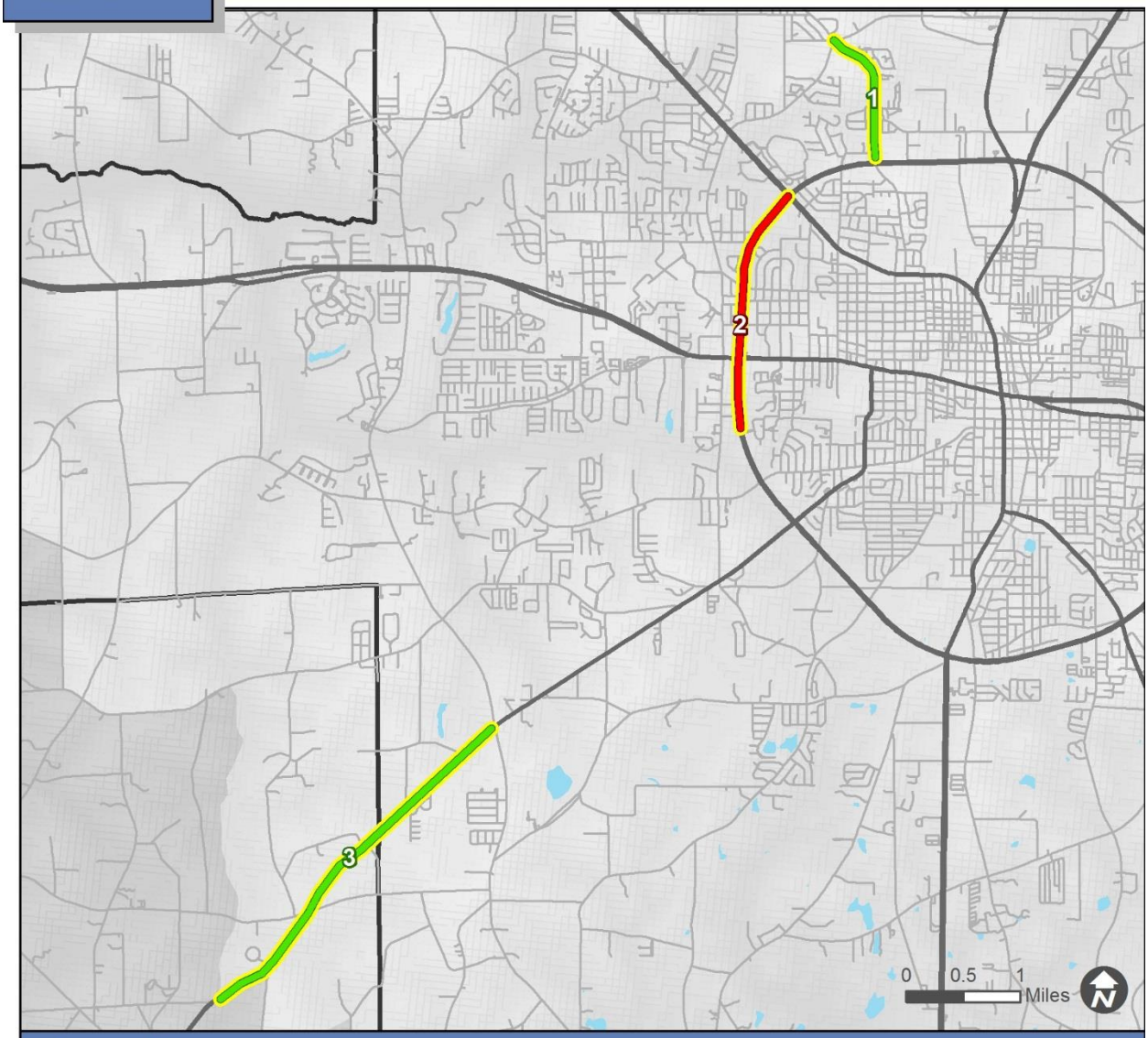
The MTP also includes visionary roadway capacity projects and visionary bicycle and pedestrian projects which were prioritized but not programmed due to a lack of funding. While not currently programmed in the MTP, they may be added if they become funded. Since Transportation Alternatives Program (TAP) funding, a major federal funding source for bicycle and pedestrian projects, was not estimated by ALDOT, stand-alone bicycle and pedestrian projects without committed funding sources were not included in the fiscally constrained plan. However, the list of visionary bicycle and pedestrian projects represent projects that are the highest priority according to the criteria in Table ES.2 and are eligible for TAP funds.

Table ES.3 Fiscally Constrained Roadway Capacity Projects

Map ID Number	Route	Location	Improvement	Total Project Cost
3	State Route 52	Brannon Stand Rd to Scott Rd	Realign and Widen to 4 Lanes	complete
1	Denton Rd	Ross Clark Circle To Westgate Parkway	Widen to 4 Lanes	$7,237,558
2	Ross Clark Cir	Bauman Drive to US-231 North	Widen to 6 Lanes (RW) + (UT)	$13,015,872

2040 MTP

FIGURE ES.1 FISCALLY CONSTRAINED ROADWAY CAPACITY PROJECTS



Legend

Project Type

- Minor Arterial, Widening
- Principal Arterial, Widening
- Project with Committed Funding Source
- Major Roadways
- Roadways
- Water Bodies
- Metropolitan Planning Area
- Counties

Disclaimer: This map is for planning purposes only.

Based on US 2010 Census data

Map Source: Neel-Schaffer, Inc.

Data Sources: Neel-Schaffer, Inc; ALDOT

1.0 INTRODUCTION

This document, the 2040 Metropolitan Transportation Plan (MTP), is the long range transportation plan for the Dothan Metropolitan Planning Area, replacing the 2035 Long Range Transportation Plan. The 2040 MTP sets a regional vision and course of action for addressing the transportation needs of the Dothan Metropolitan Planning Area over the next twenty-five years. Its recommendations are the result of public input, technical analysis, and close coordination between local municipalities and counties, the Wiregrass Transit Authority, the Southeast Alabama Regional Planning and Development Commission, the Alabama Department of Transportation, and other members of the Southeast Wiregrass Area Metropolitan Planning Organization (SWAMPO).

The 2040 MTP utilizes a performance-based approach to metropolitan transportation planning that is described in detail in Chapter 2: Plan Development Process.

1.1 THE METROPOLITAN PLANNING ORGANIZATION (MPO)

Purpose and Primary Functions

A Metropolitan Planning Organization (MPO) is a federally-mandated transportation policy-making body made up of representatives from local government and transportation agencies with authority and responsibility in metropolitan planning areas.

With the passing of the Federal-Aid Highway Act of 1962, Congress made metropolitan transportation planning a condition for receipt of federal funds for transportation projects in urban areas with a population of 50,000 or greater. That legislation, and subsequent legislation, have encouraged a continuing, cooperative, and comprehensive (3-C) transportation planning process between MPOs, states, and public transit providers in these urban areas.

According to the Federal Highway Administration (FHWA) report *The Transportation Planning Process: Key Issues,* there are five core functions of an MPO:

1. Establish a setting: Establish and manage a fair and impartial setting for effective regional decision-making in the metropolitan area.

2. Identify and evaluate alternative transportation improvement options: Use data and planning methods to generate and evaluate alternatives. Planning studies and evaluations are included in the Unified Planning Work Program or UPWP.

3. Prepare and maintain a Metropolitan Transportation Plan (MTP): Develop and update a long-range transportation plan for the metropolitan area covering a planning horizon of at least twenty years that fosters (1) mobility and access for people and goods, (2) efficient system performance and preservation, and (3) good quality of life.

4. Develop a Transportation Improvement Program (TIP): Develop a short-range (four-year) program of transportation improvements based on the long-range transportation plan; the TIP should be designed to achieve the area's goals, using spending, regulating, operating, management, and financial tools.

5. Involve the public: Involve the general public and other affected constituencies in the four essential functions listed above.

Federal Designation

As previously mentioned, the Federal-Aid Highway Act of 1962 mandated metropolitan transportation planning in urban areas with a population of at least 50,000. This requirement has been maintained in succeeding legislation and regulations.

The Census Bureau defines urban areas after each decennial census, with all other areas being classified as rural. After identifying urban areas, the Census Bureau classifies all urban areas as either urbanized areas or urban clusters. Urbanized areas must have at least 50,000 people while urban clusters are all remaining urban areas, or those with a population ranging from 2,500 to 49,999.

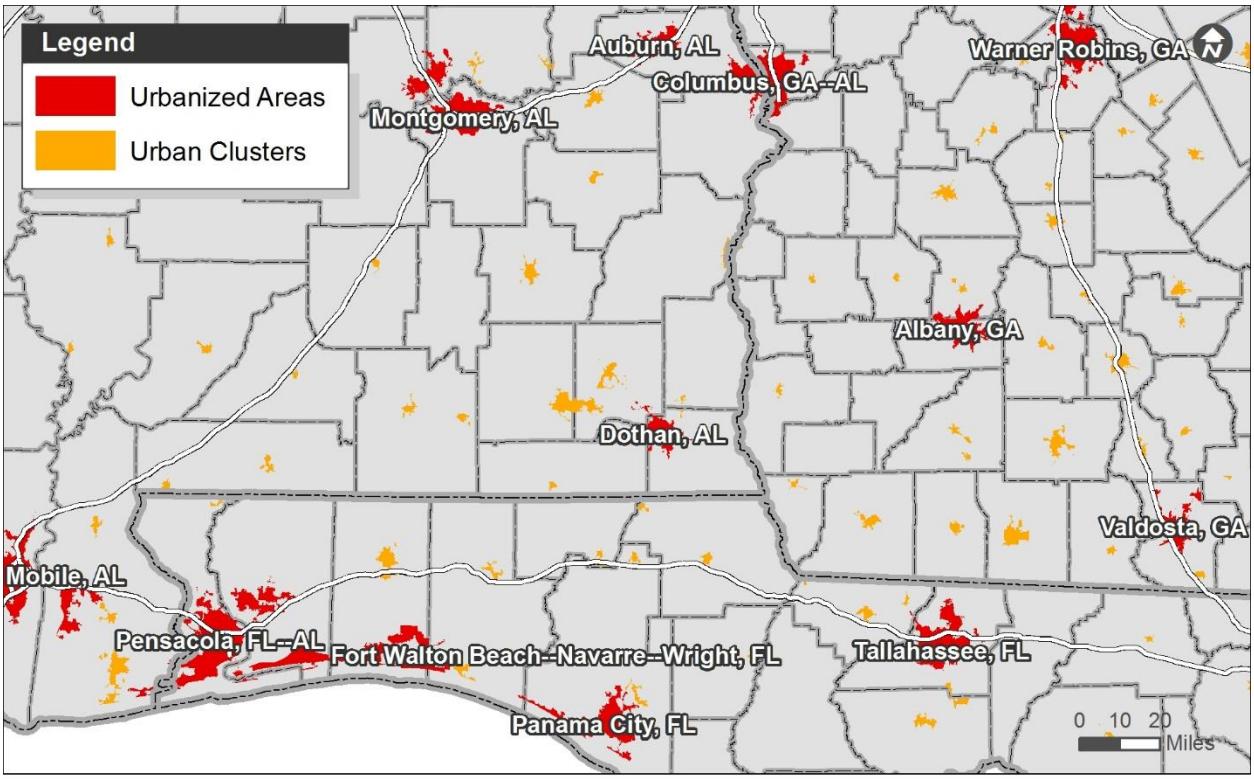
MPOs have authority within an area referred to as the Metropolitan Planning Area (MPA). MPAs are established around urbanized areas and formalized in agreements between the affected jurisdictions and

the Governor. Typically, the MPA includes the smoothed urban area and all areas expected to urbanize within the next 20 years. The MPA boundary may also be influenced by jurisdictional lines, physical features of the landscape, or major roadways.

After the 2010 Census, urban areas were defined by identifying a densely settled core of census tracts and/or census blocks that meet minimum population density requirements, along with adjacent territory containing non-residential urban land uses as well as territory with low population density included to link outlying densely settled territory with the densely settled core. To qualify as an urban area, the territory identified according to criteria must encompass at least 2,500 people, at least 1,500 of which reside outside institutional group quarters.

Following the 2010 Census, the Census Bureau identified just over 450 urbanized areas in the United States. Figure 1.1 shows the location of urbanized areas and urban clusters near the Dothan, AL Urbanized Area.

Figure 1.1 Nearby Urban Areas



Disclaimer: This map is for planning purposes only.
Map Source: Neel-Schaffer, Inc.

Based on US 2010 Census data
Data Sources: Census Bureau

About the Southeast Wiregrass Area MPO

The Southeast Wiregrass MPO was created in 1983, after the 1980 Census indicated that the urban area around Dothan exceeded 50,000 people. As of the 2010 Census, the Dothan, AL Urbanized Area population was 68,781.

Figure 1.2 shows the boundaries of the smoothed Dothan, AL Urbanized Area and the SWAMPO Metropolitan Planning Area (MPA). Again, the MPA encompasses the smoothed urban area and contiguous areas likely to become urbanized within the next 20 years.

SWAMPO Membership

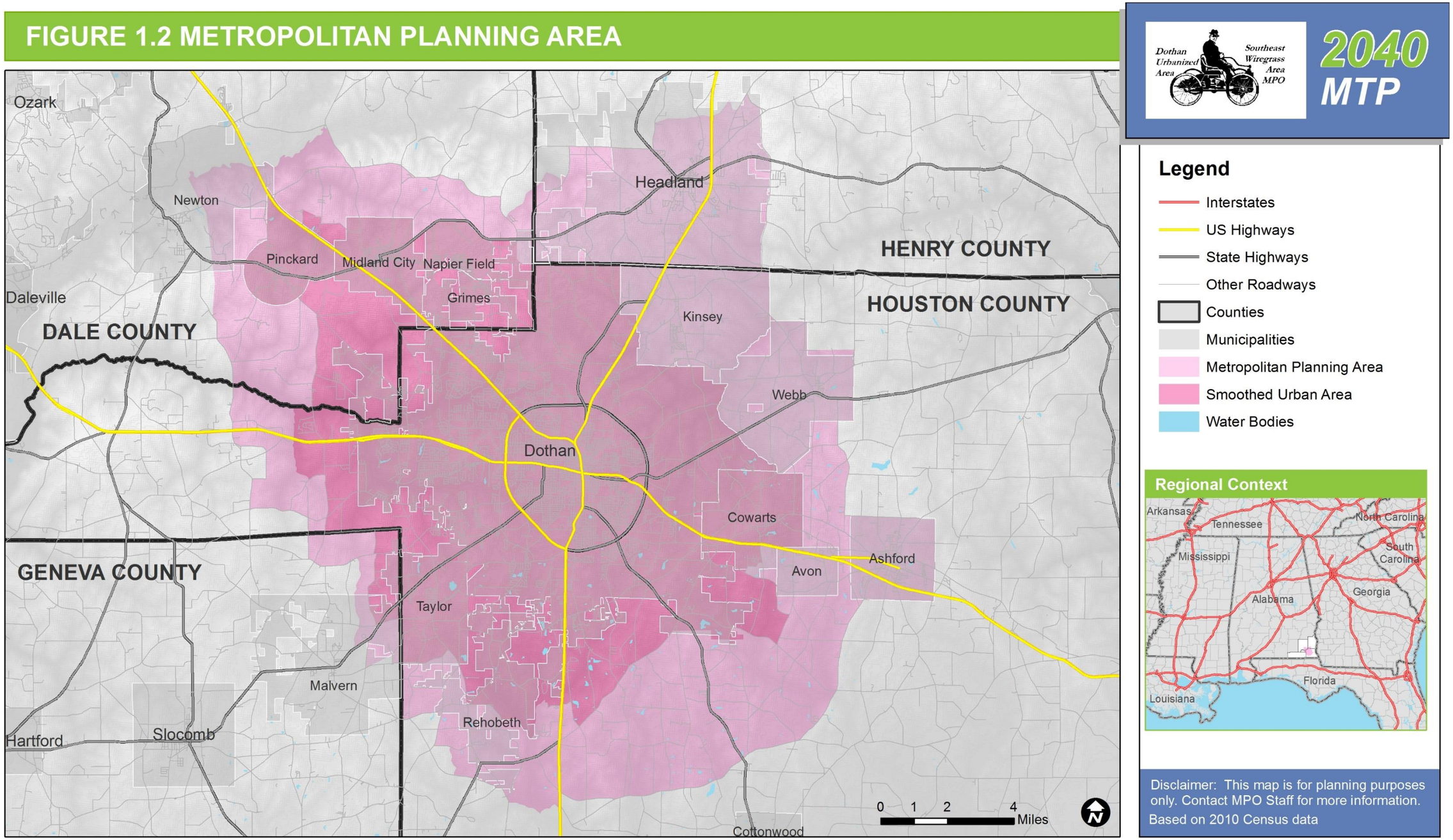
Local jurisdictions that are members of the MPO, and thus involved in the planning activities of the MPO include the following:

- Town of Ashford
- Town of Cowarts
- City of Dothan
- Town of Grimes
- City of Headland
- Town of Kinsey
- Town of Midland City
- Town of Napier Field
- Town of Pinckard
- Town of Rehobeth
- Town of Taylor
- Town of Webb
- Dale County
- Henry County
- Houston County

In addition, the Southeast Alabama Regional Planning and Development Commission (SEARPDC), Alabama Department of Transportation (ALDOT), and the Federal Highway Administration (FHWA) participate in the MPO process.

The City of Dothan serves as the Lead Planning Agency (LPA) and its Planning and Development Department fulfill staffing requirements for the MPO.

FIGURE 1.2 METROPOLITAN PLANNING AREA



Map Source: Neel-Schaffer, Inc.

Data Sources: Census Bureau; MPO Staff

Organizational Structure

Three committees shape the decision-making process of the MPO: the Policy Committee, which is the official decision making body; the Technical Advisory Committee (TAC), which advises the MPO on technical matters of projects, plans, and programs; and the Citizen Advisory Committee.

Policy Committee

The Policy Committee is the policy and decision-making board, which includes voting and non-voting MPO members. Policy Committee members are elected officials (Mayors, Dothan City Commissioners, County Commission Chairmen, and a Houston County Commission member) of the local government jurisdictions. A list of members is available at the MPO office.

The Policy Committee reviews, approves and submits plans, programs, and projects to the Alabama Department of Transportation (ALDOT). The committee oversees how federal transportation dollars are spent in the transportation study area.

Technical Advisory Committee (TAC)

The Technical Advisory Committee (TAC) provides technical support to the Policy Committee. TAC members are non-elected officials who, based on their affiliation, have expertise in some aspect of the transportation field. It includes technical staff from municipalities, counties, the ALDOT, the FHWA, the FTA, and other selected transportation interests. A list of members is available at the MPO office.

The Technical Advisory Committee reviews plans, programs, projects, studies, and reports. The TAC also provides the MPO with recommendations concerning these documents.

Citizens Advisory Committee (CAC)

The Citizens Advisory Committee (CAC) was established to provide input into the public involvement process. Each MPO member is charged with appointing one representative (Houston County and the City of Dothan have two). The chair of the CAC is a non-voting member of the TAC.

The MPO adopted its Public Participation Plan in 2013. This plan describes the public process that the MPO carries out in order to ensure that all citizens have reasonable opportunities to be involved in the transportation planning process.

1.2 THE METROPOLITAN TRANSPORTATION PLAN

Purpose and Authority of the Plan

Since the 1962 Federal-aid Highway Act, federal legislation has required metropolitan transportation plans for urban areas with a population of at least 50,000 as a condition of receipt of surface transportation funds. Today, metropolitan transportation plan is governed by federal law 23 U.S.C. §134 and regulations codified in 23 C.F.R. §450.

According to the FHWA's *The Transportation Planning Process: Key Issues*:

> Metropolitan transportation planning is the process of examining travel and transportation issues and needs in metropolitan areas. It includes a demographic analysis of the community in question, as well as an examination of travel patterns and trends. The planning process includes an analysis of alternatives to meet projected future demands, and for providing a safe and efficient transportation system that meets mobility while not creating adverse impacts to the environment.

The primary purpose of metropolitan transportation planning, and MTPs by extension, is to ensure that transportation planning in urbanized areas is carried out through a continuing, cooperative, and comprehensive (3-C) planning process. This 3-C process ensures that transportation planning is based on the most current information, reflects regional needs and priorities that are consistent with those of the state, takes into account all modes of transportation, and is consistent with other planning efforts, such as land use and economic-development plans.

Adoption of the MTP is the first step towards the implementation of any transportation project using federal funds or any regionally significant transportation project, regardless of funding source. Following formal adoption of the plan, a project can be programmed for design, right-of-way acquisition, or construction in the Transportation Improvement Program (TIP), which identifies funding sources, fiscal year(s) of implementation, and the estimated amount of funding to be used.

Federal Requirements

Every MPO must prepare and update a transportation plan for its Metropolitan Planning Area (MPA) in accordance with the federal requirements set forth in federal law (23 U.S.C. §134) and codified in 23 C.F.R. §450. Aside from ensuring that the metropolitan transportation planning process is continuous, cooperative, and comprehensive, the MTP must provide for consideration and implementation of projects, strategies, and services that will address the following eight planning factors:

1. Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency;
2. Increase the safety of the transportation system for motorized and non-motorized users;
3. Increase the security of the transportation system for motorized and non-motorized users;
4. Increase accessibility and mobility of people and freight;

5. Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and state and local planned growth and economic development patterns;

6. Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight;

7. Promote efficient system management and operation; and

8. Emphasize the preservation of the existing transportation system.

MTP Development and Content

The MTP must utilize the most recently available, valid information and assumptions to provide long-range and short-range strategies and actions for the Metropolitan Planning Area that preserve and enhance the multimodal transportation system and facilitate the safe and efficient movement of people and goods.

Federal regulations (23 C.F.R. §450) require the MTP to include:

- Projections of future demand of people and goods over the period of the plan (at least 20 years);
- Inventory of existing and proposed transportation facilities, with an emphasis on nationally and regionally significant facilities;
- Operational and management strategies that improve the efficiency and safety of the existing transportation system;
- Capital investment and other strategies to preserve the existing and future transportation system and improve multimodal capacity based on regional priorities and needs;
- Evaluation of environmental impacts and potential mitigation activities;
- Pedestrian and bicycle transportation facilities;
- Transportation and transit enhancement activities;
- A financial plan that demonstrates that the plan is fiscally constrained;
- Comparison of the transportation plan with State and local conservation plans and maps and natural and historic resource inventories, if available;
- A safety element that incorporates or summarizes the priorities, goals, countermeasures, or projects for the MPA contained in the state's Strategic Highway Safety Plan; and
- Reasonable opportunity for the public and all relevant parties to review the transportation plan and to provide comments.

Consistency with Other Plans

A major federal requirement of the MTP is that it is consistent with other plans.

The metropolitan transportation planning process must be carried out in coordination with the statewide transportation planning process. The MTP should be consistent with the state's Strategic Highway Safety Plan and any other safety and security plans. Both the Statewide Transportation Improvement Program (STIP) and TIP must be consistent with the MTP. Changes must be made to the MTP before changes can be made in the TIP or STIP.

The MTP should be developed to be consistent with the coordinated public transit human services transportation plan and any plans for regional intelligent transportation systems (ITS) architecture.

The MTP should also be developed to be consistent with locally-adopted planning documents, such as land use plans and economic development plans.

Planning Horizon and Update Cycle

The MTP must have a planning horizon of at least 20 years from its effective date and be updated at least every four years in air quality nonattainment and maintenance areas, and at least every five years in attainment areas. This requirement ensures that transportation plans remain valid and consistent with current and forecasted transportation and land use conditions.

The SWAMPO 2040 MTP must be updated at least five years from its adoption date since the Metropolitan Planning Area is not a designated nonattainment or maintenance area. In order to maintain a 20-year planning horizon, the 2040 MTP must be updated and adopted by the same adoption date in 2020.

In between the five-year update cycle, the MPO may make amendments and modifications to the MTP at any time without a requirement to extend the horizon year. However, these revisions must be approved by the MPO under the requirements set forth in the Public Participation Plan and described later in this chapter.

Anti-Discrimination Accommodations

Federal legislation and executive orders prohibit discrimination and/or exclusion from participation in any program or activity receiving federal financial assistance on the basis of race, color, national origin, disability, income, minority-status, or limited-English proficiency. The SWAMPO Public Participation Plan (PPP) specifies the manner in which the MPO prevents discrimination and accommodates these populations. The PPP is provided in the Appendix and is discussed further in Chapter 2: Plan Development Process.

Title VI of the Civil Rights Act of 1964 ensures that no person is excluded from participation in, denied the benefit of, or subjected to discrimination under any program or activity receiving federal financial assistance on the basis of race, color, or national origin.

The Rehabilitation Act of 1973 and the Americans with Disabilities Act (ADA) of 1990 encourages the participation of people with disabilities in the development of transportation and paratransit plans and services.

Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations, was signed by President Clinton in 1994. There are three fundamental Environmental Justice (EJ) principles:

- To avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority populations and low-income populations.
- To ensure the full and fair participation by all potentially affected communities in the transportation decision-making process.
- To prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations.

Executive Order 13166, "Improving Access to Services for Persons with limited English Proficiency", was signed by President Clinton in 2000. Along with Title VI of the Civil Rights Act of 1964, the federal government requires federal agencies to examine the services they provide, identify any need for service to those with limited English proficiency (LEP), and develop and implement a system to provide those services so LEP persons can having meaningful access to them. For recipients of federal financial assistance, such as MPOs, the federal government requires provision of meaningful access to their LEP applicants and beneficiaries.

Performance-based Planning

According to the FHWA report *Performance Based Planning and Programming Guidebook*:

> Performance-based planning and programming (PBPP) refers to the application of performance management within the planning and programming processes of transportation agencies to achieve desired performance outcomes for the multimodal transportation system. PBPP attempts to ensure that transportation investment decisions are made - both in long-term planning and short-term programming of projects - based on their ability to meet established goals.

The most recent transportation legislation, adopted in 2012, is the Moving Ahead for Progress in the 21st Century Act (MAP-21). One its most significant changes to the metropolitan transportation planning process is that it mandates performance-based planning for all MPOs. While the United States Department of Transportation (USDOT) is currently in the rulemaking stage of creating performance-based planning regulations, some information and guidance has already emerged.

In general, MTPs and TIPs will be required to be developed through a performance-driven, outcome-based approach that supports the national goals stated in MAP-21 and illustrated below in Table 1.1.

Table 1.1 MAP-21 National Performance Goals

Goal area	National goal
Safety	To achieve a significant reduction in traffic fatalities and serious injuries on all public roads
Infrastructure condition	To maintain the highway infrastructure asset system in a state of good repair
Congestion reduction	To achieve a significant reduction in congestion on the National Highway System
System reliability	To improve the efficiency of the surface transportation system
Freight movement and economic vitality	To improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development
Environmental sustainability	To enhance the performance of the transportation system while protecting and enhancing the natural environment
Reduced project delivery delays	To reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices

Source: FHWA

MPOs will also be required to monitor national performance measures developed by USDOT and track these measures over time. Performance measures under development by USDOT reflect most of the national goals articulated in MAP-21. Though subject to further clarification, the performance measures currently proposed by USDOT include:

- The number of serious injuries and fatalities;
- Serious injuries and fatalities per 100 million vehicle miles traveled on public roads;
- The condition of pavements on the Interstate system;
- The condition of pavements on the National Highway System (excluding the Interstate);
- The condition of bridges on the National Highway System;
- The performance of the Interstate System;
- The performance of the National Highway System (excluding the Interstate System);

- Traffic congestion;
- Freight movement on the Interstate System;
- On-road mobile source emissions; and
- Public Transit State of Good Repair.

Once all of the national performance measures are adopted, states will work with their MPOs to set state targets. Then, each MPO will set its own targets for its respective Metropolitan Planning Area and will be required to monitor and evaluate these performance measures in a performance report every 4-5 years, in tandem with updating its MTP. The MPO may elect to track more performance measures than USDOT requires.

State Requirements

Livability Principles and Indicators

Increasingly, federal and state agencies are using Performance Measures as a way of ensuring greater accountability for the expenditure of public funds in an ever growing number of programs and activities across a variety of disciplines. Within the transportation sector and the planning processes associated with transportation infrastructure development, ALDOT has adopted the Livability Principles and Indicators as a sustainability measurement against future actions.

All planning tasks must be measured against these **Livability Principles**:

1) Provide more transportation choices
2) Promote equitable, affordable housing
3) Enhance economic competitiveness
4) Support existing communities
5) Coordinate policies and leverage investment
6) Value Communities and neighborhoods

As a measure of sustainability of these principles, the MPO will provide the following **Livability Indicators**:

1) Percent of jobs and housing located within one-half (1/2) mile of transit service
2) Percent of household income spent on housing and transportation
3) Percent of workforce living within a thirty (30) minute or less commute from primary job centers
4) Percent of transportation investment dedicated to enhancing accessibility of existing transportation systems

5) Percent of transportation projects where more than one federal funding source is utilized

6) Percent of housing located in walkable neighborhoods with mixed use destinations located nearby

The Indicators may be found in the Appendices on Page 12-5 of this document.

Amending and Modifying the MTP

Between five-year updates, the need may arise for modification to the MTP which significantly alter the scope or budget of the MTP. Typically this situation arises when existing projects are modified or removed and new projects are added. Since federally funded projects included in the short-range TIP for the MPO area must be consistent with the fiscally constrained MTP, these modifications would require either a formal amendment or an administrative modification.

The Southeast Wiregrass Area MPO adheres to the following procedures developed by FHWA and ALDOT to amend or administratively modify the MTP and TIP.

Formal Amendment

The amendment process involves both a formal approval process and also a system for processing more modest or minor adjustments to TIP projects. The Federal Highway Administration (FHWA) - Alabama Division and the Alabama Department of Transportation (ALDOT) have agreed that a formal TIP amendment is required for a *highway-oriented* project when one or more of the following criteria are met:

- Adds a new project, or deletes a project, that utilizes federal funds from a statewide line item, exceeds the threshold listed below, and excludes those federally-funded statewide program projects.
- Adds a new project phase(s), or increases a current project phase, or deletes a project phase(s), or decreases a current project phase that utilizes federal funds, where the revision exceeds the following threshold:
  - $5 million or 10 percent, whichever is greater, for ALDOT federally-funded projects and Transportation Management Area (TMA) attributable projects.
  - The lesser amount of $1 million or 50 percent, of project cost for non-TMA MPOs.
  - $750,000 for the county highway and bridge program.
- Involves a change in the scope of work to a project(s) that would:
  - Result in a revised total project estimate that exceeds the thresholds established between ALDOT and the Planning Partner (not to exceed any federally-funded threshold contained in the Memorandum of Understanding on ALDOT Statewide Procedures for FY 2016-209 TIP/STIP Revisions)
  - Results in a change in the scope of work on any federally-funded project that is significant enough to essentially constitute a new project.
  - Level of Effort (LVOE) planned budget changes, exceeding 20 percent of the original budgeted amount per ALDOT region.

Administrative Modification

A change that does not meet any of the formal amendment criteria may be processed as an administrative modification (see below), subject to approval by the MPO policy board. Once approved, the MPO may proceed, requiring only signature of the chairperson and attestation. An administrative modification is a minor STIP/TIP revision that:

- Adds a project from a level of effort category or line item, utilizing 100 percent state or non-federal funding, or an MPO TIP placement of the federally-funded, Statewide Program, or federal funds from a statewide line item that do not exceed the thresholds established by the Planning Partner.
- Adds a project for emergency repairs to roadways or bridges, except those involving substantive or functional adjustments, or location and capacity changes.
- Draws down, or returns funding, from an existing STIP/TIP Reserve Line Item, and does not exceed the threshold established between ALDOT and the Planning Partners.
- Adds federal or state capital funds from low-bid savings, de-obligations, release of encumbrances, from savings on programmed phases, and any other project-cost modification sent to and approved by FHWA or FTA, to another programmed project.

1.3 CURRENT TRENDS AFFECTING TRANSPORTATION PLANNING

Changing Socio-Demographics

There are many national social and demographic trends affecting travel demand and transportation in general. In summary, the U.S. is projected to grow more slowly, age more rapidly, become more ethnically diverse, and experience more growth in central urban areas and suburban areas.

The U.S. Census Bureau projects that the U.S. population will grow from 310 million in 2010 to 380 million by 2040. While substantial in absolute terms, the rate of growth during this period is slower than in recent decades. Most of this slowdown is attributed to lower birth rates in the U.S. and lower rates of immigration. Despite lower rates of immigration, the majority of population growth over the next 25 years is anticipated to come from immigrants and their descendants.

At the same time, longer lifespans are creating a population that will continue to see its elderly population grow in both absolute and percentage terms. This will likely translate to less overall trips per capita, but especially to less automobile trips per capita.

The increase in ethnic diversity in the U.S. population will likely have a short-term effect that increases carpooling, transit ridership, walking, and biking while decreasing Vehicle Miles Traveled (VMT) per capita. However, as immigrants adapt to American culture, they are anticipated to adopt travel patterns similar to native residents. This means a possible increase in VMT per capita for immigrants and their descendants in later decades.

The American workforce is also changing, largely mirroring demographic changes. As the population ages, the overall labor force participation rate will decrease as a lower proportion of the population will be in the prime working-age group. While some of this decrease in labor force participation may be made up by retiree-age workers seeking part-time employment, there is an anticipated drop in overall employment by 2050. Since commute trips are a major contributing factor to peak period congestion, structural workforce trends will have a major impact on transportation.

Though population and employment growth is anticipated to slow down, growth will likely continue to be uneven throughout the United States. The migration patterns from rural to urban and from Northeast and Midwest to the Southeast and Western part of the country are likely to continue. However, growth within metropolitan areas is expected to change slightly.

Suburban population and employment growth is anticipated to continue to outpace that of central urban areas, but growth in central urban areas is expected to occur at a faster rate than in recent decades. Both changes have the potential to decrease VMT per capita as urban residents are more likely to use transit, walk, or bike and suburban areas have the opportunity to develop more walkable and transit-oriented areas. However, there is also the potential for increases in VMT per capita if destinations continue to scatter within metropolitan regions and transit does not effectively serve these areas and provide an attractive alternative to driving.

While some of the projected socio-demographic trends may have conflicting impacts on travel demand, there appears that total VMT will increase in growing areas while VMT per capita will stagnate or decline and more trips will be made by public transit, walking, biking, carpooling, or other means.

Changing Technology

The actual impact of technological improvements on transportation is difficult to predict. However, there are many current technological trends that are influencing travel demand.

Telecommuting has been around for several decades now. While telecommuting increased at a rapid rate over the past couple of decades, it still represents a small percentage of the overall workforce. However, continued advancement in communications and incentives provided by local governments implementing Transportation Demand Management (TDM) programs may cause this workplace trend to continue to grow, thereby reducing the demand for peak period travel.

Technology is also improving operations of existing and new transportation infrastructure by allowing for improved Intelligent Transportation Systems (ITS). According to the USDOT, ITS technologies improve transportation safety and mobility, reduce environmental impacts, and enhance productivity through the integration of advanced communications-based information and electronic technologies into the transportation infrastructure and vehicles.

ITS technologies that are likely to have a major impact on future transportation include connected vehicles, automated vehicles, and live data collection and dissemination. These technologies will enable new ITS solutions and improve existing ones such as traffic signal coordination, reversible lane systems, traffic monitoring, demand-based roadway and parking pricing, and real-time travel information.

Bikesharing, Carsharing, and Ridesharing are all relatively new technologies that are impacting travel demand, especially in urban areas. These technologies are constantly improving with technological advances.

Bikesharing and Carsharing are both essentially rental services whereby a person pays for temporary use of a vehicle (bike or automobile, respectively). There are many variations of each service, but the intent is to provide convenience when one does not have access to a private vehicle. In urban areas where many trips can be made by walking, biking, or public transit, bikesharing and carsharing is filling in the gap for destinations not easily accessible by these modes. In this manner, these rental services are making car ownership less important for urban residents. If these services become more widespread, VMT per capita, and perhaps overall VMT, would decline in many urban areas.

Ridesharing, according to the Victoria Transport Policy Institute, is “carpooling or vanpooling service in which the vehicle carries additional passengers when making a trip, with minimal additional mileage.” It is offered by multiple providers, such as public transit agencies, private taxis, vanpools, and carpools. The continued growth of smartphones and advancement in GPS and mobile technology are constantly improving ridesharing services. As with bikesharing and carsharing, ridesharing offers an affordable alternative to vehicle ownership in walkable areas or to traditional taxis in all areas.

Growing Environmental Concerns

> “According to the FHWA report *Integrating Climate Change into the Transportation Planning Process*, there is general scientific consensus that the earth is experiencing a long-term warming trend and that human-induced increases in atmospheric greenhouse gases (GHGs) are the predominant cause. The combustion of fossil fuels is by far the biggest source of GHG emissions. In the United States, transportation is the largest source of GHG emissions, after electricity generation. Within the transportation sector, cars and trucks account for a majority of emissions.

> Opportunities to reduce GHG emissions from transportation include switching to alternative fuels, using more fuel efficient vehicles, and reducing the total number of miles driven. Each of these options requires a mixture of public and private sector involvement. Transportation planning activities, which influence how transportation systems are built and operated, can contribute to these strategies.
>
> In addition to contributing to climate change, transportation will likely also be affected by climate change. Transportation infrastructure is vulnerable to predicted changes in sea levels and increases in severe weather and extreme high temperatures. Long-term transportation planning will need to respond to these threats."
>
> Introduction to *Integrating Climate Change into the Transportation Planning Process*
> - Federal Highway Administration, Final Report, July 2008

Today, there is a generational divide in views on energy and environmental priorities. According to a 2011 Pew Research Center study, Millenials and Gen X were more likely to support national policies focusing on alternative energy sources, spending more on public transit, and providing tax incentives for hybrid/electric vehicles. As the U.S. populations age, the views of Millenials and Gen X will have greater influence on American policy.

Regardless of public opinion, addressing climate change is a major challenge for long-range planning and will be discussed in greater detail in Chapter 4: The Environment.

Declining Transportation Revenues

Gasoline taxes are the primary revenue source for both federal and state transportation funds. Despite the fact that transportation project construction costs have increased over the last twenty years, the last increase in the federal gasoline tax was in 1993 and the last increase in the Alabama gasoline tax was in 1992. Furthermore, no significant new revenue streams have emerged to fill these funding gaps.

The Federal Highway Trust Fund, the primary source of funding for highway and transit projects, has been on the brink of insolvency many times in recent years. At the same time, ALDOT has delayed projects due to of a lack of state-matching funds.

USDOT, state DOTs, and local agencies have taken a variety of approaches to deal with declining and uncertain transportation revenue. For instance, In order to maximize its shrinking revenues, the FHWA encourages innovative financing strategies for transportation projects through its Innovative Program Delivery program. A prime example of this program is the Alabama Transportation Rehabilitation and Improvement Program (ATRIP), a partnership between ALDOT and USDOT that used Grant Anticipation Revenue Vehicle (GARVEE) bond financing to advance sederal-aid funding for projects which have an immediate need that will only increase in cost in the future.

At the local level, many local governments have begun to look at the Return on Investment (ROI) of their capital improvement projects, especially transportation projects. They have also raised new transportation revenue through temporary bonds, tax increases, special assessment districts, and other means.

At all levels, it is becoming increasingly important to prioritize transportation projects based on some measure of cost-effectiveness. It will also be necessary to seek innovative and alternative means of financing and funding transportation. There are many successful examples of local and state agencies utilizing public-private partnerships, privatization, Tax-Increment Financing (TIF), and other innovative financing structures to overcome funding shortfalls.

2.0 PLAN DEVELOPMENT PROCESS

2.1 PERFORMANCE-BASED PLANNING APPROACH

The 2040 MTP utilizes a performance-based planning approach that can be expanded in later updates as federal rule-making and guidance on national performance measure monitoring are established.

Performance based planning and programming (PBPP) is the application of performance management - a strategic approach to decision-making that is based on the development, application, and monitoring of performance data - to the long range planning and programming process. PBPP uses data derived indicators about the current and desired transportation system to set strategic directions; to analyze how funds are invested and programmed, and to evaluate program outcomes.

The Moving Ahead for Progress in the 21st Century Act (MAP-21), signed into law in 2012, introduces requirements for performance-based planning in statewide and metropolitan planning. It requires USDOT to establish performance measures that will enable states and MPOs to track their performance in addressing the national goals set forth in MAP-21 described in Chapter 1: Introduction. Once these performance measures become effective, states and MPOs are required to adopt state and metropolitan targets, respectively, for each measure.

While federal guidance on MAP-21 performance measures and targets is still emerging, MPOs in Alabama are already required to address sustainability performance measures related to the Livability Principles and Indicators initiative discussed in the previous chapter. The general process below illustrates how the 2040 MTP incorporates an outcome-oriented, performance-based planning approach:

1. **Set Regional Vision** – A regional vision is derived from public and stakeholder input.

2. **Define Goals and Objectives** – Goals are developed that address desired outcomes consistent with the regional vision and national goals set forth in MAP-21. Then, objectives that are specific and measurable are established to support achievement of the stated goals.

3. **Establish System Performance Measures** – Performance measures to monitor are selected that are consistent with the stated goals and objectives and with the ALDOT Livability Principles and Indicators. Monitoring these measures over time will allow the MPO to be responsive to intended or unforeseen changes.

4. **Assess Baseline System Performance** – Existing conditions of the transportation systems are assessed from an asset inventory, technical analysis, and input received from the public and stakeholders.

5. **Identify Desired System Performance** – Because state performance targets are not yet set and some necessary data is not yet available, the 2040 MTP solely focuses on the preferred overall trend of performance measures (i.e., the direction of results).

6. **Forecast Future Conditions and Need** – Future growth in population and employment from 2010 to 2040 was forecast. The impacts of the forecast change in land use and demographic patterns were then modeled using the existing transportation system and committed projects. Future projects were then evaluated both individually and as part of larger packages of projects.

7. **Develop Implementation Strategy** – A prioritization methodology is developed to rank future transportation projects that is consistent with the stated goals and objectives as well as public and stakeholder input. The projects that most effectively balance future demand with these concerns are then selected to be included in the fiscally-constrained project list, so long as there is no preliminary concern of significant environmental impact or disproportionately adverse effects to environmental justice populations.

2.2 PLANNING EMPHASIS AREAS

The Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) identifies Planning Emphasis Areas (PEAs) every year to indicate what priorities they want to place emphasis on in the transportation planning process as MPOs and state DOTs develop their respective planning work programs. The following PEAs are for FY16 and will be applied to various tasks and subtasks in the UPWP:

MAP-21 Implementation *(Transition to Performance Based Planning and Programming)*

The development and implementation of a performance management approach to transportation planning and programming that supports the achievement of transportation system performance outcomes.

Models of Regional Planning Cooperation *(Promote cooperation and coordination across MPO boundaries and across State boundaries where appropriate to ensure a regional approach to transportation planning)*

This is particularly important where more than one MPO or state serves an urbanized area or adjacent urbanized areas. This cooperation could occur through the metropolitan planning agreements that identify how the planning process and planning products will be coordinated, through the development of joint planning products, and/or by other locally determine means. Coordination across MPO and across state boundaries includes the coordination of transportation plans and programs, corridor studies, and projects across adjacent MPO and state boundaries. It also includes collaboration among state DOTs, MPOs, and operators of public transportation on activities such as: data collection, data storage and analysis, analytical tools, and performance based planning.

Ladders of Opportunity *(Access to essential services - as part of the transportation planning process, identify transportation connectivity gaps in access to essential services)*

Essential services include housing, employment, health care, schools/education, and recreation. This emphasis area can include MPO and state identification of performance measures and analytical methods to measure the transportation system's connectivity to essential services and the use of this information to identify gaps in transportation system connectivity that preclude access of the public, including traditionally underserved populations, to essential services. It can also involve the identification of solutions to address those gaps.

2.3 TITLE VI IN DEVELOPMENT OF THE LONG RANGE PLAN

The Southeast Wiregrass Area Metropolitan Planning Organization (SWAMPO) is committed to ensuring public participation in the development of all transportation plans and programs. It is the overall goal of the MPO that the transportation planning process be open, accessible, transparent, inclusive, and responsive. The MPO will be compliant with the Americans with Disabilities Act of 1990 (ADA) and the Rehabilitation Act of 1973, Section 504 by July of 2016. The MPO is compliant with all other Title VI laws, processes, and programs, including the following:

- Civil Rights Act of 1964, 42 USC 2000d, et seq. which prohibits exclusion from participation in any federal program on the basis of race, color, or national origin.
- 23 USC 324 which prohibits discrimination on the basis of sexual orientation, adding to the landmark significance of 2000d. This requirement is found in 23 CFR 450.334(1).
- Rehabilitation Act of 1973, 29 USC 701 Section 504, which prohibits discrimination on the basis of a disability, and in terms of access to the transportation planning process.
- Americans with Disabilities Act of 1990 which prohibits discrimination based solely on disability. ADA encourages the participation of people with disabilities in the development of transportation and paratransit plans and services. In accordance with ADA guidelines, all MTP meetings took place in locations which are accessible by persons with mobility limitations or other impairments.
- Executive Order 12898 or referred to as Environmental Justice, which requires that federal programs, policies and activities affecting human health or the environment will identify and avoid disproportionately high and adverse effects on minority or low income populations. The intent was to ensure that no racial, ethnic, or socioeconomic group bears a disproportionate share of negative environmental consequences resulting from government programs and policies.
- Limited English Proficiency (LEP) Plan which is required by Title VI of the Civil Rights Act of 1964, Executive Order 13166, and FTA Circular C 4702.1B, October 2012. The Southeast Wiregrass Area MPO has completed a Four Factor Analysis of the Metropolitan Planning Area (MPA) to determine requirements for compliance with the Limited English Proficiency (LEP) provisions. Based on the analysis, the MPO has identified a population within the MPA that may require MPO assistance in participating in the planning process.

In order to further support the public participation goals of the MPO, the public was encouraged to participate in the development of the MTP. Upon completion of the Draft MTP, the document was open to public review and comment for thirty (30) days, and again for thirty (30) days after any public comments and ALDOT and FHWA changes were incorporated. Prior to the 30-day comment period, an advertisement was placed in the local newspapers indicating various public sites where the document can be reviewed. Comment forms were also available. All MPO and MTP meetings are open to the public and individuals may address their concerns to the MPO committees directly at any meetings they attend. The MPO held several open public meetings to receive public comments on elements of the MTP and on the Draft MTP, as documented later in this Chapter.

2.4 PUBLIC INVOLVEMENT PROCESS

Public involvement is the cornerstone of metropolitan transportation planning. Successfully engaging the public throughout the planning process provides decision-makers with the information necessary to ensure that public concerns and needs are being addressed adequately.

Federal Requirements

Federal regulation (23 CFR 450.316) requires that each MPO develop and use a documented participation plan that defines a process for providing citizens with reasonable opportunities to be involved in the metropolitan transportation planning process. This Public Participation Plan is required to address the following:

- Adequate public notice of activities and time for public review and comment
- Timely notice and access to information
- Employment of visualization techniques to describe plans and programs
- Make information available electronically and on the internet
- Hold meetings at convenient times and easily accessible venues
- Consider and respond to public input in a timely fashion
- Seek out and consider the needs of the traditionally underserved in the community, such as low-income and minority populations
- Provide additional opportunity for public comment on all plans, and changes to plans, following initial agency and public reviews during development, especially the Metropolitan Transportation Plan and Transportation Improvement Program
- Coordination with statewide public involvement and consultation processes
- Periodically review procedures and effectiveness of Plan strategies
- Provide a summary of public comments on the draft for the Metropolitan Transportation Plan and the Transportation Improvement Program and include those in the final documents
- Provide a minimum of a forty-five (45) day public comment period before finalization of a PPP Plan or an update of an existing PPP Plan

Federal legislation and executive orders also prohibit discrimination and/or exclusion from participation in any program or activity receiving federal financial assistance on the basis of race, color, national origin, disability. Special accommodations must also be made for minority, low-income, and Limited English Proficiency populations.

SWAMPO Public Participation Plan Requirements

The MPO's Public Participation Plan (PPP) was adopted in 2013 and addresses all of the federal requirements of a Public Participation Plan. The 2040 MTP public involvement process follows the procedures outlined in the PPP and reproduced below:

- The MTP will be open to public review and comment for thirty (30) days, and again for thirty (30) days after ALDOT and FHWA review and changes have been made prior to approval of the final draft.
- The MPO will maintain stakeholder and interested party telephone, email, and address listings for the purpose of outreach and generating comment. These will include CAC members, school and church organization members, community organizations and groups, housing authority members, chambers of commerce, and state, federal, and local government agencies and staffs.
- Special outreach within the Metropolitan Planning Area that will include complete listings of churches, businesses, and community leaders in areas with low and moderate income populations.
- Notices will be advertised in a newspaper with city and countywide coverage, mailed, or emailed out fourteen (14) days prior to the scheduled meeting.
- Hold at least one (1) open public meeting to receive public comments on the Draft MTP. An additional public meeting may be held at a different location if needed pending approval from the Policy Board
- When comments are received, an analysis, summary, and report on the disposition of the comments are included in the appendices of the Final Long Range Transportation Plan. Changes will be incorporated into the MTP as appropriate and at the discretion of the Policy Board.
- Members of the MPO staff will be available to answer questions and hear comments from interested citizens' at all scheduled MTP meetings and during regular Public Forum periods of the Policy Board and Committee meetings.
- Copies of documents may be obtained on the web at www.dothan.org or by contacting MPO staff.

Beyond requirements for the MTP, the Public Participation Plan requires all of its activities to accommodate persons with disabilities and limited English proficiency persons. All MPO meetings are required to take place in locations which are accessible by persons with mobility limitations or other impairments. The MPO also provides notice of the availability of language assistance to LEP persons.

Public Involvement Activities

To develop an MTP that effectively meets the needs of the public and is consistent with local values, extensive public involvement activities were conducted. Members of the general public participated by:

- Setting a regional vision by prioritizing transportation goals and expressing their satisfaction with current transportation system conditions;
- Identifying future growth areas and areas desired to be preserved for recreation or conservation;
- Identifying future transportation projects to be evaluated in the MTP;
- Communicating their ideal transportation investment strategies; and
- Providing feedback on draft versions of the MTP.

The schedule of all public involvement activities is summarized in Table 2.1. Various outreach methods were used to inform the public about the update process and the public involvement activities. Beyond providing public notice in local print media, outreach methods included the following:

- email invitations to the MPO's contact list database;
- issuing a press release to media representatives; and
- posting information on the MPO website.

Table 2.1 Public Activities Schedule

Activity	Date, Time, and Location
Visioning Meeting *(Workshop)*	Thursday, September 25, 2014 6:00 – 8:00 PM Westgate Recreational Center 501 Recreation Rd., Dothan, AL 36303
Public Meeting *(Open House)*	Thursday, March 26, 2015 2:00 – 4:00 PM Dothan Civic Center 126 N St Andrews St., Dothan, AL 36303
Public Meeting *(Open Meeting)*	Thursday, June 25, 2015 9:00 – 11:00 AM Dothan Civic Center 126 N St Andrews St., Dothan, AL 36303

2.5 STAKEHOLDER CONSULTATION AND COORDINATION

To develop a truly effective transportation plan that addresses the needs of all system users, it is necessary to obtain input from all stakeholders. For this reason, the consultation and coordination process is an important component of plan development. The consultation process is designed to make an additional effort to gather input from key stakeholder constituencies that may not be adequately represented in the public participation process described above.

Federal Requirements

As with public involvement for citizens, federal regulations (23 CFR 450.316) require MPOs to develop and use a documented participation plan that defines a process for providing transportation-related stakeholders with reasonable opportunities to be involved in the metropolitan transportation planning process. These stakeholders include: affected public agencies, representatives of public transportation employees, freight shippers, providers of freight transportation services, private providers of transportation, representatives of users of public transportation, representatives of users of pedestrian walkways and bicycle transportation facilities, representatives of the disabled, and other interested parties.

Federal regulations also encourage MPOs to consult with agencies and officials responsible for other planning activities within the MPA that are affected by transportation or to coordinate its planning process, to the maximum extent practicable, with such planning activities. Beyond this, MTPs are required to give due consideration of other related planning activities within the MPA and to include transportation services and projects within the MPA that are provided by other agencies that receive federal funding, such as public transit systems or national parks.

The metropolitan planning process requires that where a metropolitan planning area includes federal public lands and/or Indian Tribal lands, the affected federal agencies and Indian Tribal governments shall be involved appropriately in the development of transportation plans and programs. While there are no Indian Tribal lands within the Metropolitan Area, there are two state-recognized tribes within the Metropolitan Planning Area, the Cher-O-Creek and MaChis Lower Creek Indians. These tribes are not federally recognized and do not have government authority over any area.

Consultation Activities

The 2040 MTP addresses stakeholder consultation and coordination by taking the following approach:

- Inviting stakeholders individually to attend the visioning meeting and participate in the exercises previously described in Section 2.2;
- Coordinating with stakeholders to review existing plans and maps;
- Coordinating with stakeholders to obtain inventories of natural, historic, and community resources to use in project development;
- Holding a stakeholder meeting to review preliminary socioeconomic and demographic forecasts and seek additional input on test projects. Invitations were sent to stakeholders included in a contact database maintained by the MPO, including local and state government agencies, chambers of commerce, school officials, law enforcement agencies, planning commissions, historic preservation officials, taxi service providers, and freight service providers; and
- Seeking feedback from stakeholders on draft versions of the MTP.

Information received from stakeholders at the visioning meeting are summarized along with those of the general public in Section 2.4.

Table 2.2 Stakeholder Consultation Activity Schedule

Activity	Date, Time, and Location
Visioning Meeting *(Workshop)*	Thursday, September 25, 2014 6:00 – 8:00 PM Westgate Recreational Center 501 Recreation Rd., Dothan, AL 36303
Stakeholder Meeting *(Consultation)*	Tuesday, January 13, 2015 2:00 – 3:00 PM Dothan Civic Center 126 N St Andrews St., Dothan, AL 36303
Public Meeting *(Open House)*	Thursday, March 26, 2015 2:00 – 4:00 PM Dothan Civic Center 126 N St Andrews St., Dothan, AL 36303
Public Meeting *(Open Meeting)*	Thursday, June 25, 2015 9:00 – 11:00 AM Dothan Civic Center 126 N St Andrews St., Dothan, AL 36303

2.6 VISIONING EXERCISE AND RESULTS

To gather public input regarding the planning process for the MTP Update, the MPO held a series of visioning meetings to gather public input regarding the future of the transportation system in the Dothan Metropolitan Planning Area. At these meetings, stakeholders and members of the general public shared their concerns, ideas, values, and visions regarding the state of both the current transportation system and future transportation needs for the region.

The following sections describe the visioning process and its outcomes.

Visioning Meeting Format and Exercises

The meetings were set up to allow every participant to be actively engaged in providing input. The meeting rooms were set up with round tables designed to seat six to eight persons. After signing in, each participant was given a table assignment and the first exercise. At each table, participants were welcomed by a member of the study team and any elected officials in the room were introduced. Members of the study team were present at each table to facilitate group activities and to help answer participant questions.

Members of the consulting team served as the moderators for the exercises. The moderator explained to the participants that this workshop was part of a public participation process designed to establish a community vision for future land use and transportation patterns through open dialogue and collaboration.

Before starting the visioning exercises, participants were asked to provide information regarding their place of residence, usage of different transportation modes, and affiliations with different stakeholder groups, if any. This information is provided in the Appendix.

Workshop Exercise I - Current State of the Transportation System

Exercise I asked the participants at each table group to grade their satisfaction with different aspects of transportation system. They reported if they were very satisfied, somewhat satisfied, neither satisfied nor unsatisfied, somewhat unsatisfied, or dissatisfied. Figure 2.1 displays the results of this part of the exercise.

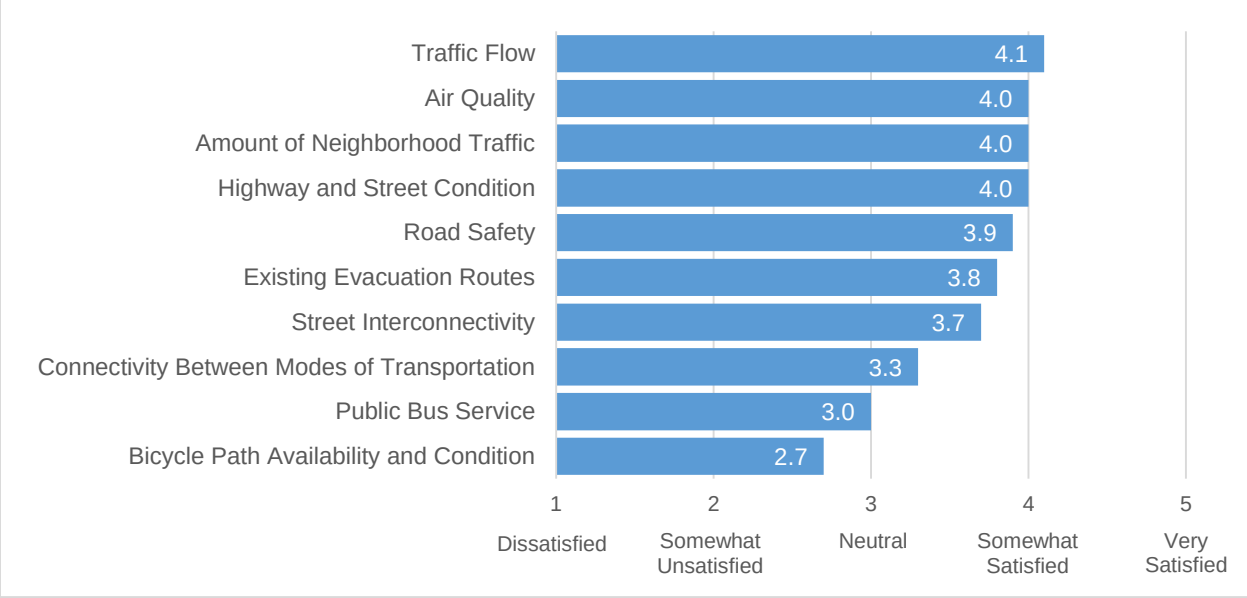
Overall, participants indicated that they were somewhat satisfied with the transportation system. This was especially true for traffic flow, air quality, amount of neighborhood traffic, highway and street condition, road safety, existing evacuation routes, and street interconnectivity. Participants were neutral (divided) on satisfaction with connectivity between modes of transportation, public bus service, and bicycle path availability and condition.

Given the growing interest in bicycle and pedestrian transportation, the second part of this exercise asked the participants to rate different aspects of the region's bicycle and pedestrian system. Figure 2.2 displays the results of this part of the exercise.

Overall, when surveyed about bicycle and pedestrian priorities, participants rated all priorities as somewhat important. However, priorities for bicycle and pedestrian access to recreational areas and schools garnered the most support.

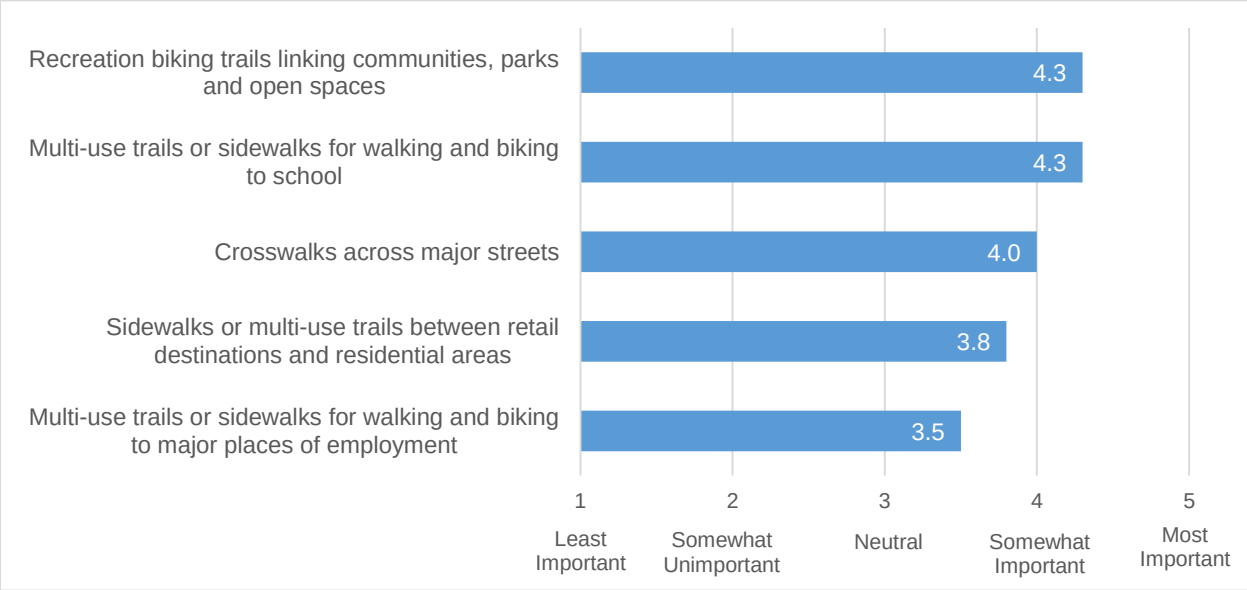
The results from this exercise were used to develop the Vision and Goals and Objectives in Chapter 3.

Figure 2.1 Satisfaction with Transportation Conditions Exercise Results



Source: Visioning Exercises

Figure 2.2 Bicycle and Pedestrian Priorities Exercise Results



Source: Visioning Exercises

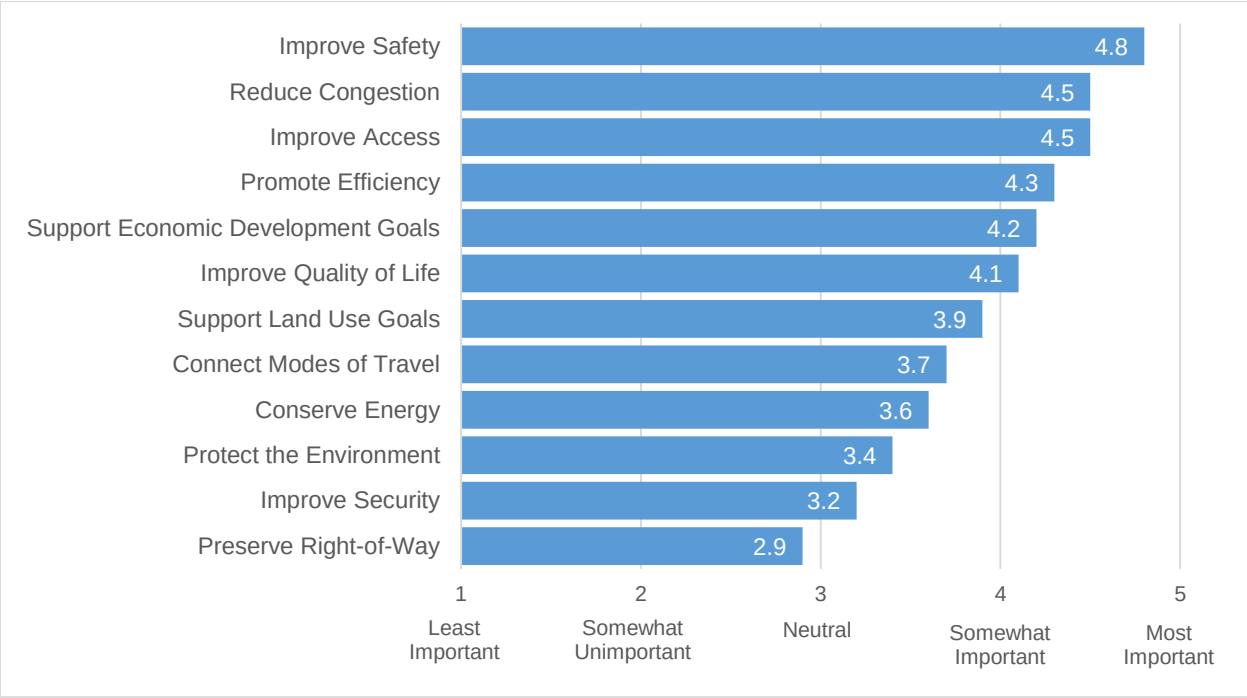
Workshop Exercise II – Transportation Goals

For Exercise II, the moderator presented participants a list of ten transportation-related goals. He explained that the list has been developed over many years of gathering input from the public and reflects the recommended transportation project evaluation criteria in the MAP-21 legislation. Participants were asked to briefly discuss the relative importance these goals and then to indicate their ranking of each goal as Most Important, Somewhat Important, Neutral, Somewhat Unimportant, or Least Unimportant. Table 2.3 presents the list of goals that was presented and Figure 2.3 displays the resulting rankings.

Participants indicated that improving safety was the most important goal. Reducing congestion and improving access also ranked as Most Important overall. No goals were rated as Somewhat Unimportant or Least Important. However, participants were divided on preserving Right-of-Way, Improving Security, and Protecting the Environment.

The results from this exercise were used to develop the Vision and Goals and Objectives in Chapter 3 and to develop project prioritization criteria in Chapter 9.

Figure 2.3 Transportation Goals Rating Exercise Results



Source: Visioning Exercises

Table 2.3 Transportation Goals Evaluated by the Public

Goal	Description of Goal
Improve Access	Improving access involves control and management of the entrance and exit points to a transportation facility for people and freight. Improved access is based on a balance between the number of access points and the efficient movement of traffic through the transportation facility.
Improve Safety	Safety is defined as protection against unintentional harm, such as tripping or falling.
Improve Quality of Life	The quality of life of a community is a term that the community must define for itself. The transportation system can have both positive and negative impacts on the quality of life in a community.
Improve Security	Security is defined as protection against intentional harm such as crime.
Support Economic Development Goals	The economic development goals of the community are defined by the economic development plans of the local jurisdictions and can be impacted by many factors, one of which is the transportation system. Economic development goals also include enabling global competitiveness, productivity, and efficiency.
Conserve Energy	Energy conservation has become a national priority in recent years and the efficient use of the transportation system can have a dramatic impact on the amount of energy consumed, as well as the corresponding costs - both direct dollar costs and indirect environment costs - to the community.
Connect Modes of Travel	The various modes of travel within the community function best when people and goods can easily move from one mode of travel to another. This intermodal connectivity is often facilitated by intermodal transfer terminals.
Promote Efficiency	Efficiency is promoted by improved system management, the preservation of the existing transportation system, and the reduction in costs.
Support Land Use Goals	The land use goals of the community are defined by the planning and development ordinances of the local jurisdictions and through the public visioning process.
Reduce Congestion	Congestion is defined as a roadway system operating at speeds below that for which it was designed.
Preserve Rights-of-Way	Preservation of rights-of-way refers to purchasing land before development occurs in anticipation of future expansion of the transportation system.
Protect the Environment	In the urbanized area, important environmental protection issues are maintenance of clean air and flood protection.

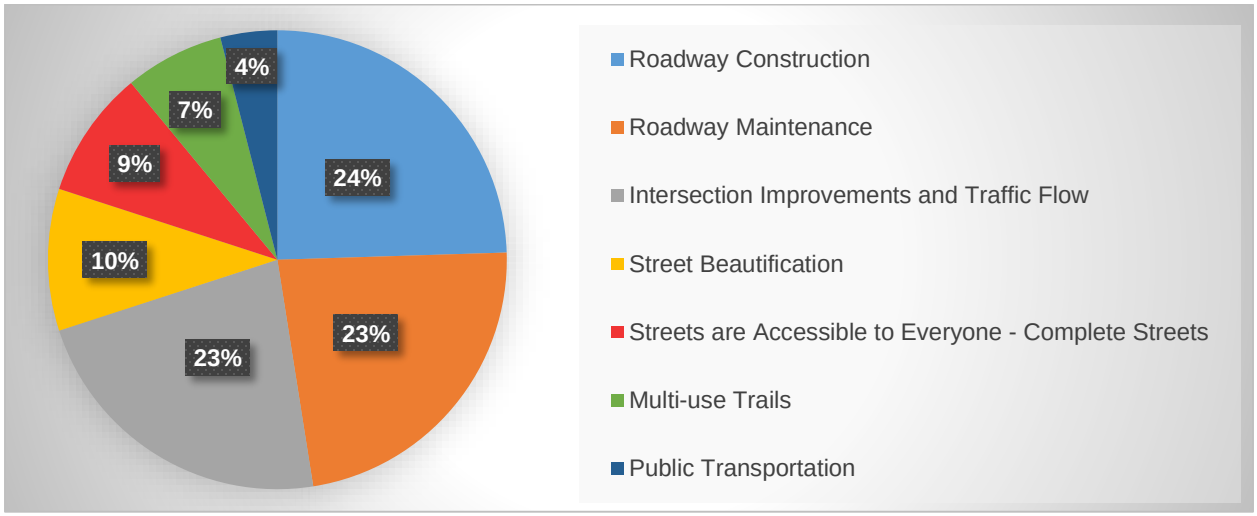
Workshop Exercise III – Transportation Spending

For Exercise III, the moderator presented each table with a poster with a list of various types of transportation improvements and brief descriptions of them. The participants were each given twenty dots to place on the poster, each dot representing five dollars of an allotted one hundred dollars to spend on the types of improvements. Participants were required to use all of their allocated transportation dollars and were allowed to put as much or as little as they wished into each item. Figure 2.4 displays the desired distribution of funding by the participants.

Overall, participants put approximately 25 percent of their funding allocation into each of three transportation improvement types: roadway construction, roadway maintenance, and intersection improvements and traffic flow. Street beautification (10 percent) received more funding than either Complete Streets, Multi-use Trails, or Public Transportation. Public Transportation received the least amount of funding with four (4) percent.

The results from this exercise were used to develop to inform future discussion of needed transportation projects and to develop the Vision and Goals and Objectives in Chapter 3.

Figure 2.4 Transportation Spending Exercise Results



Source: Visioning Exercises

Workshop Exercise IV – Growth and the Transportation System in 2040

For Exercise IV, the moderator presented traffic flow and congestion maps from the previous transportation model of the region, which were based on the current projections of population and employment growth. Each table then received large-scale blank maps of the Metropolitan Planning Area that included the highway network, water bodies, and landmarks.

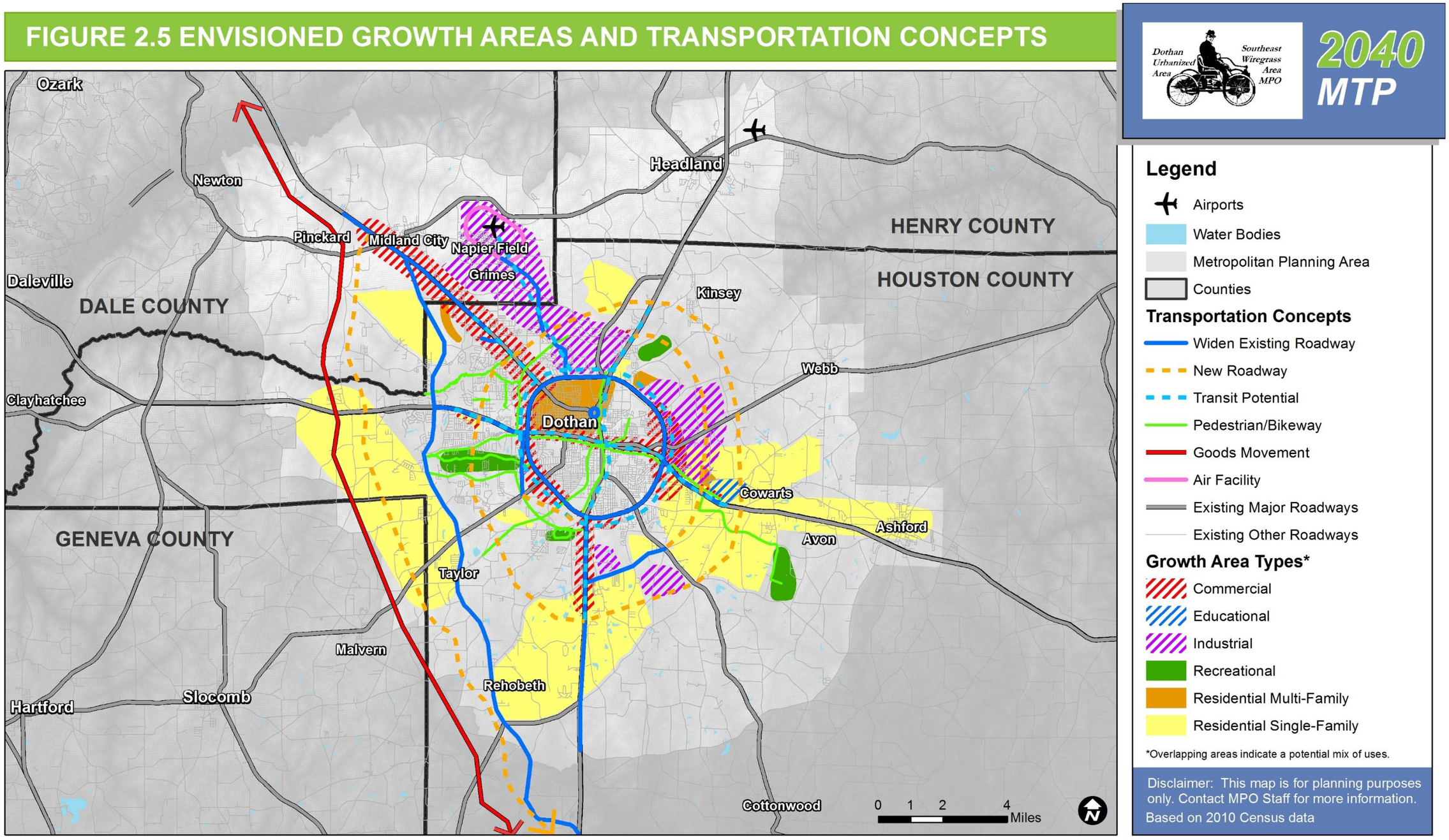
The table groups were prompted to discuss anticipated changes in land use patterns and transportation needs over the next 25 years. The participants were then asked to mark the areas on the blank maps where they believed future residential, commercial, or industrial growth would occur and to identify areas currently proposed for recreation or conservation. Then, participants were asked to draw new transportation facilities or modifications to existing transportation facilities on another blank map, based on existing need or future need illustrated in their land use visioning map.

The results from this exercise were used to develop socioeconomic and demographic forecasts and to identify future transportation projects to test for inclusion in the fiscally-constrained MTP.

Figure 2.5 illustrates the land use and transportation Vision articulated by this exercise. Information received is summarized below:

- Land Use Changes
    - Most single-family residential growth is anticipated to occur on the periphery of the existing urbanized area around Dothan, though to a lesser extent to the northeast
    - Most multi-family residential growth is anticipated to occur within the existing urbanized area, especially within or within close proximity to Ross Clark Circle
    - Commercial growth is anticipated to occur mostly along U.S. Highway 231 and near the Southeast Alabama Medical Center.
    - Industrial growth is anticipated to occur mostly in a wedge-shaped area from Dothan Regional Airport to the area near the Southeast Alabama Medical Center
    - A new educational campus has opened at the Alabama School of Osteopathic Medicine (ACOM) and is anticipated to expand in future years
    - New recreational areas are currently proposed within the City of Dothan, including Jim Oates Park. Other desired recreation areas include an area along Beaver Creek between Honeysuckle Rd. and S. Brannon Stand Rd. and the area around the existing Eastgate Park
- Transportation Facilities Envisioned
    - Construction of the I-10 connector project connecting Dothan to Interstate 10 in Florida via a new limited-access freeway along the western edge of the City, terminating at or near U.S. Highway 231
    - Widening of most major arterials, as well as Denton Road, Honeysuckle Rd, and E. Saunders Rd
    - An outer loop roadway surrounding the existing Ross Clark Circle
    - An extension of E. Saunders Rd to U.S. Hwy 431 to form a partial second loop
    - A new roadway connecting Honeysuckle Rd to U.S. Hwy 231
    - A perceived potential for fixed-route transit service within the urbanized area
    - More bicycle and pedestrian facilities along major roadways
    - Multi-use trails connecting existing and proposed recreational areas
    - A Rails-to-Trail or rail-side trail facility along the former Hartford and Slocomb Railroad from Downtown Dothan to the Town of Taylor

FIGURE 2.5 ENVISIONED GROWTH AREAS AND TRANSPORTATION CONCEPTS



Map Source: Neel-Schaffer, Inc.

Data Sources: Visioning Exercises; Census Bureau

3.0 VISIONING AND PERFORMANCE MEASURES

3.1 PUBLIC VISION

Results from the public visioning exercises and stakeholder consultation, included in Chapter 2, indicate a need for a more balanced transportation system that provides viable alternatives to driving alone or carpooling. This need is reflected in the Vision Statement below, which guided the development of goals, objectives, and performance measures.

Vision Statement

A seamlessly-integrated, multimodal transportation system that connects people of all backgrounds and abilities to their desired destinations in a safe, convenient, and efficient manner. A transportation system that promotes a sustainable region with a high quality of life.

3.2 GOALS AND OBJECTIVES

The development of goals and objectives are often discussed simultaneously in transportation planning. However, it is important to make a critical distinction between goals and objectives, especially as they relate to performance-based metropolitan transportation planning, as required by the Moving Ahead for Progress in the 21st Century Act (MAP-21).

A goal is a broad statement that describes a desired end state. Goals should be consistent with the stated Vision and form the basis for selecting investments and activities that will effectively bring about that Vision.

An objective is a specific, measurable statement that supports achievement of a goal. A good objective should include or lead to development of a performance measure. Objectives can be broken down into outcome, output, and activity-based objectives, as explained in Table 3.1. Outcome-based objectives are preferred for long-range planning because they allow the most effective communication with the public. When utilized, output and activity-based objectives should be supportive of outcome-based objectives.

The 2040 MTP goals and objectives provided in this chapter are consistent with public/stakeholder input, ALDOT Livability Indicators, national transportation goals specified in MAP-21, and federal planning factors reinforced by MAP-21. Additional information on Livability Indicators, national transportation goals and federal planning factors can be found in Chapter 1: Introduction.

Table 3.1 Outcome, Output, and Activity-based Objectives

Type	Description	Example
Outcome	Reflect concerns of the public, customers, or stakeholders; these objectives are often the most meaningful to the public and relate most directly to system goals; however, they may be influenced by a range of factors beyond the control of transportation agencies.	*Reduce hours of incident-based delay experienced by travelers*
Output	Reflect quantity of activities that affect outcomes, and may be more directly influenced by a transportation agency (although they also may not be entirely in the control of the agency)	*Reduce the clearance time for traffic incidents (For incident clearance the transportation agency would need to work with law enforcement, etc.)*
Activity	Reflect actions that are taken by transportation agencies. These are less directly tied to the outcome, and often directly relate to a strategy being implemented.	*Increase the number of cameras tracking system conditions*

Source: FHWA and FTA, "Advancing Metropolitan Planning for Operations: The Building Blocks of a Model Transportation Plan Incorporating Operations - A Desk Reference," April 2010.

Goal 1: Affordable, Convenient, and Reliable Access to Destinations by Multiple Modes of Transportation

Objectives:

- *Increase the percentage of trips made by bicycling, walking, and public transit.*
- *Increase the percentage of transportation investment dedicated to enhancing accessibility of existing transportation system.*
- *Reduce the percentage of household income spent on housing and transportation.*
- *Increase the percentage of the workforce living with a thirty (30) minute or less commute from primary job centers.*
- *Increase the percentage of the population and employment within a half mile of a transit route.*
- *Increase the percentage of the population and employment within a half mile of marked bicycle facilities.*
- *Increase the percentage of collector and arterial roadway centerline miles in urban areas with sidewalk on both sides.*
- *Add fixed-route transit service and expand fixed-route and paratransit/demand response transit service to the weekend and into the late evening on weekdays.*
- *Reduce the annual hours of delay from recurring and non-recurring congestion experienced by motorists and transit riders.*
- *Once fixed-route transit service is implemented, Improve on-time performance.*
- *Increase the percentage of para-transit/demand-response trips that pick up passengers within two hours of request.*

Goal 2: A Connected Regional Economy Accessible to National and Global Markets

Objectives:

- *Minimize delay on principal arterials connecting rural and urban areas.*
- *Increase scheduled public transit connections between communities within the Metropolitan Planning Area.*
- *Designate and construct a network of regional multi-use paths and on-street bicycle facilities that connect activity centers throughout the Metropolitan Planning Area.*
- *Minimize railroad freight delay by improving operations and infrastructure and reducing railroad/roadway and land use conflicts*
- *Improve operations at intermodal freight and passenger facilities such as transload facilities, airports, and multimodal transit centers by ensuring sufficient storage capacity for all vehicles and cargo.*
- *Minimize delay on the USDOT-designated national freight network.*
- *Maintain a minimum average speed of 55 mph on Interstate facilities for efficient freight travel.*
- *Increase inter-city transit service to other Urbanized Areas in the Southeast by adding new destinations and increasing the frequency of existing service.*
- *Increase the number of daily commercial flights between the Dothan Regional Airport and major international airport hubs such as Atlanta.*

Goal 3: A Well-Maintained and Efficient Transportation System

Objectives:

- *Reduce the percentage of roadway miles classified as Interstates, Arterials, and Collectors with a Pavement Condition Rating (PCR) of 72 or lower, indicating a need for resurfacing or reconstruction.*
- *Decrease the number of bridges on public roads that are classified as Structurally Deficient or Functionally Obsolete.*
- *Ensure that all transit facilities and vehicles are in a State of Good Repair, as required by the Federal Transit Administration.*
- *Reduce the length of sidewalk and crosswalk infrastructure along arterials and collectors that requires repair or maintenance.*
- *Reduce the length of bicycle facility and multi-use path infrastructure that requires repair or maintenance.*
- *Ensure that airport equipment, facilities, and pavement on runways, taxiways, and aprons are in good condition.*
- *Ensure that active railroad infrastructure is in good condition, especially tracks, vehicles, bridges, and roadway crossings.*
- *Reduce annual Vehicle Miles Traveled per capita and Vehicle Hours Traveled per capita through Transportation Demand Management strategies.*
- *Increase the number of congested intersections and corridors managed by Intelligent Transportation Systems.*
- *Reduce the number of underutilized roadway corridors in urban areas with projected 2040 Volume to Capacity ratios below 0.75 by reallocating roadway space to other modes and purposes where such reallocation is deemed appropriate.*
- *Increase fixed route and paratransit/demand response transit passenger trips while reducing the operating cost per passenger trip for both.*

Goal 4: A Safe, Secure, and Resilient Transportation System

Objectives:

- *Reduce the number of automobile crashes on public roads resulting in fatalities or serious injuries and the respective rates per 100 million Vehicle Miles Traveled.*
- *Reduce the number of bicycle and pedestrian crashes resulting in fatalities or serious injuries and the respective rates per capita.*
- *Reduce the number of safety and security incidents, injuries, and fatalities for all transit systems and the respective rates per 100,000 Vehicle Miles.*
- *Reduce the number of highway-rail crossing accidents, injuries, and fatalities for freight and passenger rail.*
- *Ensure that no aviation-related incidents or accidents are attributed to local airport operations or facilities.*
- *Increase the redundancy and diversity of the transportation network by increasing the number of emergency evacuation alternatives for multiple modes of transportation, with special consideration for the carless population.*
- *Improve the flexibility of the transportation network by increasing the number of intersections and corridors managed by Intelligent Transportation Systems.*

Goal 5: A Transportation System That Creates a Sense of Place and Improves Public Health

Objectives:

- *Increase the amount of public art installations and street furniture designed by local artists along transportation right of ways and on transportation facility properties.*
- *Increase the tree canopy and vegetated space along transportation right of ways.*
- *Increase the number of projects where roadways are temporarily transformed for community events or tactical urbanism projects such as festivals and Better Block campaigns.*
- *Increase new residential and commercial development and reinvestment adjacent to transportation improvements in historic districts and areas with a high density of housing built at least 50 years ago.*
- *Increase the percentage of housing located in walkable neighborhoods with mixed use destinations located nearby.*
- *Increase the number of TAZs with a balanced Jobs to Housing ratio.*
- *Increase the population residing in urban TAZs where the combined length of sidewalk along collectors and arterials is at least 1.5 times greater than the length of those roadways.*
- *Increase the percentage of urban TAZs within 1 mile of a multiuse path.*
- *Increase the percentage of K-8 students that walk or bike to school.*
- *Reduce the number of urban food deserts with no fixed-route transit service.*
- *Reduce the number of days with poor air quality.*

Goal 6: A Transportation System That Distributes Benefits and Burdens in an Equitable Manner

Objectives:

- *Minimize the disparity between the percentage of Environmental Justice/Low Mobility (EJ/LM) area households that spend 45% of their income on housing and transportation versus all other areas.*
- *Minimize the disparity in the average travel time to work between EJ/LM areas and all other tracts.*
- *Minimize disparity between travel time by driving and by riding transit to primary employment centers and major medical and educational destinations in EJ/LM areas*
- *Increase the ratio of sidewalk and multi-use path length to roadway length in EJ/LM areas and areas within a half mile of fixed-route transit service.*
- *Minimize the disparity in exposure to arterial traffic (VMT) and associated greater air and noise pollution for EJ groups.*
- *Minimize the disparity between bicycle and pedestrian crashes in EJ/LM areas and other areas.*

Goal 7: A Transportation System That Minimizes Detrimental Impacts to the Natural and Historic Environment and Practices Environmental Stewardship

Objectives:

- *Reduce transportation-related greenhouse gas emissions per capita.*
- *Increase the number of transit and other fleet vehicles fueled by alternative and hybrid fuels that reduce fossil-fuel dependency.*
- *Reduce the number of days with poor air quality.*
- *Develop more residential units and commercial developments in infill locations than in greenfield locations.*
- *Reduce collisions between automobiles, trains, and animals in high collision areas by introducing design countermeasures.*
- *Ensure that no programmed transportation project has a significantly adverse impact to historic sites, parks, and recreation areas where a feasible and prudent alternative exists.*

Goal 8: A Meaningful Public Involvement Process That Influences Transportation Decision-Making

Objectives:

- *Local residents, businesses, and other stakeholders are educated on the transportation planning process and local transportation issues and they provide an increased level of meaningful input that is incorporated into the decision-making process.*
- *The socioeconomic composition of public participants resembles that of the Metropolitan Planning Area as a whole and includes representation from a variety of urban, suburban, and rural communities.*
- *Projects prioritized for funding have support from the community as a whole as well as the majority of residents and businesses directly impacted.*

Goal 9: A Fiscally-Constrained 25-year Transportation Improvement Program That Addresses Existing and Future Needs While Maximizing Projected Revenues.

Objectives:

a. *Projected revenues through 2040 are greater than or equal to the projected cost of all programmed projects and maintenance.*
b. *The overwhelming majority of programmed projects demonstrate a high benefit-cost ratio, regardless of mode.*
c. *Increase the number of projects completed before the anticipated Stage Year and below the projected cost.*
d. *Increase the percentage of transportation projects where more than one federal funding source is utilized.*

3.3 SYSTEM PERFORMANCE MEASURES

Once the USDOT finalizes the national performance measures required by MAP-21 and the State DOTs have set state targets for these measures, MPOs will be required to set their own regional targets and evaluate their performance in the MTP. However, the USDOT is still in the rulemaking process for national performance measures required by MAP-21. Therefore, the 2040 MTP will simply address the following performance measures that are consistent with the Goals and Objectives and required by the ALDOT Livability Principles and Indicators initiative:

Performance Measure 1: The percentage of transportation investment dedicated to enhancing accessibility of existing transportation system.

Target: Increase

Performance Measure 2: The percentage of household income spent on housing and transportation.

Target: Decrease

Performance Measure 3: The percentage of the workforce living with a thirty (30) minute or less commute from primary job centers.

Target: Increase

Performance Measure 4: The percentage of the population and employment within a half mile of a transit route.

Target: Increase

Performance Measure 5: The percentage of housing located in walkable neighborhoods with mixed use destinations located nearby.

Target: Increase

Performance Measure 6: The percentage of transportation projects where more than one federal funding source is utilized.

Target: Increase

This performance measure data can be found in the Appendix.

4.0 THE ENVIRONMENT

4.1 THE ENVIRONMENT AND THE MTP

Transportation planning must take into account the impacts of transportation on both the natural and human environment. By providing appropriate consideration of environmental impacts early on in the planning process, the MTP increases opportunities for inter-agency coordination, enables expedited project delivery, and promotes outcomes that are more environmentally sustainable.

Federal Requirements

Federal regulations (23 C.F.R. §450) require the MTP to address environmental concerns by doing the following:

1. The development of the MTP must involve consultation with state and local agencies responsible for land use management, natural resources, environmental protection, conservation, and historic preservation. This should include a comparison of the MTP with State conservation plans or maps and inventories of natural or historic resources, if this information is available.

2. The MTP must discuss types of potential environmental mitigation activities relating to the implementation of the MTP, including potential areas for these activities to occur and activities which may have the greatest potential to mitigate the effects of the MTP projects and strategies. Mitigation activities do not have to be project-specific and can instead focus on broader policies, programs, and strategies. The discussion must involve consultation with federal, state, and tribal land management, wildlife, and regulatory agencies.

The National Environmental Policy Act (1969), or NEPA, established the basic framework for integrating environmental considerations into federal decision-making. Federal regulations relating to NEPA (40 C.F.R. 1508) define mitigation as:

- Avoiding the impact altogether by not taking a certain action or parts of an action.
- Minimizing impacts by limiting the degree or magnitude of the action and its implementation.
- Rectifying the impact by repairing, rehabilitating, or restoring the affected environment.
- Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
- Compensating for the impact by replacing or providing substitute resources or environments.

Section 4(f) of the U.S. Department of Transportation Act of 1966 provides additional environmental protection for property in publicly owned parks, recreational areas, wildlife and waterfowl refuges, and historic sites by preventing these properties from being used for transportation purposes unless there is no feasible and prudent alternative, the action includes all possible planning to minimize harm to the property, or a *de minimis* impact determination is made.

Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations, was signed by President Clinton in 1994. It seeks to reaffirm the intent of Title VI of the Civil Rights Act of 1964, NEPA, and other federal laws, regulations, and policies by establishing the following Environmental Justice (EJ) principles for all federal agencies and agencies receiving federal funds, such as MPOs:

- To avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority populations and low-income populations.
- To ensure the full and fair participation by all potentially affected communities in the transportation decision-making process.
- To prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations.

MTP Project Environmental Screening

Detailed, project-specific environmental impact evaluations are beyond the scope of an MTP. However, the 2040 MTP uses an environmental screening process to evaluate the relative likelihood of significant environmental impacts for all considered transportation projects. This process utilizes available inventories of all relevant natural and cultural resources and socioeconomic and demographic data from the U.S. Census Bureau.

Table 4.1 below shows resources and issues typically considered in environmental impact evaluations. The environmental screening process utilized by the 2040 MTP will be described in detail in Section 4.9.

Table 4.1 Typical Environmental Resources and Issues Evaluated

RESOURCE/ISSUE	WHY IMPORTANT	REGULATORY BASIS	CONTACT
HAZMAT Sites	Health hazards, costs, delays, liability for both state and federal projects on either existing or acquired right-of-way	State and federal law; Guidelines for Ops; ASTM E-1527	Phase-I: Design Bureau/ETS, phone 334-242-6154 Phase-II and III: Materials and Tests Bureau, phone 334-206-2284
Air Quality	Public health, welfare, productivity, and the environment are degraded by air pollution	Clean Air Act of 1970; 40 CFR Parts 51 & 93; State Implementation Plan	Design Bureau/ETS, phone 334-242-6147; PM-2.5 – Design Bureau/ETS, phone 334-242-6315
Noise	Noise can irritate, interrupt, and disrupt, as well as generally diminish the quality of life	Noise Control Act of 1972; ALDOT's highway Traffic Noise Analysis Policy and Guidance	Design Bureau/ETS, phone 334-242-6147 or 6828 or 6710

RESOURCE/ISSUE	WHY IMPORTANT	REGULATORY BASIS	CONTACT
Wetlands	Flood control, wildlife habitat, water purification; applies to both state and federally funded projects	Clean Water Act of 1977; Executive Order 11990; 23 CFR 777	Design Bureau/ETS, phone 334-242-6145; US Army Corps of Engineers, phone 251-690-2658
Threatened and Endangered Species	Loss of species can damage or destroy ecosystems, to include the human food chain	Endangered Species Act of 1973; 7 CFR 355	Design Bureau/ETS, phone 334-242-6132; US Fish & Wildlife Service, phone 251-441-5181
Floodplains	Encroaching on or changing the natural floodplain of a water course can result in catastrophic flooding of developed areas	Executive Order 11988; 23 CFR 650; 23 CFR 771	Design Bureau/ETS, phone 334-242-6145; Bridge Bureau, phone 334-242-6598
Farmlands	Insure conversion compatibility with state and local farmland programs and policies	Farmland Protection Policy Act of 1981; 7 CFR 658	Design Bureau/ETS, phone 334-242-6150; Natural Resources Conservation Service (NRCS), phone 334-887-4500
Recreation Areas	Quality of life; neighborhood cohesion	Section 6(f) of the Land and Water Conservation Fund Act; Section 4(f) of the DOT Act of 1966 (when applicable); 23 CFR 771	Design Bureau/ETS, phone 334-242-6143 or 6152; Alabama Department of Economic and Community Affairs, phone 334-242-5363
Historic Structures	Quality of life; preservation of the national heritage	National Historic Preservation Act of 1966 (Section 106); the DOT Act of 1966 [Section 4(f)]; 23 CFR 771; 36 | CFR 800	Design Bureau/ETS, phone 334-242-6144 or 6225; Alabama Historical Commission, phone 334-230-2667
Archaeological Sites	Quality of life; preservation of national and Native American heritage	National Historic Preservation Act of 1966 (Section 106); the DOT Act of 1966 [Section 4(f)]; 23 CFR 771; Executive Order 13175	Design Bureau/ETS, phone 334-242-6144 or 6225; Alabama Historical Commission, phone 334-230-2667
Environmental Justice	To avoid, minimize, or mitigate disproportionately high impacts on minorities and low-income populations; basic American fairness	Title VI, Civil Rights Act of 1964; Executive Order 12898	Design Bureau/ETS, phone 334-242-6529 or 6576; right-of-way office in each respective ALDOT Region

Source: ALDOT

4.2 REGIONAL CONTEXT

Climate, Soil, and Topography

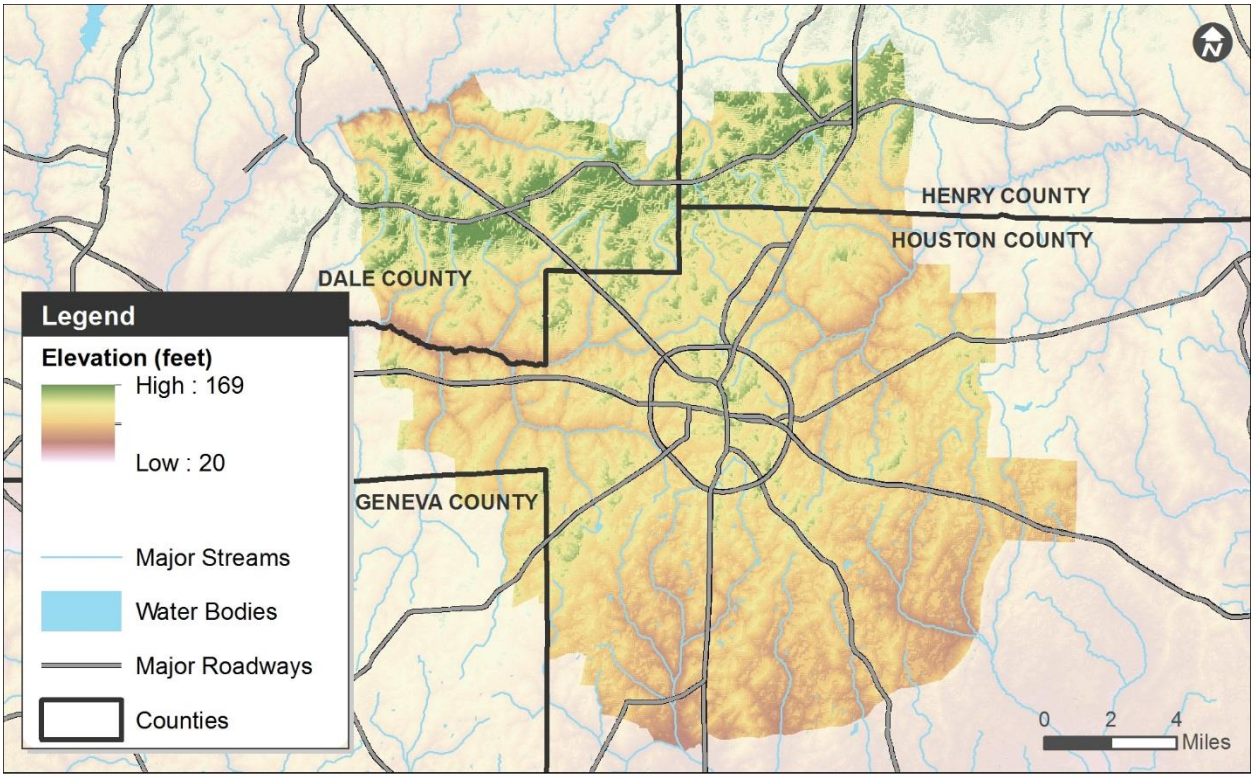
The climate in the Metropolitan Planning Area is classified as Humid, Subtropical (Cfa) according to the Koppen climate classification system. According to the National Weather Service, the average July temperature is approximately 81 degrees Fahrenheit while the average January temperatures is approximately 53 degrees Fahrenheit. Average annual rainfall is approximately 55 inches.

The Metropolitan Planning Area is almost exclusively within the Daugherty Plain ecosystem within the Southeastern Plains of Alabama. According to *Alabama's Comprehensive Wildlife Conservation Strategy*,

> The Dougherty Plain has sandy loam, sandy clay, or sandy soils. Most of this region is low in elevation and relatively flat. The fire-adapted longleaf pine community was here before extensive clearing for agriculture, conversion to loblolly plantations, and suppression of fire.
>
> Also known as the Coastal Plain or East Gulf Coastal Plain, [the Southeastern Plain] ecoregion represents over half of the land area of the state, and is highly variable in topography, soils, and vegetation. The Southeastern Plains region is separated from the other regions to the north by the Fall Line, which curves from the northwestern corner of Alabama to the Georgia border in east central Alabama. The Fall Line…is the most important physical feature affecting the distribution of a number of Alabama's amphibians, reptiles, fishes, and mollusks. Streams above the Fall Line are generally swift, with rocky bottoms. Streams below the Fall Line tend to be sluggish, with muddy or sandy bottoms.
>
> Geologically, this region is much younger than the upland regions and it lacks well-consolidated rocky formations. Most of the soils in this area are derived from marine and fluvial sediments eroded from the Southwestern Appalachian and Piedmont plateaus.
>
> Topography is generally flat to gently rolling, but some portions have relief of 200 to 300 feet. Much of the forest in this region has been converted to pine plantations. Where natural forest remains, longleaf, shortleaf, and loblolly pines dominate most uplands, with slash pine in the lower areas and scattered areas of hardwoods. Floodplain forests contain oaks, ash, cypress, and tupelo gum. Prior to modern fire suppression, the upland forests naturally burned every few years and fire-adapted species such as longleaf pine were predominant over much of the area.

A digital elevation model of the Metropolitan Planning Area is illustrated in Figure 4.1. What this information indicates is that the MPA is low-lying and generally flat, though there are ravines near major streams and some areas of relatively higher elevation in the north.

Figure 4.1 Metropolitan Digital Elevation Map



Disclaimer: This map is for planning purposes only. *Based on US 2010 Census data*

Map Source: Neel-Schaffer, Inc. Data Sources: USGS, National Elevation Dataset

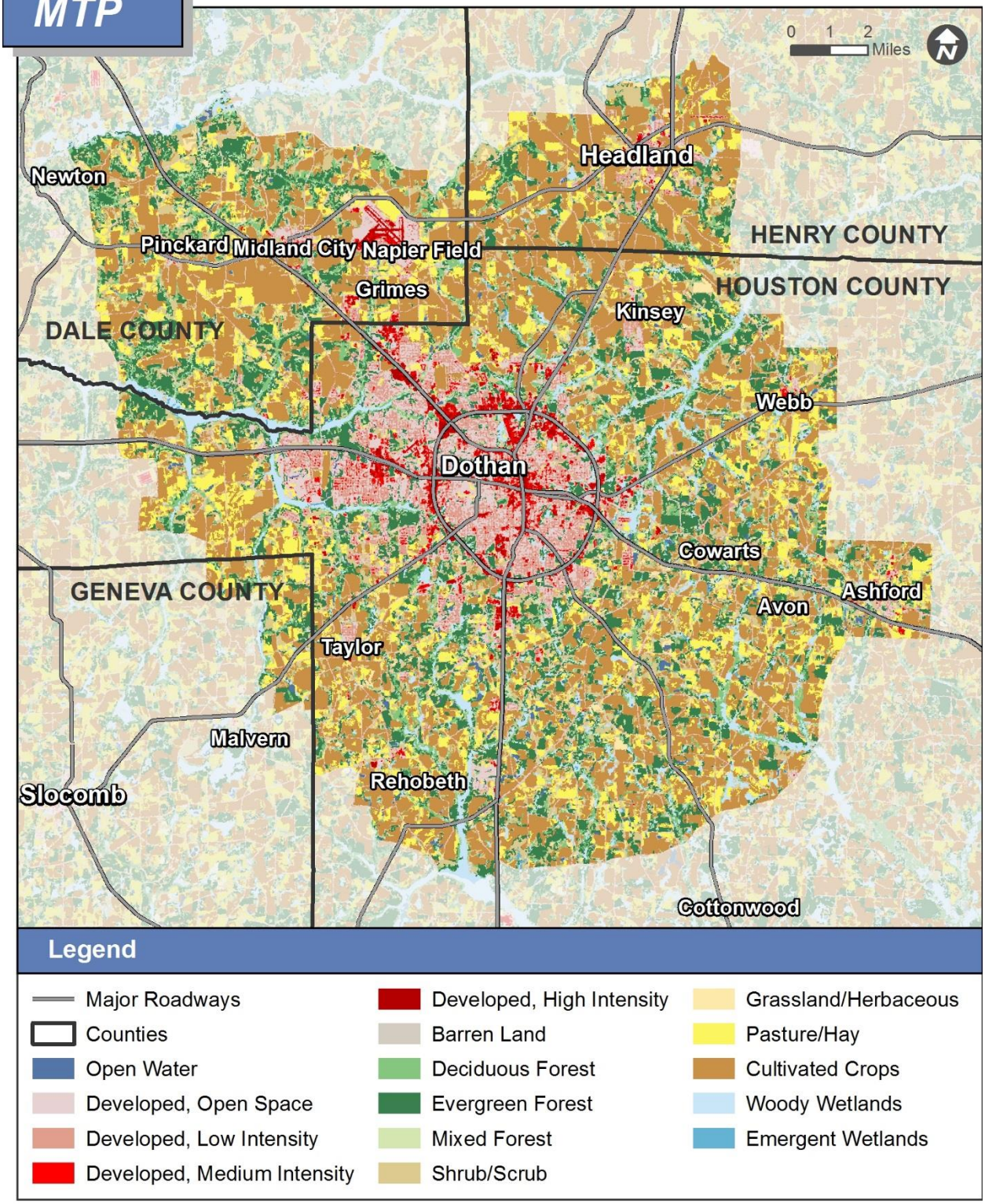
Land Cover and Agriculture

The land cover of the Metropolitan Planning Area is illustrated in Figure 4.2 and summarized in Figure 4.3. According to this information, developed areas only account for 19 percent of the land in the Metropolitan Planning Area. Cropland and forested areas make up 50 percent of the land area.

Table 4.2 shows the most widespread crops cultivated in the Metropolitan Planning Area. Peanuts are by far the most widespread crop, but hay and cotton are also prevalent. This should not be a surprise, as the region is part of both the peanut belt and cotton belts in the United States.

2040 MTP

FIGURE 4.2 LAND COVER CLASSIFICATION



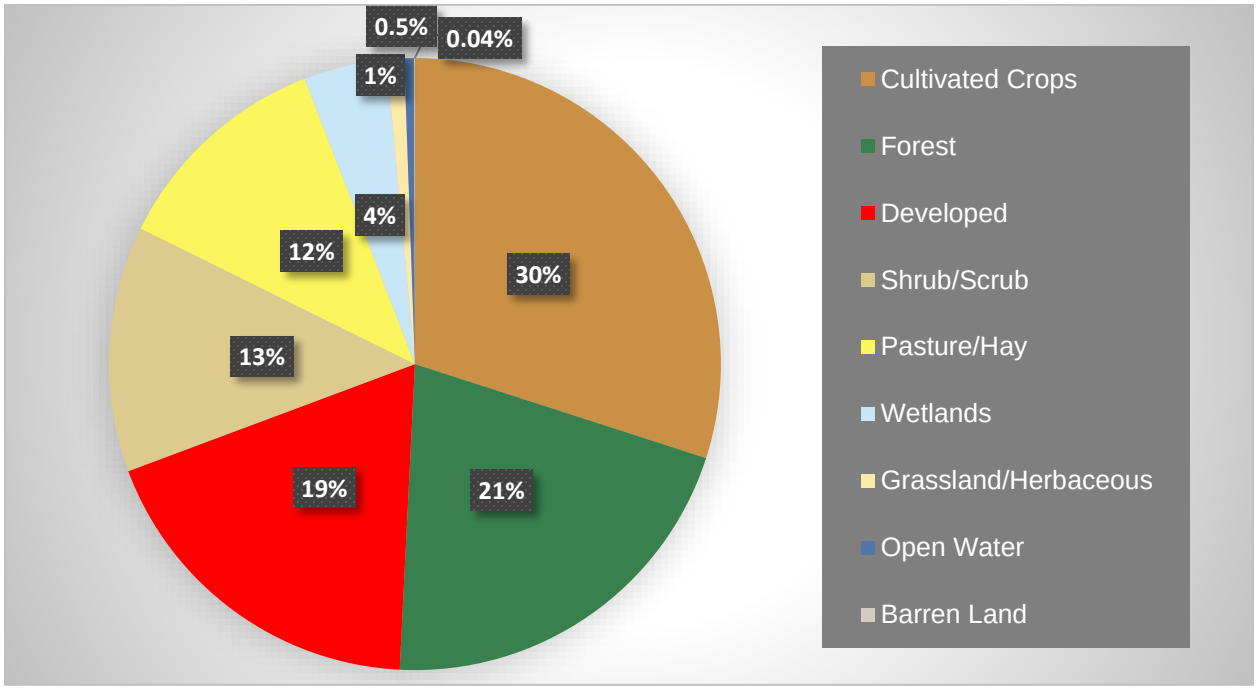
Disclaimer: This map is for planning purposes only.

Based on US 2010 Census data

Map Source: Neel-Schaffer, Inc.

Data Sources: USGS, 2011 National Land Cover Database

Figure 4.3 Land Cover Classification Breakdown



Source: USGS, 2011 National Land Cover Database

Table 4.2 Acres of Cropland for Crops with at least 1,000 acres

Crop	Acres
Peanuts	121,492
Other Hay/Non Alfalfa	98,302
Cotton	62,233
Corn	12,043
Double Crop	7,081
Soybeans	5,729
Sorghum	2,942
Millet	2,405
Oats	2,385
Sod/Grass Seed	2,213
Winter Wheat	1,127

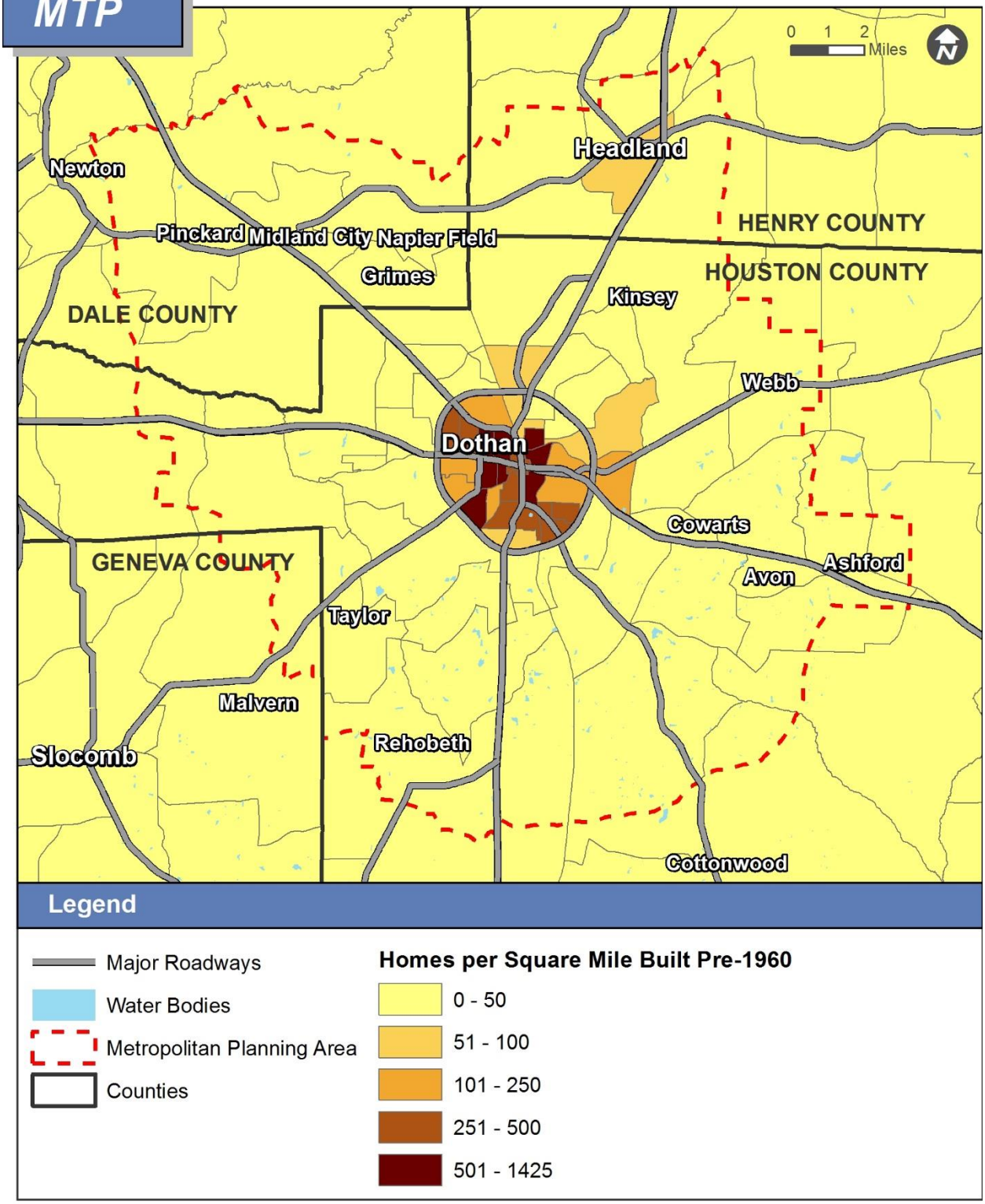
Source: USDA, NASS, Cropland Data Layer

Historical Urban Development

The historical urban development of the Metropolitan Planning Area offers insights into the likely distribution of historic and other cultural resources. Figure 4.4 shows that the areas with the greatest concentrations of historical housing structures, or those at least 50 years old, is in the core of the City of Dothan and in the City of Headland. There are likely smaller concentrations not revealed by this information in the historic centers of many of the smaller municipalities within the MPA. This information is merely intended to illustrate general patterns.

2040 MTP

FIGURE 4.4 CONCENTRATION OF HOUSING BUILT PRE-1960



Disclaimer: This map is for planning purposes only.

Based on US 2010 Census data

Map Source: Neel-Schaffer, Inc.

Data Sources: 2009-2013 ACS

4.3 AIR QUALITY AND CLIMATE CHANGE

Air Quality and Transportation

Highway vehicles and non-road equipment are mobile source of air toxics, compounds which are known or suspected by the EPA to cause cancer or other serious health and environmental effects. Mobile sources, via the combustion of fossil fuels, release nitrogen dioxide and volatile organic compounds (VOC) which chemically react in the presence of heat and sunlight to form ground-level ozone. Ground-level ozone can trigger a variety of health problems, such as asthma, and can also have harmful effects on sensitive vegetation and ecosystems. Mobile sources also contribute to climate change when combustion of fossil fuels release nitrous oxide and carbon dioxide.

The EPA regulates vehicle emissions and fuel efficiency through its vehicle Greenhouse Gas Emissions and Corporate Average Fuel Economy (CAFE) standards. It also regulates and monitors pollutants considered harmful to public health and the environment through the National Ambient Air Quality Standards (NAAQS) authorized by the Clean Air Act (1970). The EPA has set NAAQ standards for six principal *criteria* pollutants. These are listed below in Table 4.3 along with the current standards.

Table 4.3 National Ambient Air Quality Standards (NAAQS) as of 2011

Pollutant		Primary/ Secondary	Averaging Time	Level	Form
Carbon Monoxide		primary	8-hour	9 ppm	Not to be exceeded more than once per year
			1-hour	35 ppm	
Lead		primary and secondary	Rolling 3 month average	0.15 µg/m^3	Not to be exceeded
Nitrogen Dioxide		primary	1-hour	100 ppb	98th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		primary and secondary	Annual	53 ppb	Annual Mean
Ozone		primary and secondary	8-hour	75 ppb	Annual fourth-highest daily maximum 8-hr concentration, averaged over 3 years
Particle Pollution	$PM_{2.5}$	primary	Annual	12 µg/m^3	annual mean, averaged over 3 years
		secondary	Annual	15 µg/m^3	annual mean, averaged over 3 years
		primary and secondary	24-hour	35 µg/m^3	98th percentile, averaged over 3 years
	PM_{10}	primary and secondary	24-hour	150 µg/m^3	Not to be exceeded more than once per year on average over 3 years
Sulfur Dioxide		primary	1-hour	75 ppb	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		secondary	3-hour	0.5 ppm	Not to be exceeded more than once per year

Source: EPA

All counties within the Dothan Metropolitan Planning Area are currently in attainment of the NAAQS.

The EPA is currently proposing to update both the primary and secondary ozone standards, citing public health and welfare concerns. Both standards are proposed to be 8-hour standards within a range of 65 to 70 parts per billion, down from the current 75 parts per billion. The Dothan MPA is not anticipated to immediately be affected by these more stringent standards as all four of its counties do not currently exceed 65 parts per billion and are not anticipated to do so through 2025.

Transportation conformity is a process required of MPOs pursuant to the Clean Air Act Amendments of 1990 (CAAA of 1990) to ensure that federal funding and approval are given to those transportation activities that are consistent with air quality goals. CAAA require that transportation plans, programs, and projects in nonattainment or maintenance areas that are funded or approved by the Federal Highway Administration (FHWA) be in conformity with the State Implementation Plan (SIP) which represents the state's plan to either achieve or maintain the National Ambient Air Quality Standards (NAAQS) for a particular pollutant.

Should any of the counties within the Metropolitan Planning Area ever exceed NAAQ standards and are designated as a nonattainment or maintenance area, the MTP will be subject to a conformity analysis. If this were to occur in the future, the transportation model, which forms the basis of transportation decision making, provides numeric outputs that may be utilized in regional air quality modeling.

Climate Change

According to the FHWA report Integrating *Climate Change into the Transportation Planning Process*,

> There is general scientific consensus that the earth is experiencing a long-term warming trend and that human-induced increases in atmospheric greenhouse gases (GHGs) are the predominant cause. The combustion of fossil fuels is by far the biggest source of GHG emissions. In the United States, transportation is the largest source of GHG emissions, after electricity generation. Within the transportation sector, cars and trucks account for a majority of emissions.
>
> Opportunities to reduce GHG emissions from transportation include switching to alternative fuels, using more fuel efficient vehicles, and reducing the total number of miles driven. Each of these options requires a mixture of public and private sector involvement. Transportation planning activities, which influence how transportation systems are built and operated, can contribute to these strategies.
>
> In addition to contributing to climate change, transportation will likely also be affected by climate change. Transportation infrastructure is vulnerable to predicted changes in sea levels and increases in severe weather and extreme high temperatures. Long-term transportation planning will need to respond to these threats.

According to the 2009 U.S. Global Change Research Program (USGCRP) report *Global Climate Change Impacts in the United States*, in the Southeast, the following climate changes are expected:

- Average annual temperatures in the region are projected to increase by 4 to 9°F by 2080.
- Climate models suggest that rainfall will arrive in heavier downpours with increased dry periods between storms. These changes would increase the risk of both flooding and drought.

- Higher temperatures increase evaporation and water loss from plants. Projected increases in temperature will likely increase the frequency, duration, and intensity of droughts in the area.
- If the region increases groundwater pumping to offset water shortfalls, then aquifers will be further depleted. In the long term, the depletion of ground water supplies would place additional strain on surface water resources.
- Growth in demand will also likely strain water resources, given the rapid increase in population in the Southeast. Decreased water availability will challenge future growth and the quality of life of residents in the region.

The report further states that these climate changes are expected to have the following impact on public health and ecosystems:

- Higher temperatures and more frequent heat waves will likely increase heat stress, respiratory illnesses, and heat-related deaths in the Southeast. High temperatures also correlate with poor air quality and pose a risk to people with respiratory problems. While the number of cold-related deaths is projected to decrease, net climate-related mortality will likely increase.
- The spread of some types of bacteria has been linked to warmer temperatures. For example, food poisoning from eating shellfish infected with *Vibrio parahaemolyticus* bacteria has increased by 41 percent from 1996 to 2006 in the United States. As temperatures increase, the frequency of these types of shellfish-borne disease outbreaks in coastal waters is likely to increase.
- Warmer temperatures could increase the number of wildfires and pest outbreaks, such as the southern pine beetle.
- Declining soil moisture, water scarcity, and increasing temperatures will likely stress agricultural crops.
- Sustained temperatures between 90 and 100°F can significantly affect cattle. Severe droughts, such as the water shortage that affected Texas in 2011, may lead to the premature slaughtering of cattle.
- Sea level rise and increased storms will likely increase the salinity of estuaries, coastal wetlands, and tidal rivers. Rapid sea level rise could even eliminate some barrier islands that currently protect inland habitats.

The EPA further notes that Increased flooding and hurricanes could present extreme public health and emergency management challenges.

4.4 PUBLIC HEALTH

There is a growing number of local and state governments that are performing health impact assessments for transportation projects and programs in order to more comprehensively address public health outcomes. Transportation can affect public health in many ways, but the most commonly discussed include:

- **Safety**: Roadway design can affect the risk for traffic related injuries and fatalities. Between 2012 and 2014, there were 31 crash-related fatalities in Alabama.
- **Air Quality**: Air pollution from vehicle emissions worsens chronic respiratory diseases, such as asthma.
- **Noise Pollution**: Noise pollution can cause hearing loss, stress related illnesses, high blood pressure, speech interference, and sleep disruption.
- **Physical Activity**: A lack of sufficient bicycle and pedestrian infrastructure can limit opportunities for physical activity.
- **Accessibility**: Transportation can limit access to healthy food, recreational opportunities, and healthcare facilities.

Transportation-Related Health Statistics in the Region

The role of transportation in public health outcomes is especially important in the Metropolitan Planning Area. Data from the Center for Disease Control and Prevention's CDC's Community Health Status Indicators show that the counties in the Metropolitan Planning Area have relatively high rates of many health issues that can be mitigated or avoided with regular physical activity and reductions in vehicle emissions. Furthermore, the more populous Houston County and Dale County have relatively low access to parks.

Table 4.4 Selected Regional Public Health Indicators below Peer Areas

Health Indicator	Houston County	Dale County	Geneva County	Henry County
Chronic lower respiratory disease deaths		X		
Diabetes deaths		X		
Alzheimer's disease deaths			X	X
Stroke deaths				X
Adult Obesity	X			
Adult Diabetes		X		
Adult overall health status	X	X	X	
Alzheimer's diseases/dementia	X	X	X	X
Older adult asthma	X	X	X	X
Access to parks	X	X		
Living near highways	X			

Source: CDC, Community Health Status Indicators, 2015

Transportation and Physical Activity

While transportation planning typically addresses safety, air quality, noise pollution, and accessibility, only recently has the planning process begun to consider the impact of transportation on physical activity. Of particular focus in transportation planning is the impact of the built environment on walking and biking.

Walking and biking are important physical activities because they are regular, light to moderate physical activities which can significantly decrease a person's risk for cardiovascular disease, colon cancer, type 2 diabetes, obesity, osteoporosis, and depression. Walking and biking can also improve psychological well-being and quality of life. Therefore, providing convenient and attractive pedestrian and bicycle infrastructure and encouraging walking and biking can improve public health outcomes for a community.

4.5 PROJECT DEVELOPMENT CONSIDERATIONS

This section outlines how the MTP address environmental mitigation of proposed transportation projects.

Wetlands, Waterways, and Flooding

Transportation projects were evaluated for proximity to wetlands, impaired waters, flood zones, and navigable waters. While transportation projects should be sensitive to all bodies of water, these water bodies merit special attention for the following reasons:

- Wetlands have many environmental benefits, most notably water purification, flood protection, shoreline stabilization, groundwater recharge and streamflow maintenance, and fish and wildlife habitat. Wetlands are protected by the Clean Water Act.
- Impaired waters are already too polluted or otherwise degraded to meet the state water quality standards. Wetlands are protected by the Clean Water Act.
- Encroaching on or changing the natural floodplain of a water course can result in catastrophic flooding of developed areas.
- Structures built across navigable waterways must be designed in consultation with the Coast Guard, as required by the Coast Guard Authorization Act of 1982.

Figure 4.5 displays the proposed MTP transportation projects along with the location of wetlands and impaired waters. Figure 4.6 displays the proposed MTP transportation projects and flood zones. There are no navigable waterways within the Metropolitan Planning Area. However, the Chattahoochee River that forms the Alabama/Georgia Border along Houston and Henry counties is part of the inland waterways system. No project is proposed that would cross this waterway.

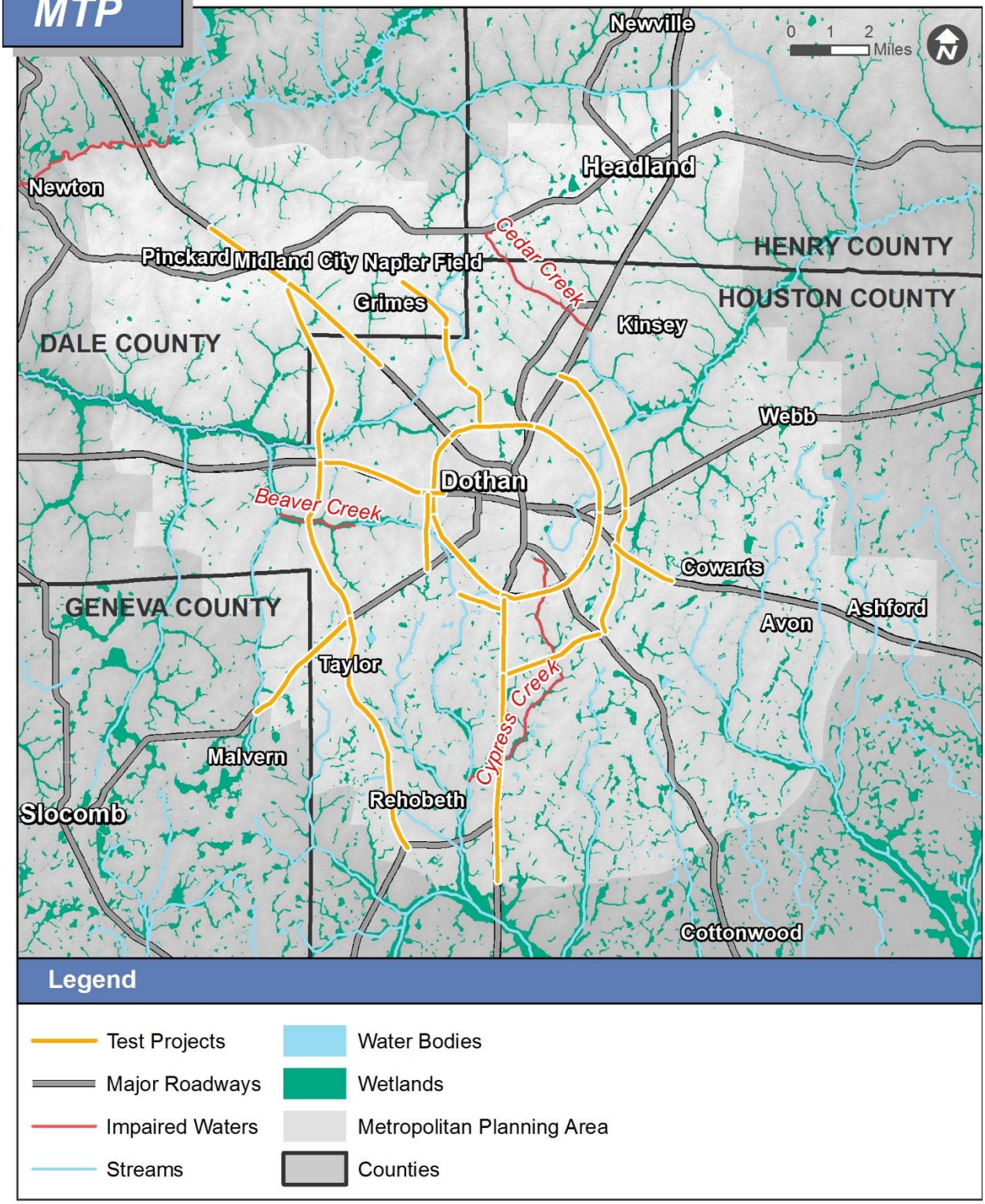
Mitigation

This early in the planning stage, there are not enough resources available to assess project level impacts to specific wetlands. As individual projects proceed through the ALDOT project delivery process and NEPA process, it is anticipated that project sponsors will:

- Ensure that transportation facilities constructed in floodways will not increase flood heights
- Take steps to avoid wetland and flood zone impacts where practicable
- Consider strategies which minimize potential impacts to wetlands and flood zones
- Provide compensation for any remaining unavoidable impacts through activities to restore or create wetlands
- Projects near impaired waters should consider measures to improve the quality of these waters.

2040 MTP

FIGURE 4.5 WETLANDS AND IMPAIRED WATERS



Disclaimer: This map is for planning purposes only.

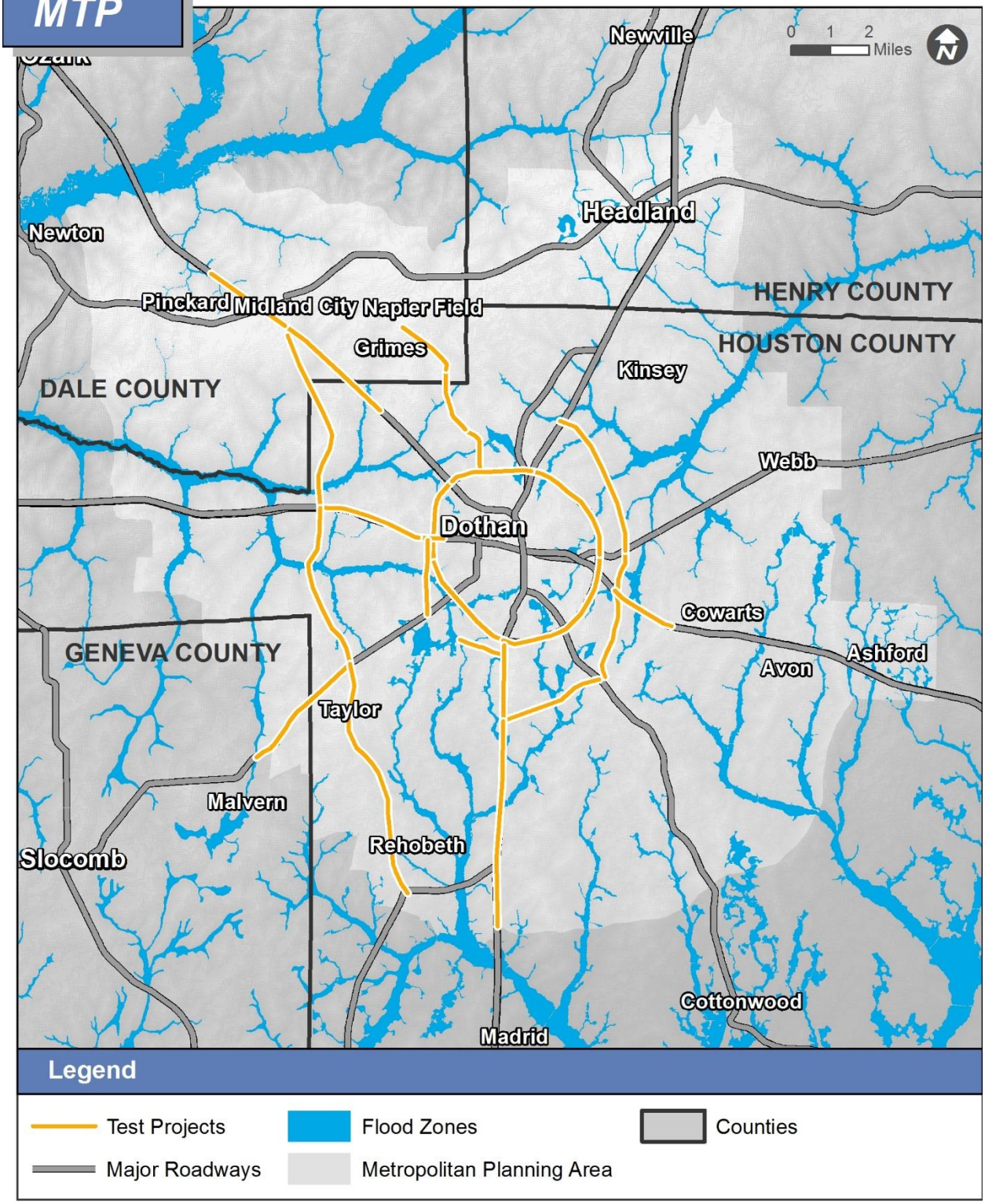
Based on US 2010 Census data

Map Source: Neel-Schaffer, Inc.

Data Sources: FWS; EPA

2040 MTP

FIGURE 4.6 FLOOD ZONES



Disclaimer: This map is for planning purposes only.

Based on US 2010 Census data

Map Source: Neel-Schaffer, Inc.

Data Sources: FEMA

Wildlife

Transportation projects were evaluated for proximity to identified critical habitat areas for threatened and endangered species and wildlife refuges.

The Endangered Species Act (ESA) [16 U.S.C. 1531 et. seq.] of 1973, as amended, was enacted to provide a program for the preservation of endangered and threatened species, and to provide protection for the ecosystems upon which these species depend for their survival. All federal agencies or projects utilizing federal funding are required to implement protection programs for designated species and to use their

An endangered species is a species in danger of extinction throughout all or a significant portion of its range. A threatened species is a species likely to become endangered within the foreseeable future throughout all or a significant portion of its range. Proposed species are those which have been formally submitted to Congress for official listing as threatened or endangered.

Species may be considered endangered or threatened when any of the five following criteria occurs:

- The current/imminent destruction, modification, or curtailment of their habitat or range
- Overuse of the species for commercial, recreational, scientific, or educational purposes
- Disease or predation
- The inadequacy of existing regulatory mechanisms
- Other natural or human-induced factors affect continued existence.

Section 4(f) of the Department of Transportation (DOT) Act of 1966 affords protection to wildlife or waterfowl refuges when USDOT funds are invested in a project.

Table 4.5 lists species classified as endangered or threatened within the four counties in the Metropolitan Planning Area. Figure 4.7 displays the proposed MTP transportation projects along with the location of identified critical habitat areas. There are no wildlife or waterfowl refuges in the Metropolitan Planning Area.

Mitigation

Preliminary planning undertaken within the context of development of the MTP does not include resources sufficient to assess project specific impacts to species habitats. Table 4.5 is incorporated to establish the potential need for further study as projects are carried forward through the ALDOT project delivery process, the NEPA process, design, and construction. Projects will be developed in consultation with U.S. Fish and Wildlife Service and Alabama Department of Conservation and Natural Resources, and to the extent practicable, actions which impact critical habitats will be avoided.

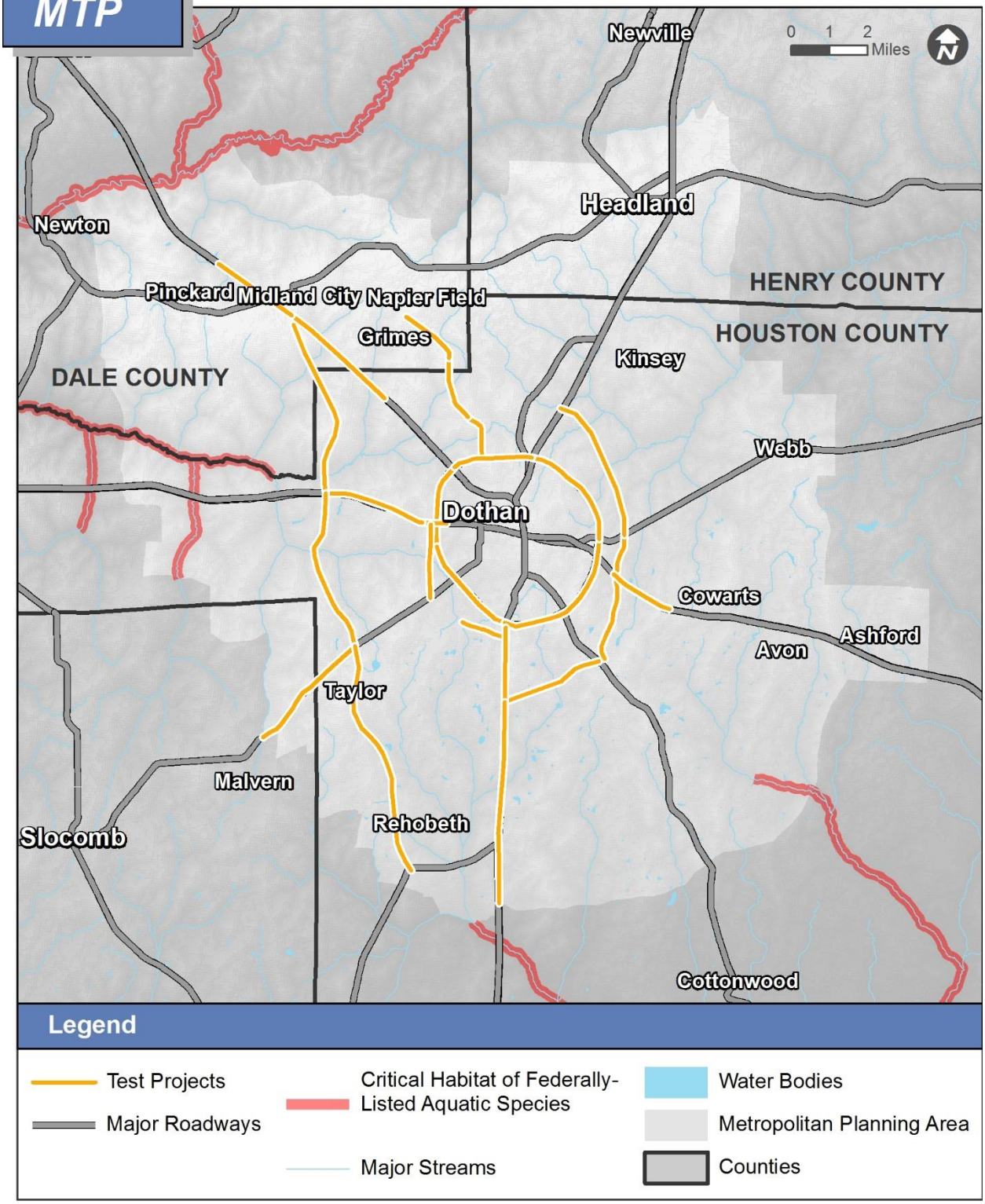
Table 4.5 Species Identified under Endangered Species Act in Region

Group	Name	Status	Identified Critical Habitat	Houston	Dale	Geneva	Henry
Birds	Wood stork (Mycteria americana)	Threatened	no	yes	yes	yes	yes
	Bald eagle (Haliaeetus leucocephalus)	Recovery	no	yes	no	no	no
Clams	Choctaw bean (Villosa choctawensis)	Endangered	yes	yes	yes	yes	yes
	Gulf moccasinshell (Medionidus penicillatus)	Endangered	yes	yes	no	no	no
	Oval pigtoe (Pleurobema pyriforme)	Endangered	yes	yes	no	yes	yes
	Shinyrayed pocketbook (Lampsilis subangulata)	Endangered	yes	yes	no	no	no
	Southern kidneyshell (Ptychobranchus jonesi)	Endangered	yes	yes	yes	yes	yes
	Chipola slabshell (Elliptio chipolaensis)	Threatened	yes	yes	no	no	no
	Fuzzy pigtoe (Pleurobema strodeanum)	Threatened	yes	yes	yes	yes	yes
	Southern sandshell (Hamiota australis)	Threatened	yes	yes	yes	yes	yes
	Tapered pigtoe (Fusconaia burkei)	Threatened	yes	yes	yes	yes	yes
Fishes	Atlantic sturgeon (Gulf subspecies) (Acipenser oxyrinchus desotoi)	Threatened	yes	yes	yes	yes	no
Flowering Plants	Gentian pinkroot (Spigelia gentianoides)	Endangered	no	no	no	yes	no
	Pondberry (Lindera melissifolia)	Endangered	no	no	no	yes	no
	Relict trillium (Trillium reliquum)	Endangered	no	no	no	no	yes
Reptiles	Eastern indigo snake (Drymarchon corais couperi)	Threatened	no	yes	yes	yes	no
	Gopher tortoise (Gopherus polyphemus)	Candidate	no	yes	yes	yes	yes
Note: This table does not include species whose habitat are not specified beyond the state level.							

Source: U.S. Fish and Wildlife Service, Environmental Conservation Online System

2040 MTP

FIGURE 4.7 CRITICAL HABITATS



Disclaimer: This map is for planning purposes only.

Map Source: Neel-Schaffer, Inc.

Based on US 2010 Census data

Data Sources: FWS

Historic and Recreational Resources

Transportation Projects were evaluated for proximity to historic sites and publicly-owned recreational facilities.

Section 4(f) of the Department of Transportation (DOT) Act of 1966 affords protection to publicly-owned parks and recreation areas and all historic sites listed or eligible for listing on the National Register of Historic Places when USDOT funds are invested in a project.

In order to be eligible for the National Register of Historic Places (NRHP), a district, site, building, structure, or object must possess integrity of location, design, setting, materials, workmanship, feeling, and association and generally must be at least 50 years old. It will also be evaluated by the following criteria:

- association with events that have made a significant contribution to the broad patterns of our history; or
- association with the lives of significant persons in or past; or
- embodiment of the distinctive characteristics of a type, period, or method of construction, or representative of the work of a master, or possession of high artistic values, or representative of a significant and distinguishable entity whose components may lack individual distinction; or
- provision or likelihood to provide information important in history or prehistory.

Figure 4.8 shows all historic sites listed on the National Register and State Register. It is important to note the State Register properties are not necessarily protected by 4(f) regulations unless they meet NRHP eligibility. Furthermore, there may be additional properties not listed on either register which are eligible for the NRHP. Figure 4.8 excludes all historic features deemed 'restricted' or 'sensitive', such as sensitive archaeological sites.

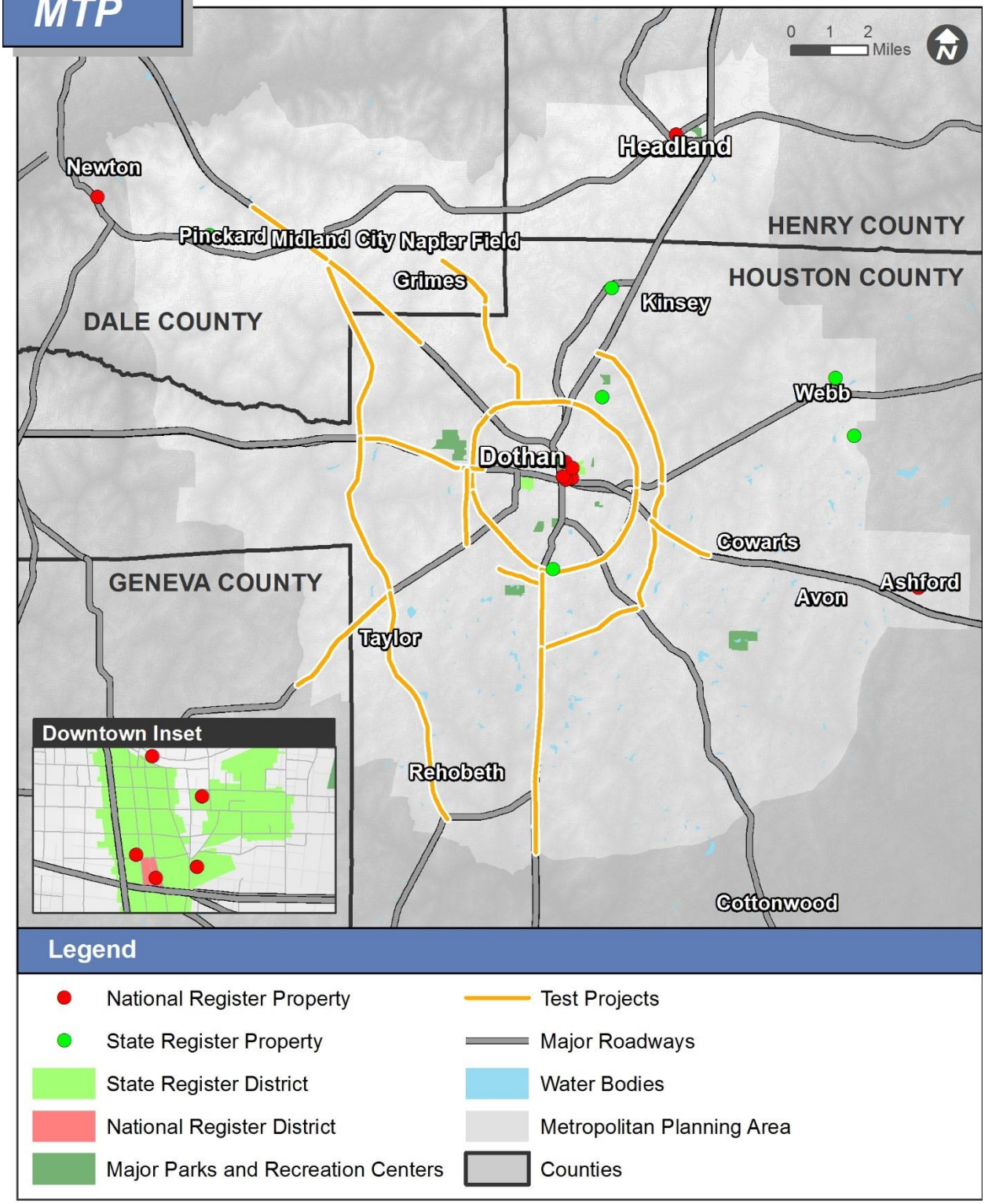
Figure 4.8 also shows all publicly-owned parks and recreation areas deemed significant by a review of public agency websites.

Mitigation

Projects will be developed in consultation with the State Historic Preservation Office (SHPO) and to the extent practicable, actions which adversely impact NRHP properties and publicly-owned recreation areas will be avoided. When historic properties are adversely affected, mitigation will include data recovery as appropriate to document the essential qualities of the historic resources. When publicly-owned recreation areas are adversely affected, appropriate compensation will be provided.

2040 MTP

FIGURE 4.8 HISTORIC AND RECREATIONAL RESOURCES



Disclaimer: This map is for planning purposes only.

Based on US 2010 Census data

Map Source: Neel-Schaffer, Inc.

Data Sources: NPS; Alabama Historical Commission; City of Dothan

Potentially Hazardous Properties

Transportation Projects were evaluated for proximity to potentially hazardous sites identified by the Comprehensive Environmental Response, Compensations, and Liability Act (CERCLA), commonly known as Superfund. Addressing these early on in the process can reduce costs, delays, and liabilities.

CERCLA was enacted in 1980 and established prohibitions and requirements concerning closed and abandoned hazardous waste sites, provided for liability of persons responsible for releases of hazardous waste at these sites; and established a trust fund to provide for cleanup when no responsible party could be identified. CERCLA also enabled the revision of the National Contingency Plan, which established the National Priorities List.

The National Priorities List (NPL) is the list of national priorities among the known releases or threatened releases of hazardous substances, pollutants, or contaminants throughout the United States and its territories. The NPL is intended primarily to guide the EPA in determining which sites warrant further investigation.

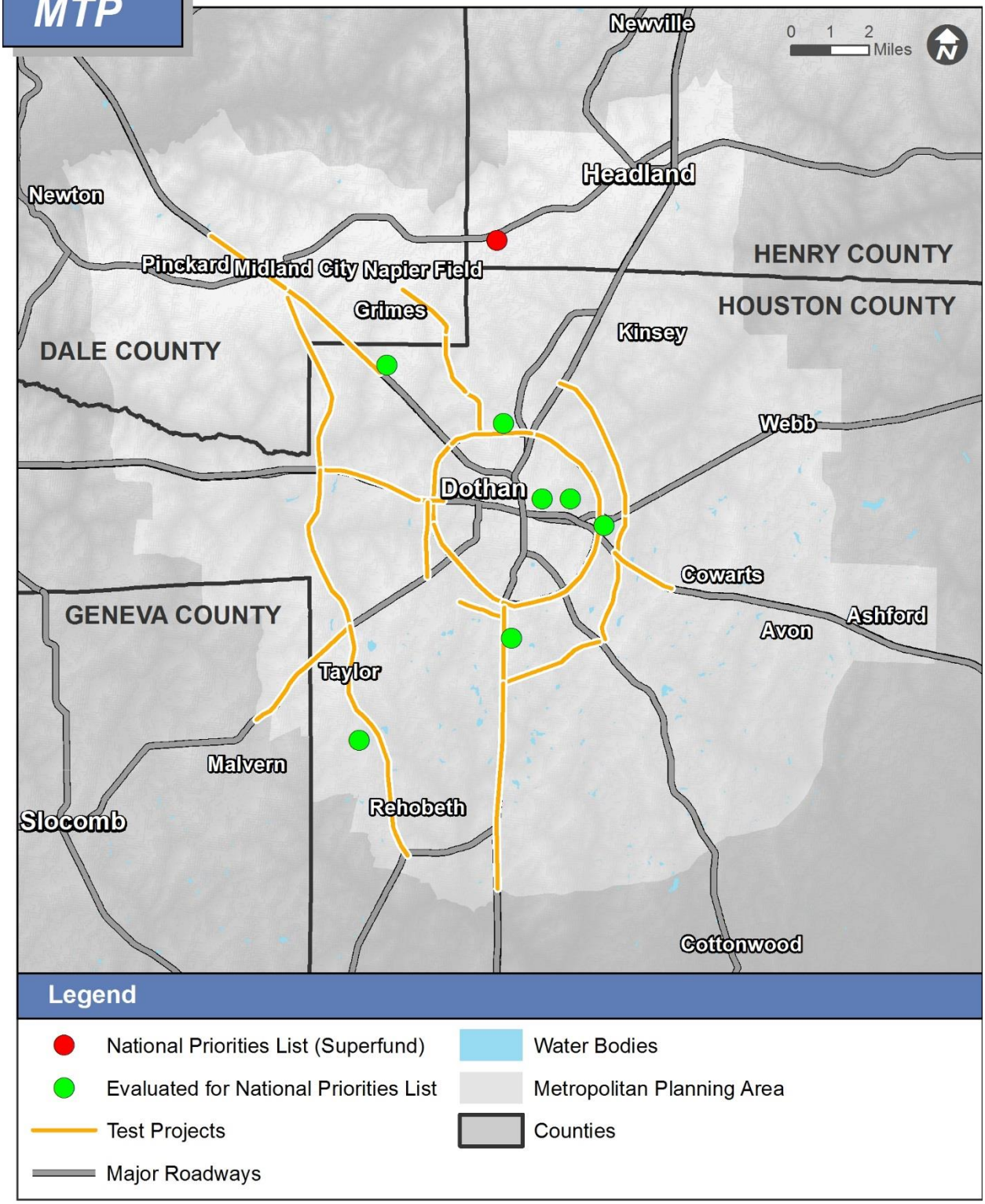
There is only one site listed on the National Priorities List in the MPA, the American Brass property in Headland. This site and all sites evaluated for inclusion in the National Priorities List in the MPA are illustrated in Figure 4.9.

Mitigation

At this stage in project development, not enough information is available to determine impacts and mitigation. However, transportation projects affected by or affecting potentially hazardous properties will be evaluated during the ALDOT project delivery process, the NEPA process, design, and construction.

2040 MTP

FIGURE 4.9 POTENTIALLY HAZARDOUS SITES



Disclaimer: This map is for planning purposes only.

Map Source: Neel-Schaffer, Inc.

Based on US 2010 Census data

Data Sources: EPA CERCLIS

Community Impacts

A transportation project may produce various impacts to public spaces, residences, and businesses.

Mitigation

Impacts associated with specific projects will be assessed in conformance with local, state, and federal regulations, NEPA guidance, and the ALDOT project delivery process.

Certain impacts, such as those associated with an increase in traffic related noise, can potentially be mitigated. Also, to the extent practicable, projects should be developed using Context Sensitive Solutions.

Environmental Justice

Executive Order 12898 establishes guidance on federal actions, which includes projects receiving federal funds, to address Environmental Justice in Minority Populations and Low-Income Populations (February 11, 1994). The order specifies actions to be taken on a range of issues that are intended to promote nondiscrimination in federal actions, to provide minority and low-income communities equal access to public information regarding a federal action, and to provide an opportunity for public participation in the evaluation of a federal action in matters relating to human health and the environment. In particular, the order stipulates that:

> To the greatest extent practicable and permitted by law… each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low income populations… (Order Section I-101)
>
> Each Federal Agency shall conduct its programs, policies, and activities that substantially affect human health or the environment, in a manner that ensures that such programs, policies, and activities do not have the effect of excluding persons…from participation in, denying persons the benefits of, or subject persons…to discriminations under such programs, policies, and activities, because of their race, color, or national origin (Order Section 2-2).

Mitigation

In an attempt to prevent disproportionately high and adverse effects on minority or low-income populations early in the planning process, the 2040 MTP determines the relative likelihood of Environmental Justice for all transportation projects.

In order to do this, the MTP identifies TAZs that have a percentage of their population defined as minority or low-income that is higher than the average for the Metropolitan Planning Area. This is a high-level planning exercise and is not intended to be as detailed as a project-specific environmental analysis. Rather, it is intended to highlight areas that should receive special attention for potential impacts to minority and low-income populations during the project development process. Areas outside of these highlighted areas also have minority and low-income populations which should be considered in the project development process

To determine the percentage of the population that is a minority, the following approach was used:

- Using 2010 block-level Census data, racial and ethnic data are assigned to Transportation Analysis Zones (TAZs).
- The overall percentage of minority (non-White and Hispanic) is calculated for the entire Metropolitan Area.
- TAZs are selected that either exceed the overall percentage of minorities (32.8 percent).

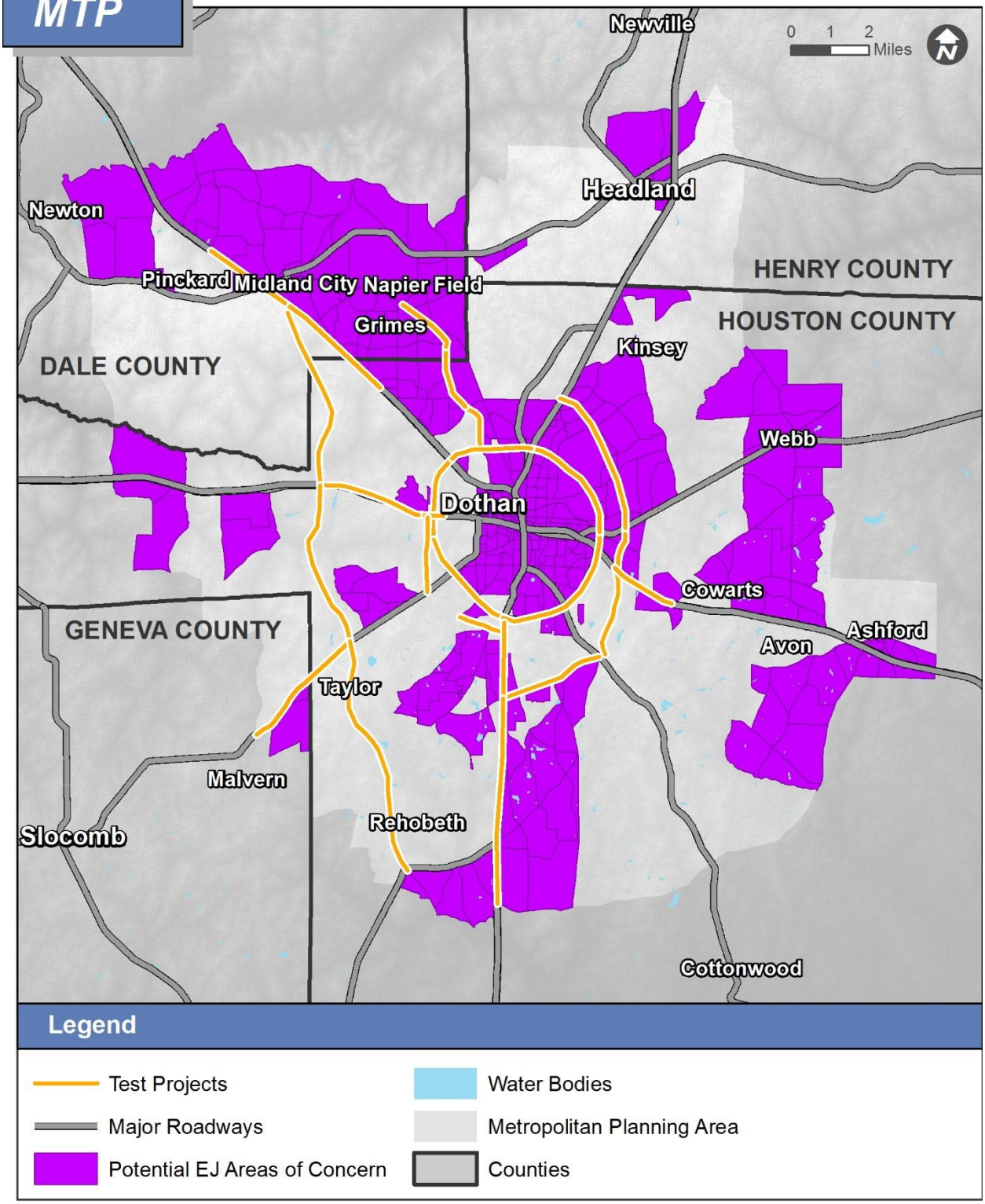
To determine the percentage of the population that is a minority, the following approach was used:

- Using 2009-2013 American Community Survey data at the block-group level, poverty data was assigned to Transportation Analysis Zones (TAZs).
- The overall percentage of population in poverty is calculated for all block groups intersecting the entire Metropolitan Area.
- TAZs are selected that either exceed the overall percentage of persons in poverty (17.7 percent).

TAZs identified as Areas of Environmental Justice Concern are illustrated in Figure 4.10.

2040 MTP

FIGURE 4.10 POTENTIAL EJ AREAS OF CONCERN



Disclaimer: This map is for planning purposes only.

Map Source: Neel-Schaffer, Inc.

Based on US 2010 Census data

Data Sources: 2010 Census and 2009-13 ACS

5.0 CURRENT LAND USE, POPULATION, ECONOMIC, AND TRAVEL PATTERNS

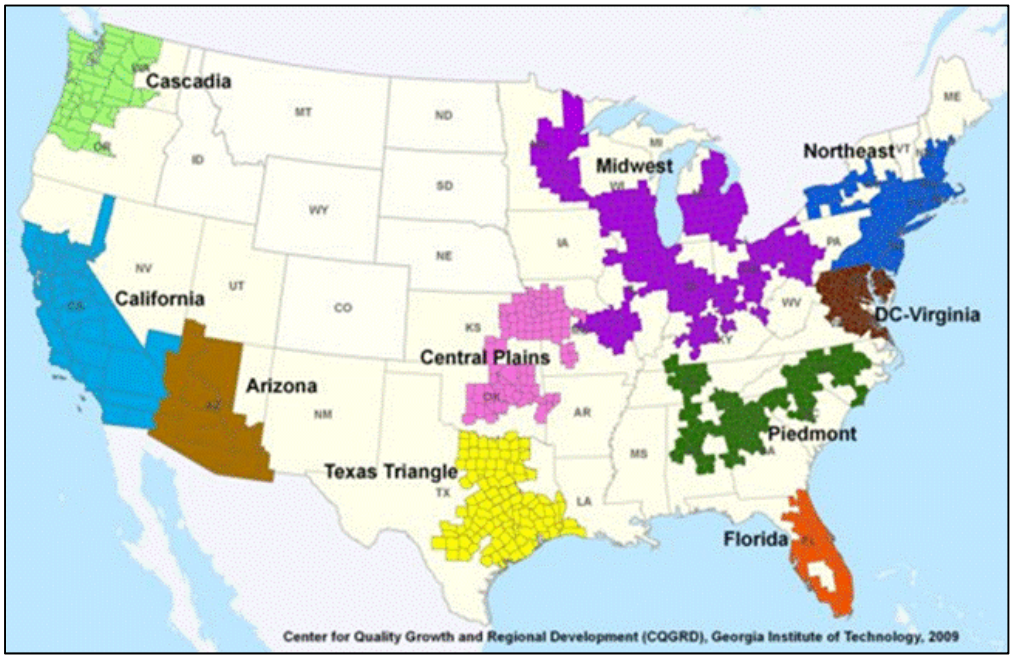
5.1 REGIONAL CONTEXT

The Dothan Metropolitan Planning Area is situated in the Wiregrass region of the Southeastern United States. This region includes parts of the Southeast Alabama, Southwest Georgia, and the Florida Panhandle and is characterized by gently rolling terrain, a mix of sandy soil and red clay, and a subtropical climate. The region was originally named for the Wiregrass plant (*Aristida stricta)* which was commonly found under the longleaf pine forests that dominated the landscape before agriculture became widespread. Within this region, the City of Dothan is the primary economic and cultural center, though smaller areas such as Enterprise, Ozark and Fort Rucker also have a large impact.

The Wiregrass region is somewhat isolated from other metropolitan areas in the Southeast. However, while not currently connected by a contiguous urban area, there is a high level of work related commuting between the Dothan, AL Metropolitan Statistical Area (MSA); Enterprise, AL Micropolitan Statistical Area (mSA); and Ozark, AL mSA. The Census Bureau has recognized this by combining the three core-based statistical areas into a Combined Statistical Area that is primarily intended for the analysis of regional economic data.

Because of its relatively low interaction with other major metropolitan areas, the Wiregrass region is typically not considered to be a part of a megaregion, or a large geographic area encompassing multiple major and minor metropolitan areas. Though the definition and classification of megaregions varies, they are important for transportation planning because they indicate strong economic and social ties in a geographic area that is larger than Metropolitan Planning Areas. Because of this, in these megaregions regional planning coordination becomes increasingly important.

Figure 5.1 Megaregions in the United States



Map Source: Center for Quality Growth and Regional Development at the Georgia Institute of Technology

5.2 LAND USE PATTERNS

As indicated in Figure 4.2, most of the developed land in the Metropolitan Planning Area is near the City of Dothan and along major roadways. Areas classified as urban by the Census Bureau are even more so concentrated around Dothan, though urban areas include most of Headland and Midland City and parts of Cowarts, Taylor, and other smaller municipalities, as illustrated in Figure 5.2.

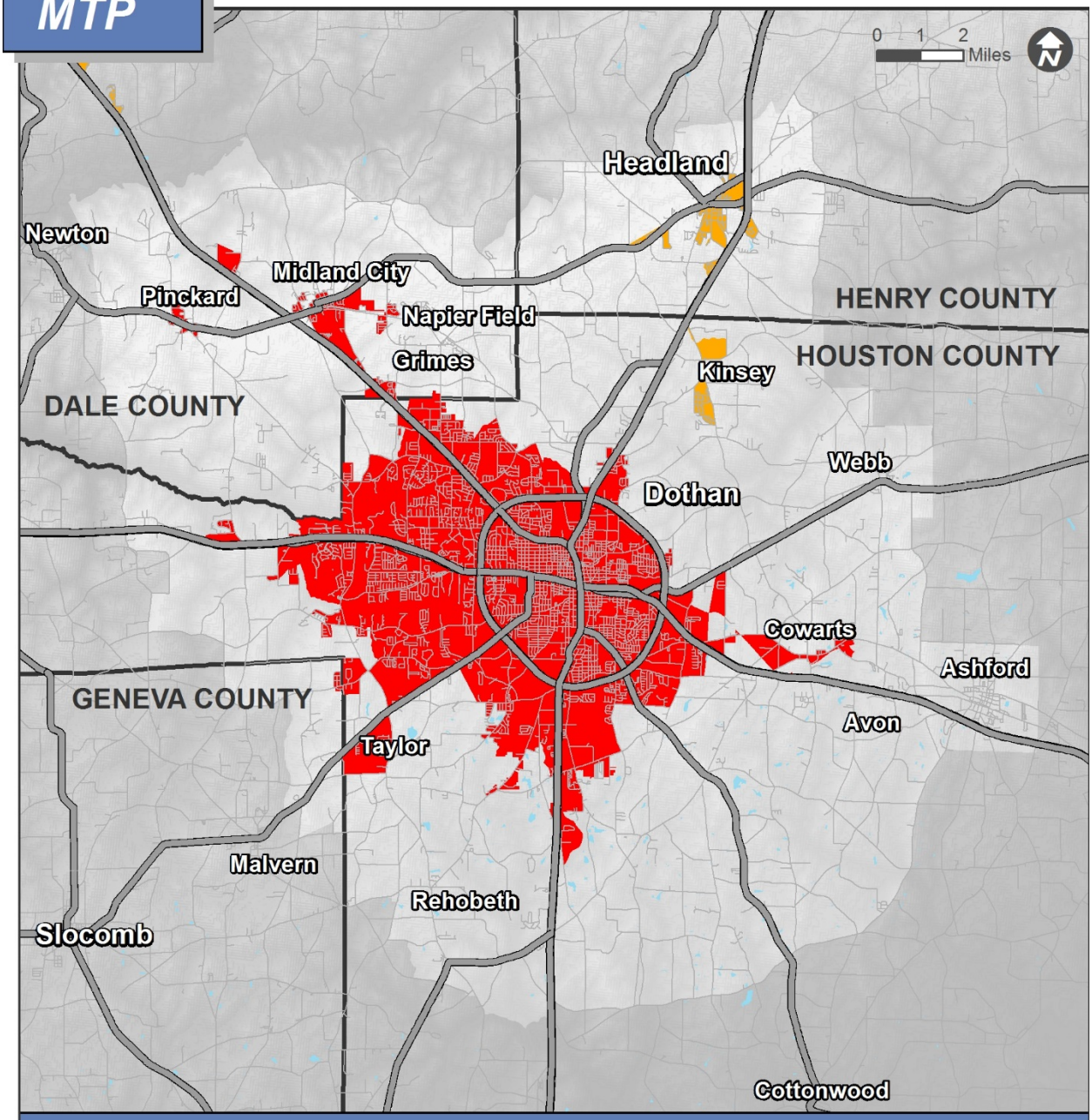
Population densities, employment densities, and activity densities within the Metropolitan Planning Area are illustrated in Figures 5.3, 5.4, and 5.5.

Population densities in the MPA are the greatest within Ross Clark Circle, with smaller concentrations also occurring in areas with multi-family housing and near the Central Business Districts (CBDs) of the smaller municipalities. Employment densities are the greatest in Downtown Dothan, near the two major hospitals, along Ross Clark Circle, and along US Highway 231 from the Wiregrass Commons Mall to Dothan Pavilion.

Activity Density, or the combined population and employment density, is important to discuss since some areas may not have significantly high population or employment density alone but still generate significant activity. By looking at these two factors together, one gets a better understanding of the impact of mixed-use areas, whether those uses are mixed vertically or horizontally.

2040 MTP

FIGURE 5.2 URBAN AREAS IN THE PLANNING AREA



Legend

Census-Defined Urban Areas
- Headland, AL Urban Cluster
- Dothan, AL Urbanized Area

- Major Roadways
- Water Bodies
- Metropolitan Planning Area

- Counties

Disclaimer: This map is for planning purposes only.

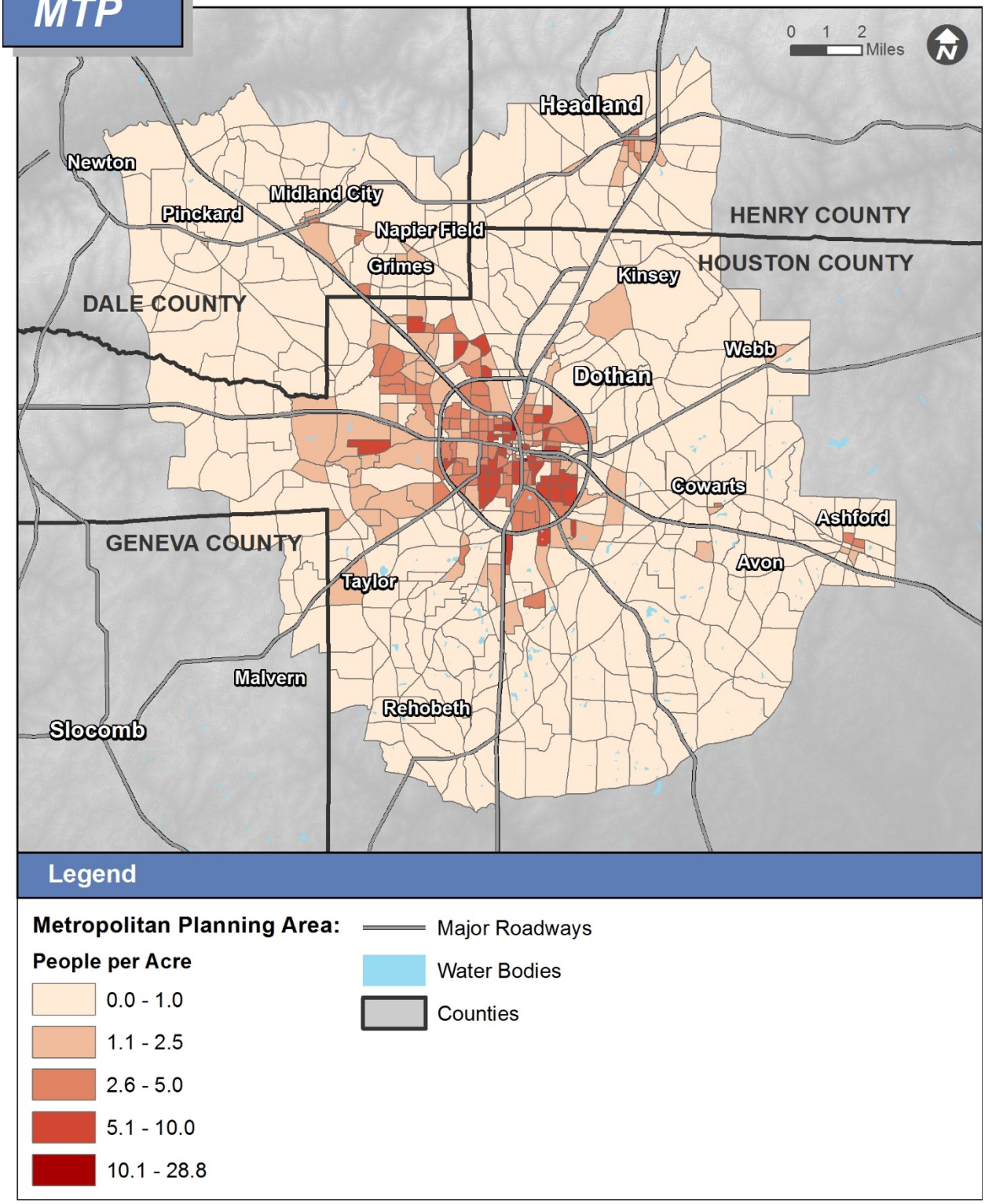
Map Source: Neel-Schaffer, Inc.

Based on US 2010 Census data

Data Sources: Census Bureau

2040 MTP

FIGURE 5.3 POPULATION DENSITY, 2010



Disclaimer: This map is for planning purposes only.

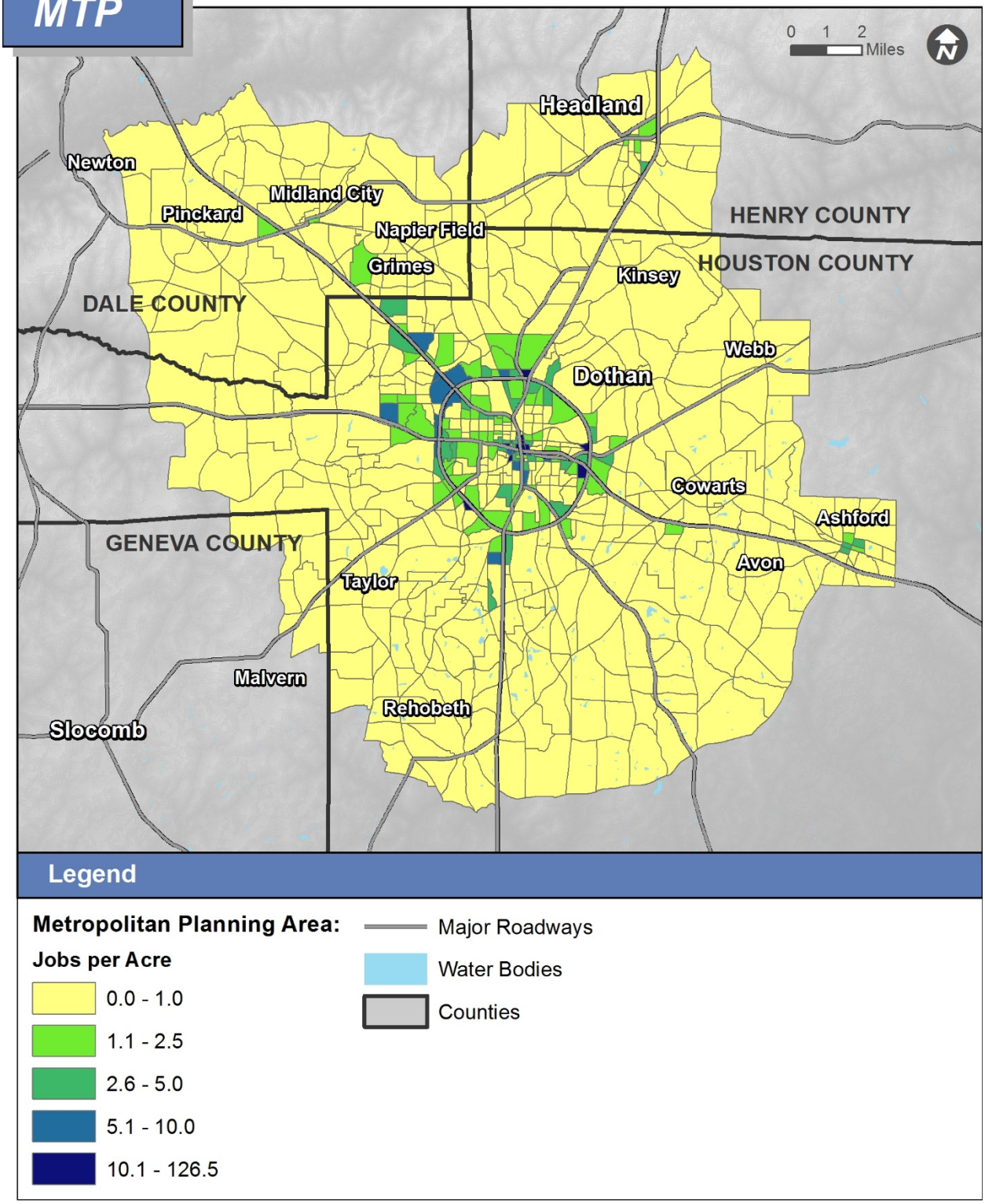
Based on US 2010 Census data

Map Source: Neel-Schaffer, Inc.

Data Sources: 2010 Census

2040 MTP

FIGURE 5.4 EMPLOYMENT DENSITY, 2010



Disclaimer: This map is for planning purposes only.

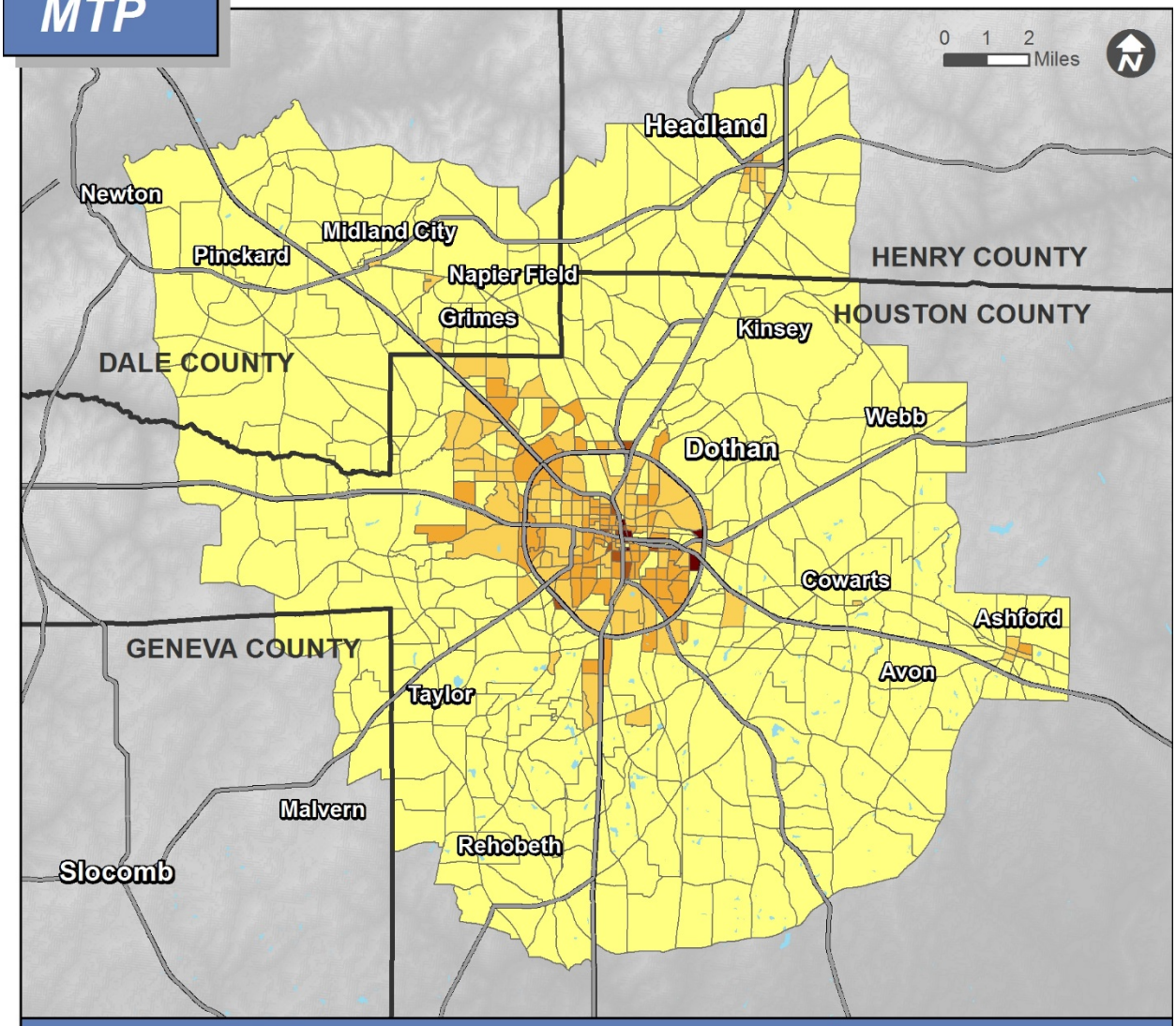
Based on US 2010 Census data

Map Source: Neel-Schaffer, Inc.

Data Sources: InfoUSA

2040 MTP

FIGURE 5.5 ACTIVITY DENSITY, 2010



Legend

Metropolitan Planning Area:

Jobs and People per Acre

- 0.0 - 2.5
- 2.6 - 5.0
- 5.1 - 10.0
- 10.1 - 20.0
- 20.1 - 132.4

- Major Roadways
- Water Bodies
- Counties

Disclaimer: This map is for planning purposes only.

Based on US 2010 Census data

Map Source: Neel-Schaffer, Inc.

Data Sources: 2010 Census and InfoUSA

Local land use plans and regulations offer additional insight into existing and future land use patterns. The land use plan for the City of Dothan and the zoning map for the City of Headland were obtained for this reason. Land use and zoning maps were not available from other local jurisdictions.

Dothan's existing land use (2009) map, from the City's Long Range Development Plan (2011), is reproduced as Figure 5.6 and the City of Headland's zoning map (2010) is reproduced as Figure 5.8.

The existing land use map of Dothan shows commercial and office uses mostly along the major arterial roadways and Downtown. Multi-family residential is also scattered, though it tends to be close to commercial and industrial areas. Industrial uses are more scattered, though they tend to be located in the north and east where population density is low.

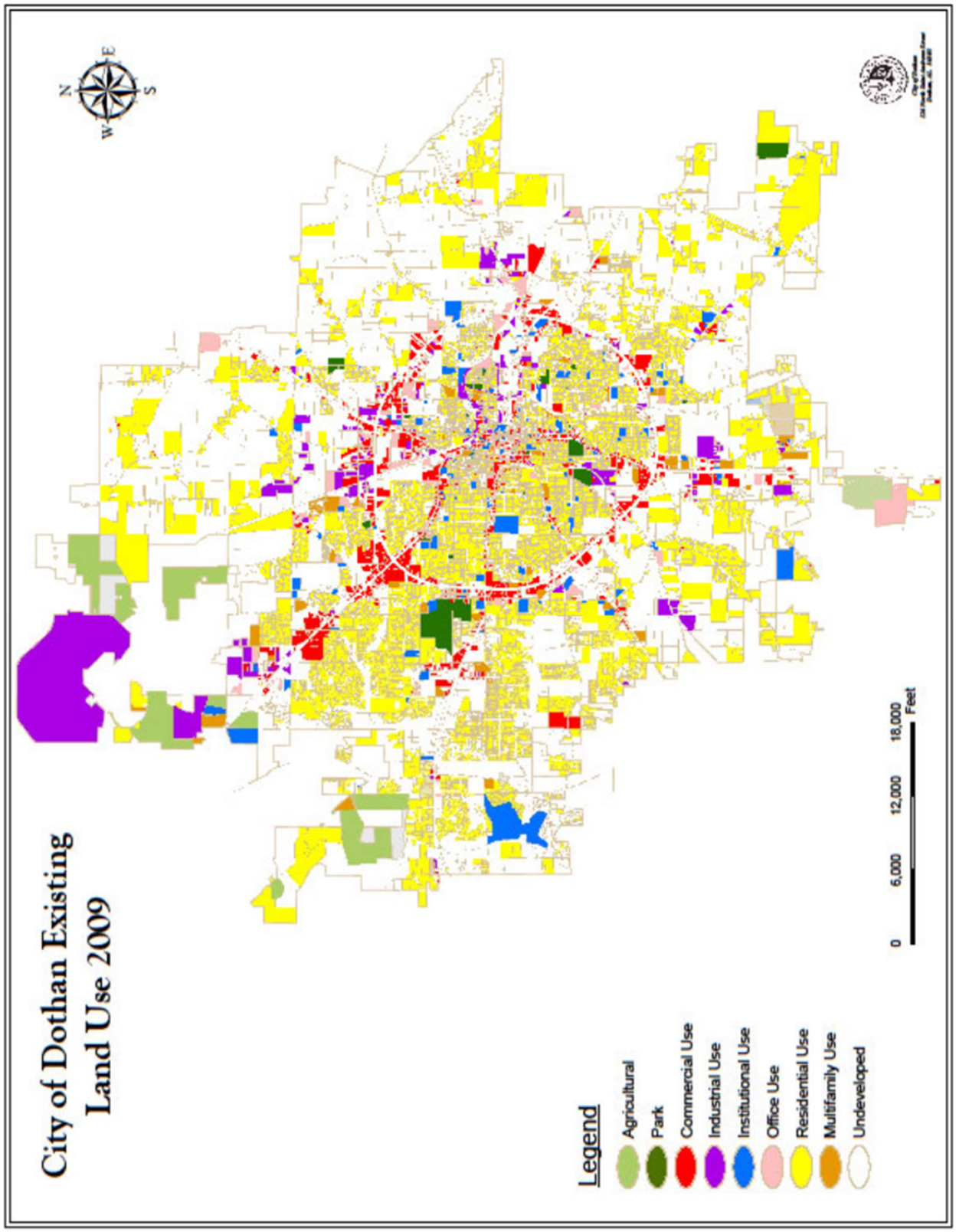
The City of Dothan's Long Range Development Plan also includes a future land use map, reproduced as Figure 5.7. This map shows what land use patterns are envisioned to look like by 2030. While the future land use map is similar to the existing land use map, it is worth noting that the urban land uses are not much more expansive than they currently are, with much of the outlying area remaining in an agricultural/open space state. The future land use map also assumes the construction of the I-10 connector project, which affects the future land use. The only two new major activity centers identified are at the intersection of U.S. Highway 84 and the proposed I-10 connector and the Alabama College of Osteopathic Medicine.

The City of Dothan also has small area plans for the Downtown, the Northwest Urban Sector, and the Northeast Urban Sector. These plans are more detailed and action-oriented.

The zoning map for the City of Headland limits commercial areas mostly to the U.S. Highway 431 corridor, the Central Business District, and along Main Street. Industrial zones are located along the railroad line and near the municipal airport. Denser housing is limited to the areas around the historic core.

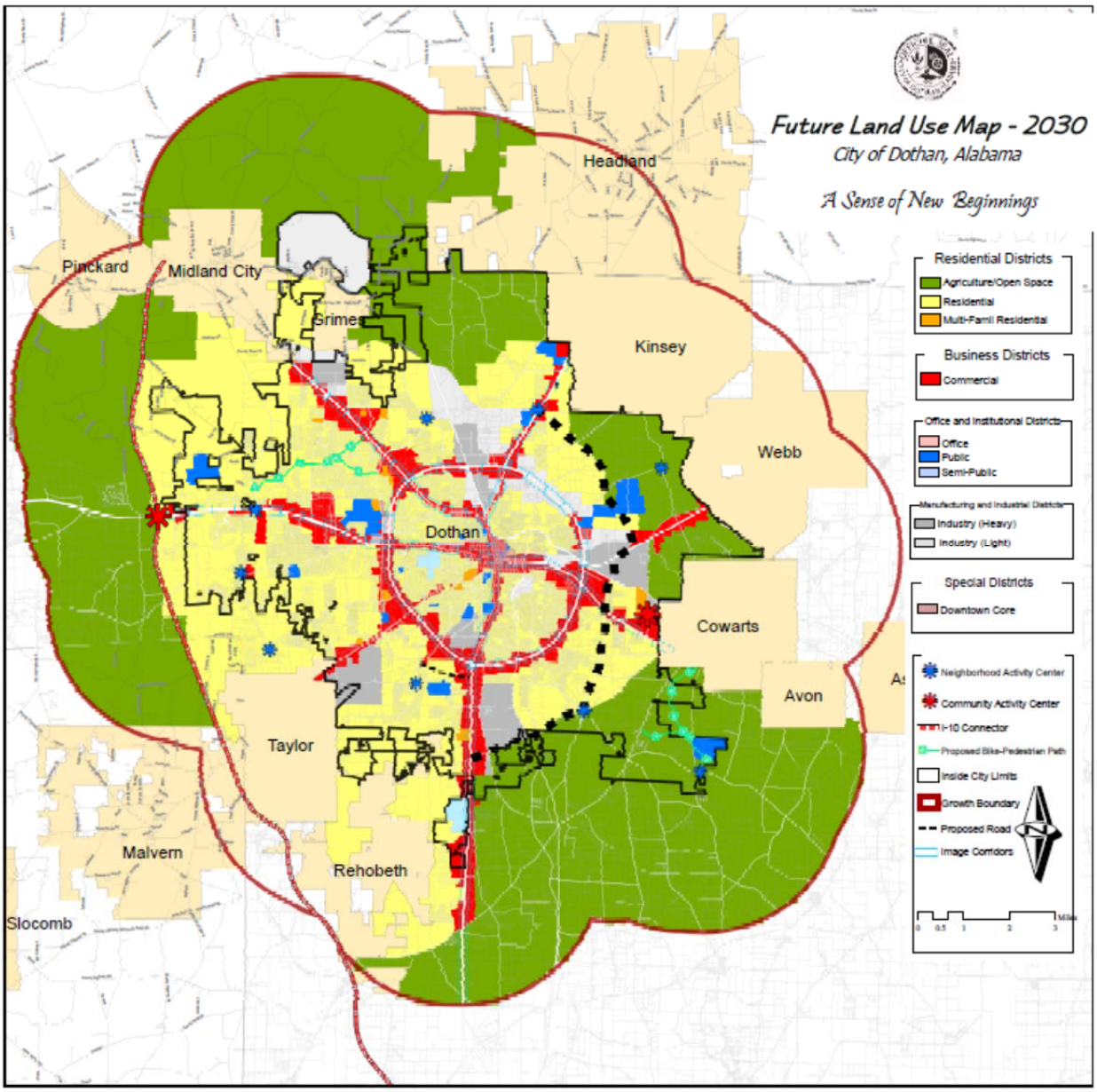
For areas without land use plans, some insight can be obtained by looking at the distribution of employment throughout the area. This information mirrors the land use documents obtained. Retail and service employment (NAICS 51-56, 62) is clustered along the major roadways of the MPA, especially along the US Highway 231. Office employment (NAICS 51-56, 62) is clustered in Downtown and near the hospitals. Industrial employment (NAICS 21, 31-33, 42, 48-49) is concentrated in an area from Dothan Regional Airport to the new Alabama College of Osteopathic Medicine (ACOM).

Figure 5.6 Existing Land Uses in Dothan, 2009



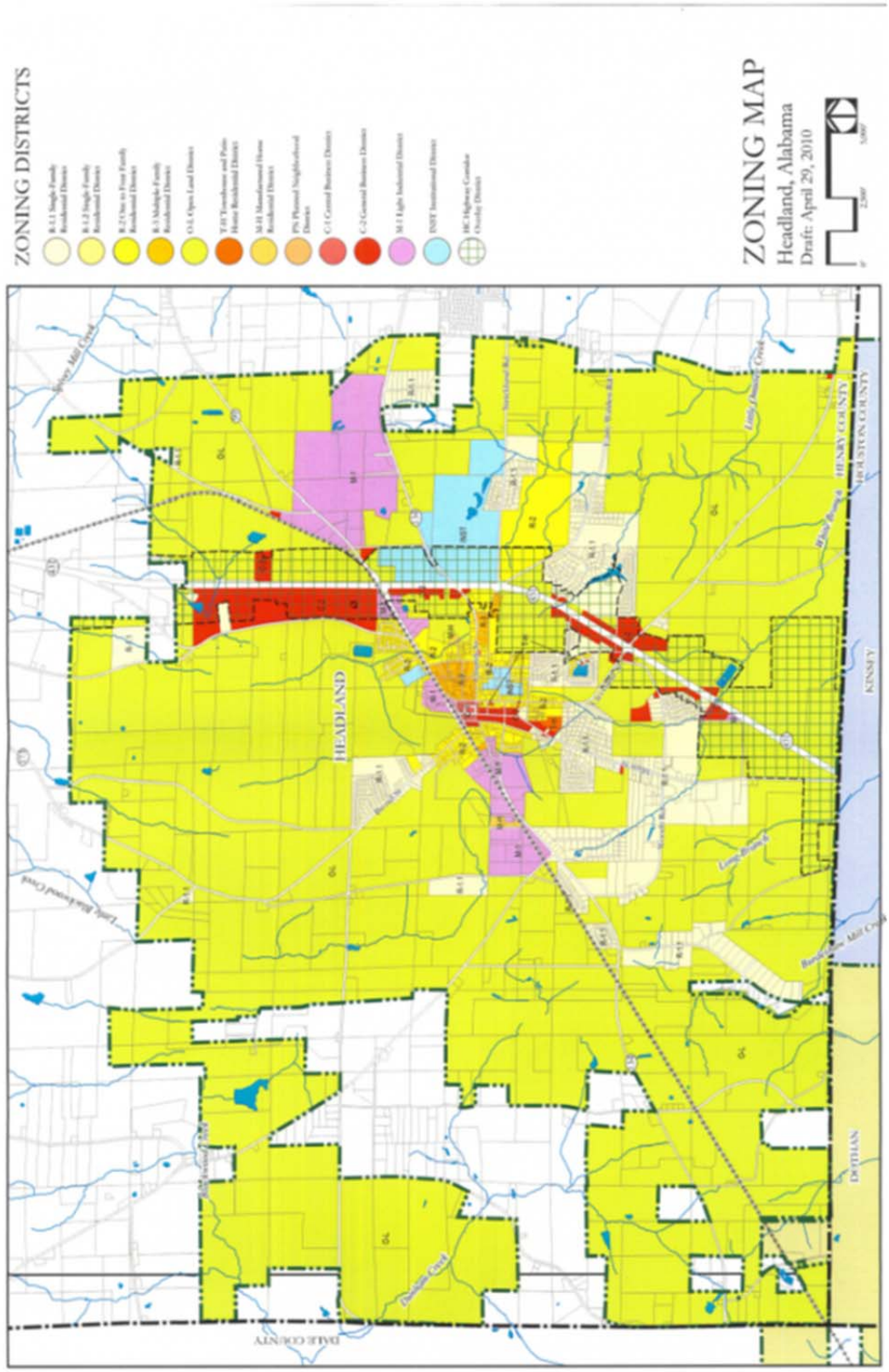
Map Source: City of Dothan Long Range Development Plan (2011)

Figure 5.7 Future Land Use Map for Dothan



Map Source: City of Dothan Long Range Development Plan (2011)

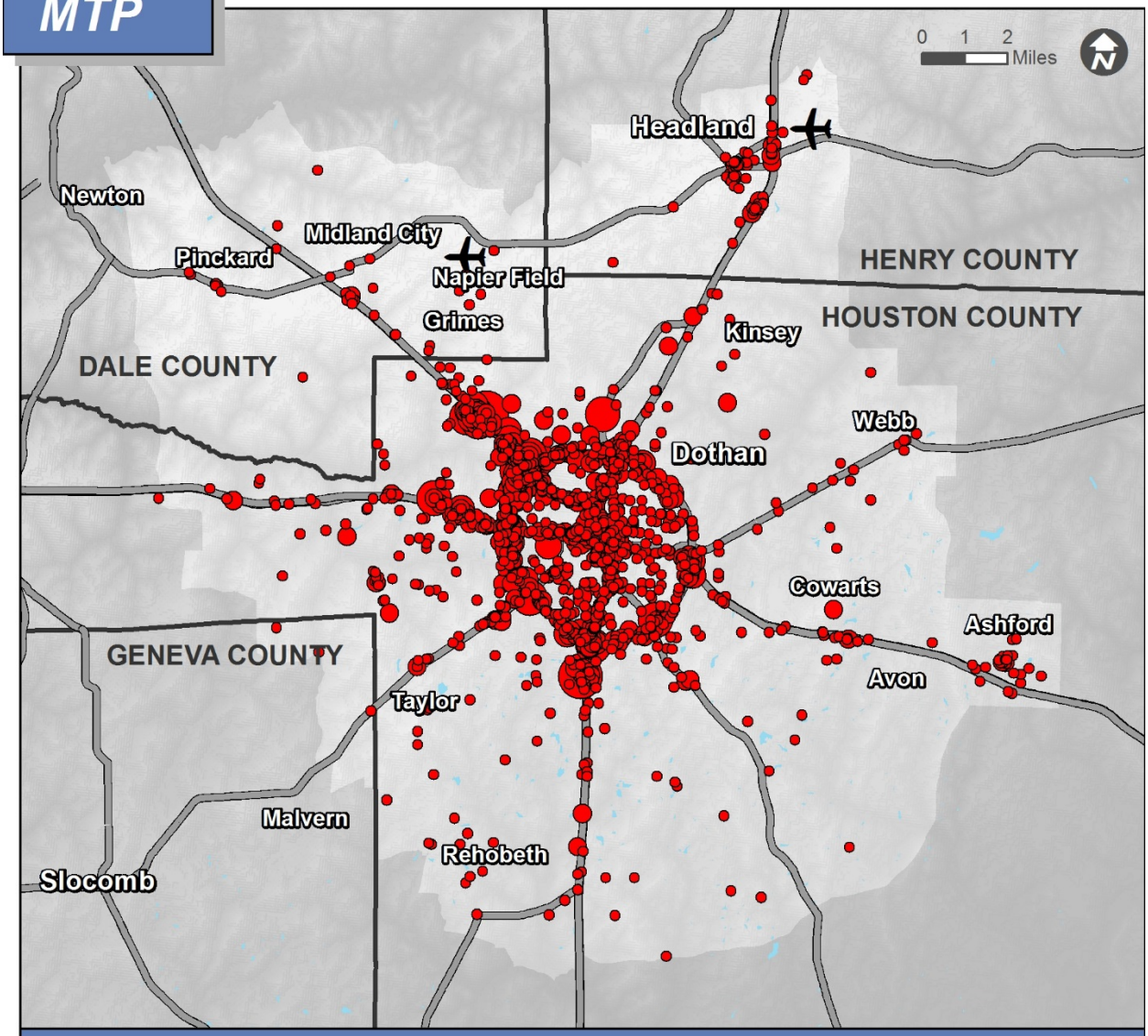
Figure 5.8 Zoning Map for Headland



Map Source: City of Headland

2040 MTP

FIGURE 5.9 RETAIL AND SERVICES CONCENTRATION



Legend

Retail and Services Employment

- 0 - 10
- 11 - 50
- 51 - 100
- 101 - 250
- 251 - 500

- Major Roadways
- Water Bodies
- Metropolitan Planning Area
- Counties

Disclaimer: This map is for planning purposes only.

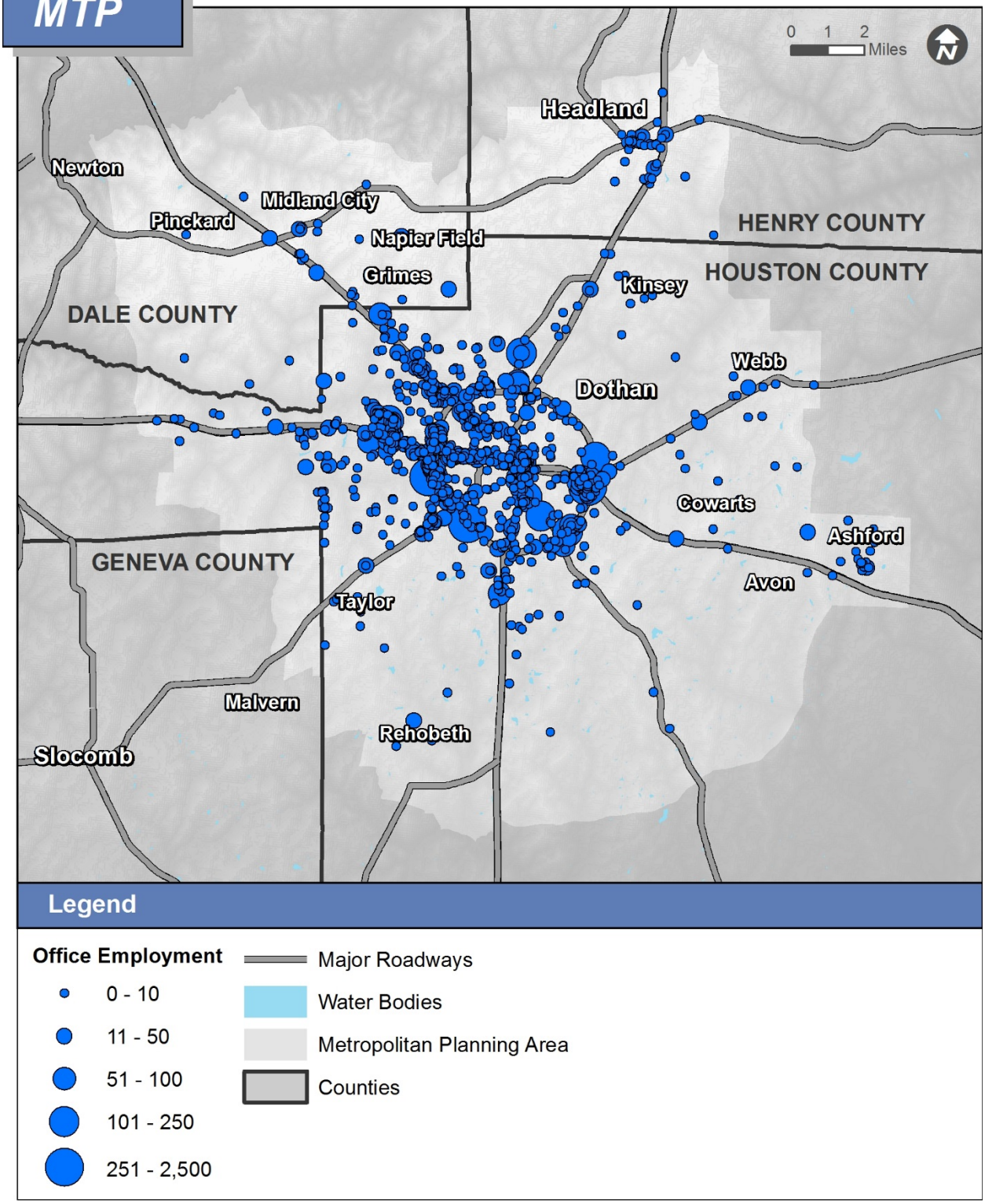
Based on US 2010 Census data

Map Source: Neel-Schaffer, Inc.

Data Sources: InfoUSA

2040 MTP

FIGURE 5.10 OFFICE EMPLOYMENT CONCENTRATION



Disclaimer: This map is for planning purposes only.

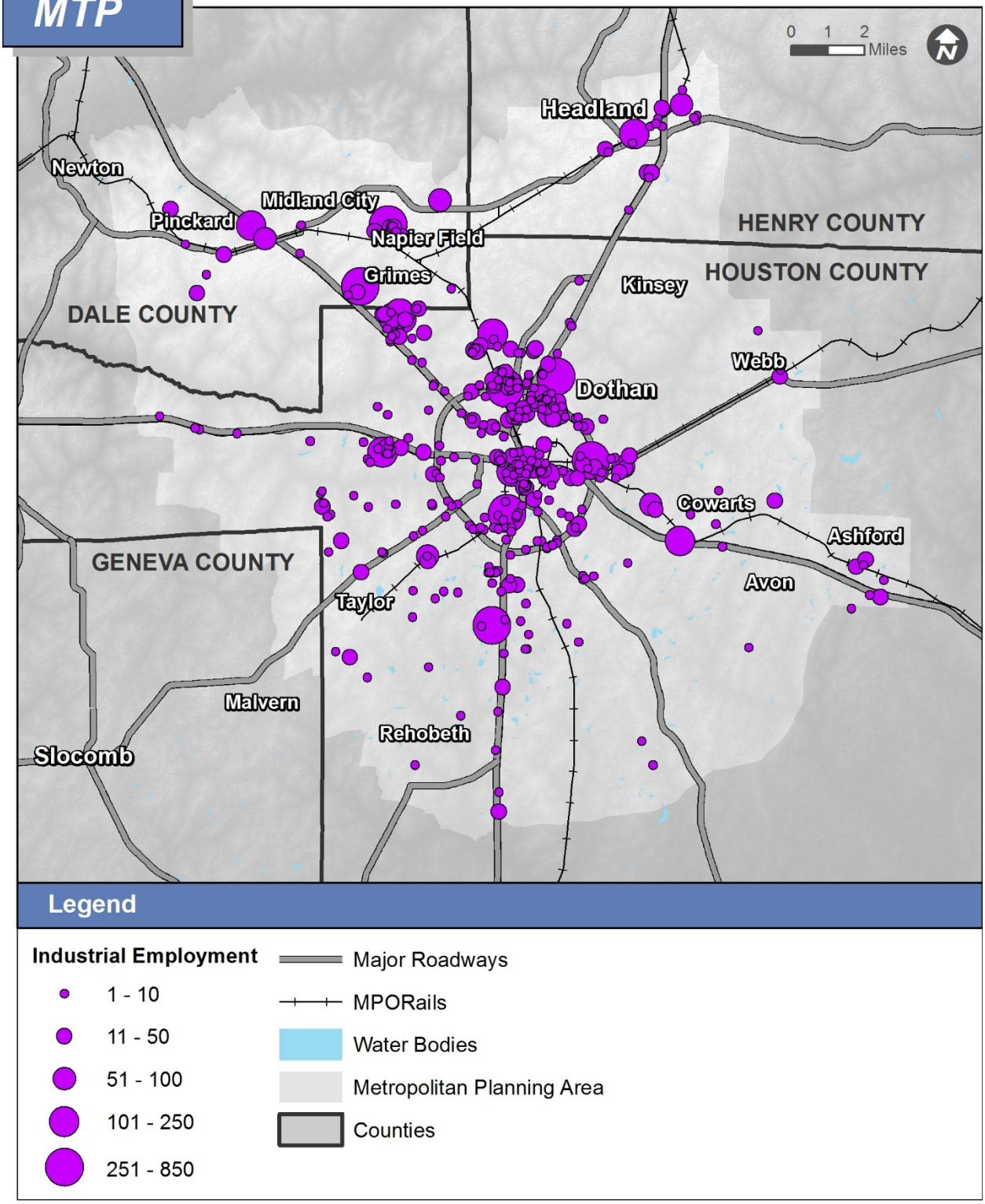
Based on US 2010 Census data

Map Source: Neel-Schaffer, Inc.

Data Sources: InfoUSA

2040 MTP

FIGURE 5.11 INDUSTRIAL EMPLOYMENT CONCENTRATION



Disclaimer: This map is for planning purposes only.

Based on US 2010 Census data

Map Source: Neel-Schaffer, Inc.

Data Sources: InfoUSA

5.3 POPULATION AND ECONOMIC TRENDS

Population Trends

Between 2000 and 2010, growth in the Metropolitan Planning Area has outpaced that of the nation as a whole and the State of Alabama as a whole. Houston County has seen the most rapid growth, with most of the absolute gains occurring within the City of Dothan. Some of the smaller municipalities, such as Rehobeth, Midland City, Headland, Taylor, Cowarts, and Kinsey, are growing faster than Dothan, though their absolute gains are relatively modest when compared to Dothan. The smaller municipalities in Dale County, Napier Field, Newton, and Pinckard are losing population.

Table 5.1 Population Change of the Metropolitan Planning Area, 2000 to 2010

			Change 2000 to 2013	
Place	**2000**	**2010**	Absolute	Percent
United States	281,421,906	308,745,538	34,706,933	12.3%
Alabama	4,447,100	4,779,736	386,622	8.7%
Dale County	49,129	50,251	755	1.5%
Geneva County	25,764	26,790	963	3.7%
Henry County	16,310	17,302	986	6.0%
Houston County	88,787	101,547	14,881	16.8%
Dothan Metropolitan Planning Area	86,168	98,934	12,766	14.8%

Source: U.S. Census Bureau

Table 5.2 Population Change in MPO Jurisdictions, 2000 to 2014

Place	2000	2010	2014 (estimate)	Change 2000 to 2014 Absolute	Percent	Avg. Annual Growth Rate
Ashford	1,853	2,148	2,164	311	16.8%	1.2%
Avon	466	543	535	69	14.8%	1.1%
Cowarts	1,546	1,871	1,953	407	26.3%	1.8%
Dothan	57,737	65,496	68,409	10,672	18.5%	1.3%
Grimes	459	558	545	86	18.7%	1.3%
Headland	3,523	4,510	4,700	1,177	33.4%	2.2%
Kinsey	1,796	2,198	2,206	410	22.8%	1.6%
Malvern	1,215	1,448	1,442	227	18.7%	1.3%
Midland City	1,703	2,344	2,366	663	38.9%	2.6%
Napier Field	404	354	346	-58	-14.4%	-1.2%
Newton	1,708	1511	1473	-235	-13.8%	-1.1%
Pinckard	667	647	635	-32	-4.8%	-0.4%
Rehobeth	993	1,297	1,440	447	45.0%	2.9%
Taylor	1,898	2,375	2,415	517	27.2%	1.9%
Webb	1,298	1,430	1,421	123	9.5%	0.7%
Dale County	49,129	50251	49484	355	0.7%	0.1%
Geneva County	25,764	26790	26712	948	3.7%	0.3%
Henry County	16,310	17302	17190	880	5.4%	0.4%
Houston County	88,787	101547	104193	15,406	17.4%	1.2%
Alabama	4,447,100	4779736	4849377	402,277	9.0%	0.7%
United States	281,421,906	308,745,538	318,857,056	37,435,150	13.3%	1.0%

Source: U.S. Census Bureau

Figure 5.12 shows changes in population by Transportation Analysis Zone (TAZ). Most growth has occurred outside of Ross Clark Circle at the edge of the urbanized area. This is especially true of the western edge of Dothan. Figure 5.13 shows areas that transitioned from either undeveloped to developed or from a lower intensity of development to a higher intensity of development from 2001 to 2011. Most of these areas are the location of new subdivisions.

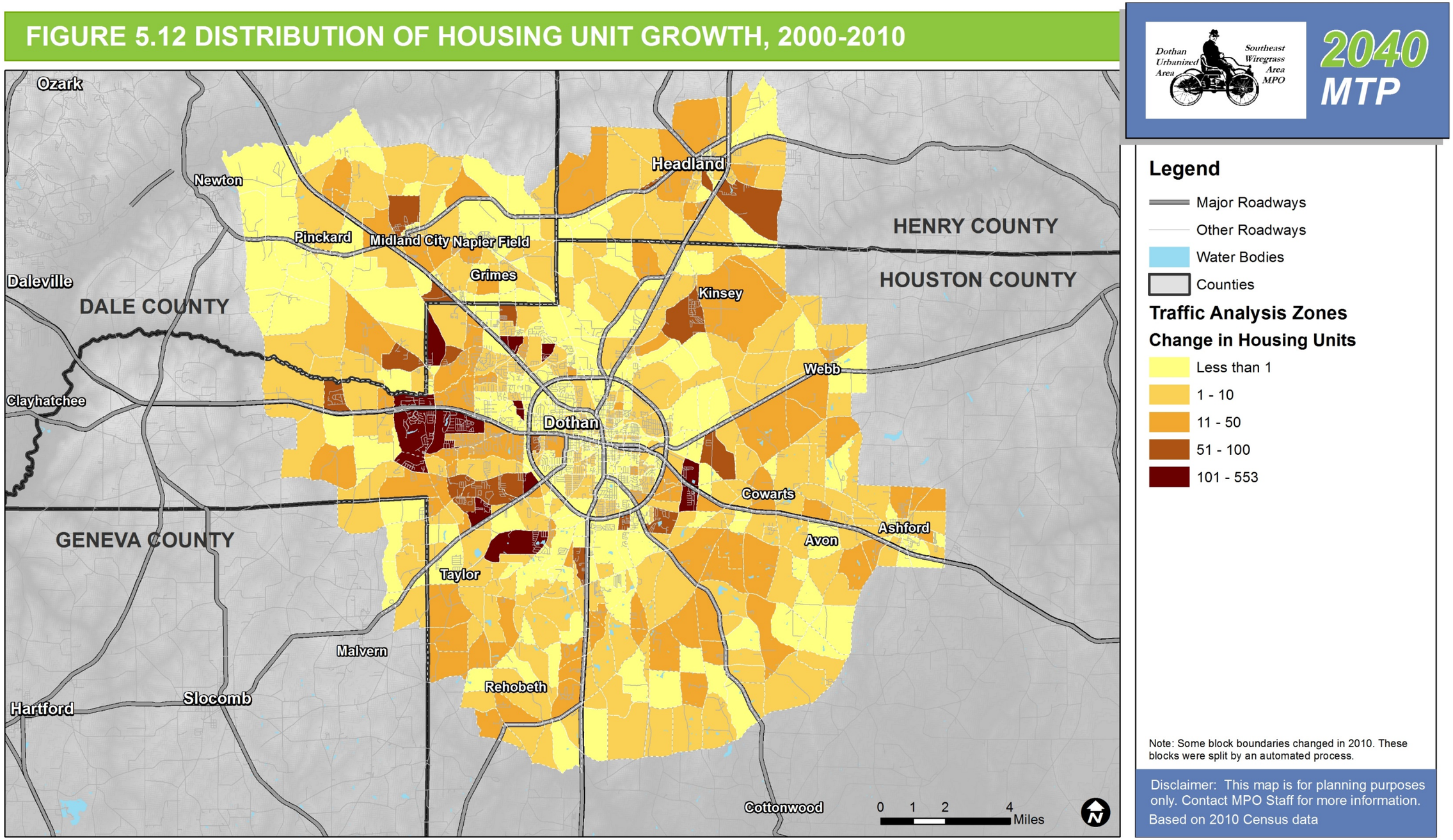
While not all jurisdictions require building permits and about three (3) percent of residential construction is estimated to occur without a permit, trends in building permit data are consistent with observed population change. Historically, most of the construction of new residential housing units in Houston County has occurred in Dothan or in areas subsequently annexed by Dothan. From 2000 to 2014, over 90 percent of residential building permits issued in Houston County were issued by the City of Dothan.

Table 5.3 Housing Units Permitted, 2012-2014

Permit-Issuing Jurisdiction	Housing Units
Dothan	1,109
Headland	56
Rehobeth	47
Cowarts	44
Houston County Unincorporated Area	31
Midland City	20
Taylor	19
Ashford	15
Kinsey	8
Newton	2
Avon	0
Pinckard	0
Notes: No information available for Grimes, Malvern, Napier Field, Webb, Unincorporated Dale County, Unincorporated Henry County, or Unincorporated Geneva County. If annual information is not provided by a permit-issuing place, data is imputed by the Census Bureau. The only areas affected by imputation were Ashford, Headland, Midland City, and Taylor.	
Source: U.S. Census Bureau, Building Permits Survey	

From 2009 to 2013, the percentage of people living below the poverty threshold in the Metropolitan Planning Area was 17.7 percent. Low-income areas are important to consider because they are less likely to own a vehicle and commute to work by driving. They are therefore more dependent on walking, biking, carpooling, or using transit. As figure 5.14 shows, there is great variation in the concentration of people living below the poverty threshold within the MPA. The greatest concentrations of people living in poverty are within Ross Clark Circle. Still, there are smaller concentrations elsewhere.

FIGURE 5.12 DISTRIBUTION OF HOUSING UNIT GROWTH, 2000-2010

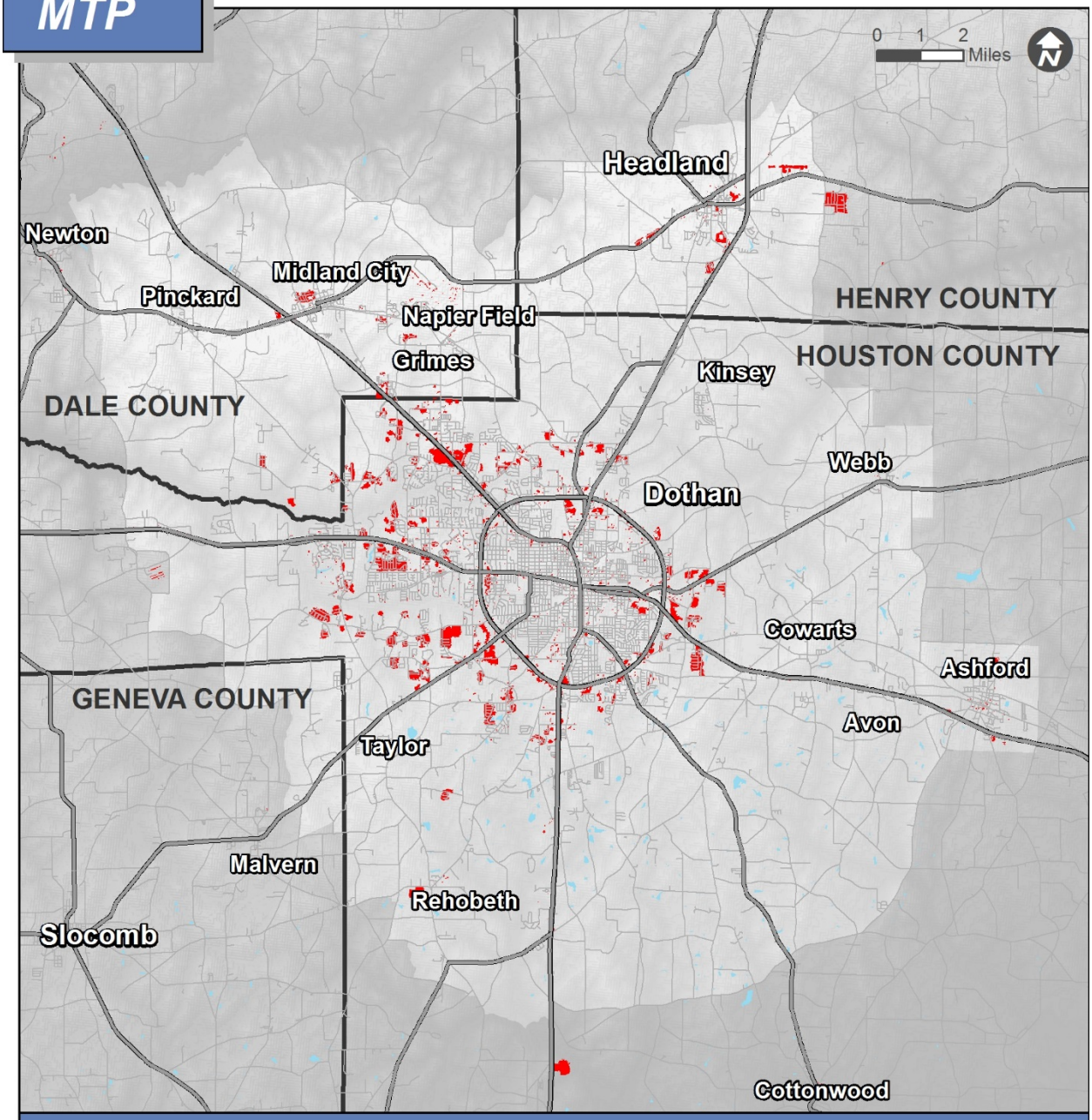


Map Source: Neel-Schaffer, Inc.

Data Sources: 2010 and 2000 Census

2040 MTP

FIGURE 5.13 AREAS DEVELOPED FROM 2001 TO 2011



Legend

- Areas Developed from 2001 to 2011
- Metropolitan Planning Area
- Counties
- Major Roadways
- Water Bodies

Disclaimer: This map is for planning purposes only.

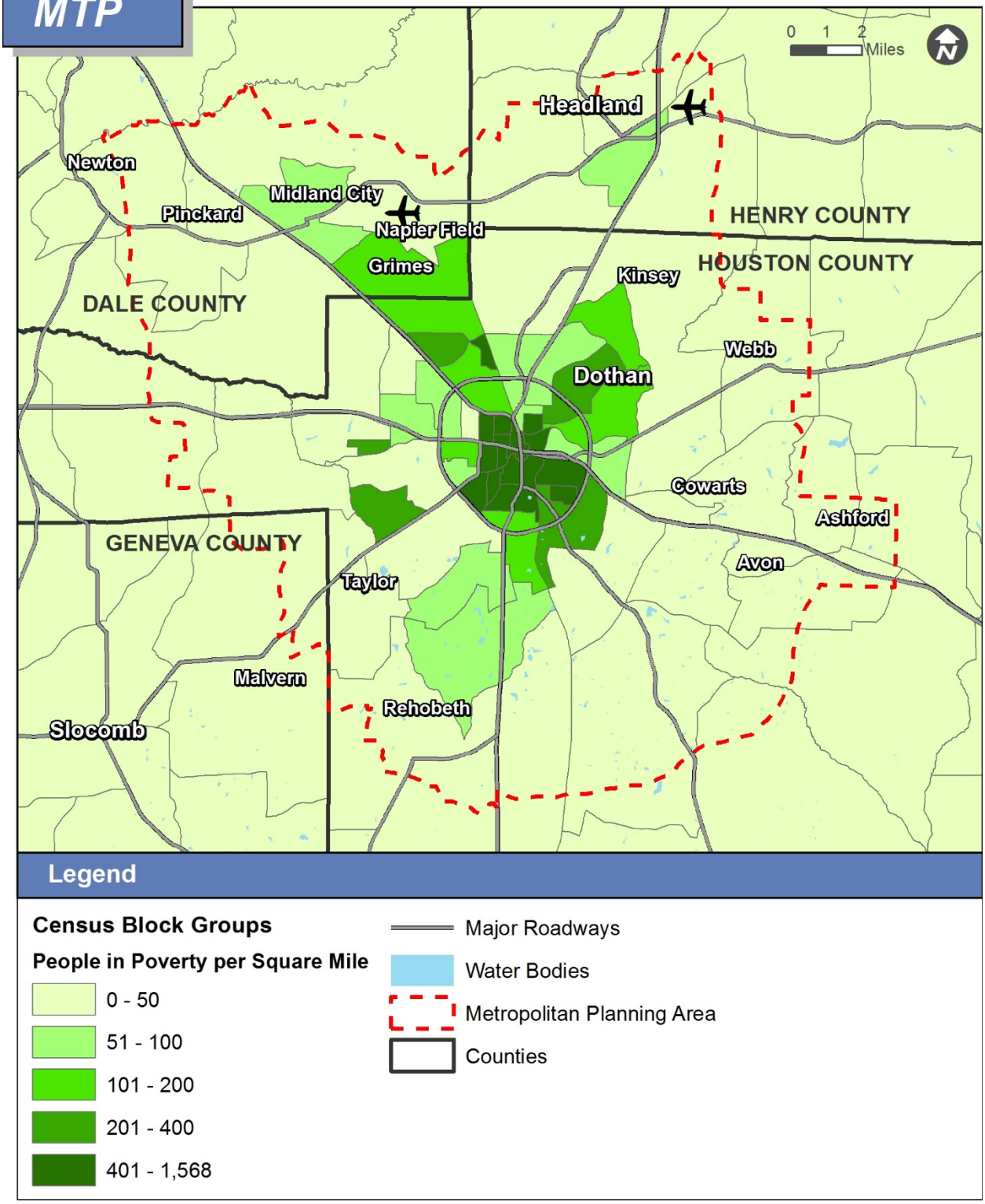
Based on US 2010 Census data

Map Source: Neel-Schaffer, Inc.

Data Sources: USGS 2011 National Land Cover Database

2040 MTP

FIGURE 5.14 CONCENTRATION OF PEOPLE IN POVERTY



Disclaimer: This map is for planning purposes only.

Based on US 2010 Census data

Map Source: Neel-Schaffer, Inc.

Data Sources: 2009-2013 ACS

Employment Trends

Historical employment data is not available at a geographic level that would allow for detailed analysis of employment within the Metropolitan Planning Area. However, county-level and metropolitan statistical area data from the Bureau of Economic Analysis (BEA) are available for select industries. Data for both the Dothan-Enterprise-Ozark, AL Combined Statistical Area (CSA) and for Houston County were obtained. Since the overall trends were similar for both geographies and because Houston County makes up most of the employment in the Metropolitan Planning Area, focus is given only to Houston County.

Table 5.4 shows the change in employment from 2004 to 2013, both overall and by industry for Houston County. While population growth in Houston County is outpacing the nation and state, employment growth was actually slower than either the nation or state from 2004 to 2013. This is likely explained by the large impact of manufacturing decline in the MPA. General trends from the BEA data show that:

- Healthcare and other services had the greatest relative increase. State and local government and Finance and Insurance also saw moderate gains.
- Manufacturing had the greatest relative decrease. Construction and professional, scientific, and technical services had moderate decreases.
- Retail declined after recession, but appears to have stabilized. At the same time, accommodation and food service employment increased.
- Farm employment remained stable.

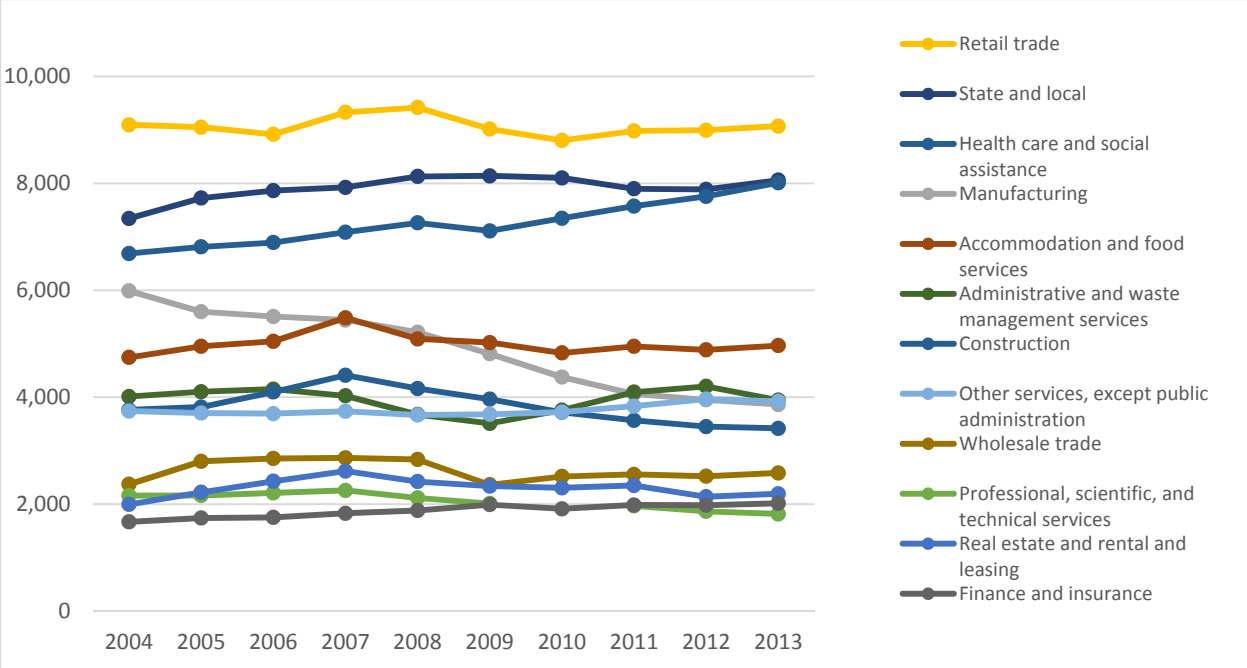
Table 5.4 Change in Employment in Houston County by Industry, 2004-2013.

			Change	
Description	**2004**	**2013**	Absolute	Percent
Total employment	60,786	61,470	684	1.1%
Farm employment	839	844	5	0.6%
Forestry, fishing, and related activities	139	(D)	(D)	(D)
Mining	23	(D)	(D)	(D)
Utilities	(D)	(D)	(D)	(D)
Construction	3,762	3,416	-346	-9.2%
Manufacturing	5,988	3,863	-2,125	-35.5%
Wholesale trade	2,370	2,582	212	8.9%
Retail trade	9,093	9,070	-23	-0.3%
Transportation and warehousing	(D)	(D)	(D)	(D)
Information	947	743	-204	-21.5%
Finance and insurance	1,667	2,015	348	20.9%
Real estate and rental and leasing	1,994	2,192	198	9.9%
Professional, scientific, and technical services	2,158	1,816	-342	-15.8%
Management of companies and enterprises	67	214	147	219.4%
Administrative and waste management services	4,012	3,944	-68	-1.7%
Educational services	519	694	175	33.7%
Health care and social assistance	6,687	8,010	1,323	19.8%
Arts, entertainment, and recreation	673	725	52	7.7%
Accommodation and food services	4,743	4,965	222	4.7%
Other services, except public administration	3,740	3,921	181	4.8%
Federal, civilian	344	313	-31	-9.0%
Military	590	507	-83	-14.1%
State and local	7,343	8,059	716	9.8%

Note: (D) = Not shown to avoid disclosure of confidential information, but the estimates for this item are included in the totals.

Source: U.S. Department of Commerce, Bureau of Economic Analysis

Figure 5.15 Historical Employment in Major Industries in Houston County, AL



Source: U.S. Department of Commerce, Bureau of Economic Analysis

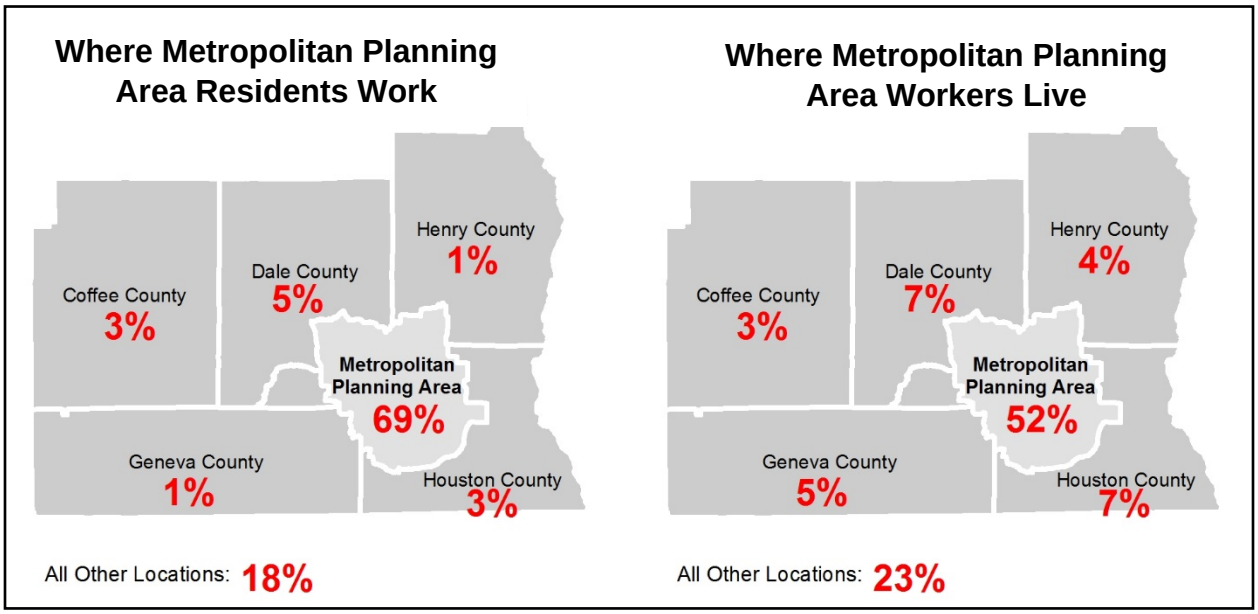
Figure 5.13 shows areas that transitioned from either undeveloped to developed or from a lower intensity of development to a higher intensity of development from 2001 to 2011. Aside from new subdivisions, this map identifies new employment centers such as Dothan Pavilion along US Highway 231, the expansion of the medical-related industry around the major hospitals, and some expansion of industrial areas.

Other new major employment developments include the Alabama College of Osteopathic Medicine near the border of Dothan and Cowarts, the shuttering of the Sony plant in Dothan, several new grocery-anchored shopping centers in Dothan, and small-format Walmart stores in Headland and Ashford.

5.4 TRAVEL PATTERNS

Commuting patterns shed some light on travel patterns, even though work trips only account for approximately 20 percent of all trips. The Census Bureau's Longitudinal Employer-Household Dynamics (LEHD) program provides detailed commuting data. Commuting patterns from this dataset are illustrated below.

Figure 5.16 Commuting Patterns within the Combined Statistical Area



Map Source: Neel-Schaffer, Inc. *Data Source: LEHD 2011*

Most Metropolitan Planning Area residents work within the MPA. However, slightly less than one-third work outside the MPA, with other areas in the Wiregrass Region of Alabama comprising the largest outside destinations.

Only about half of the workers in the MPA also reside in the MPA. Surrounding areas in the Wiregrass Region of Alabama are the largest source of MPA workers.

As illustrated in Figure 5.18, travel time to work is relatively short within the MPA, likely due to the relatively small size of the area. There were no census tracts where the mean travel time to work was over an hour. Most workers reside in tracts that have mean commute times under 30 minutes.

Table 5.5 shows that over 90 percent of commuters drive alone to work and another 7 percent carpool. Walking and biking to work is uncommon, as is commuting by transit. However, there are areas where commuting by walking and biking are more likely to occur, as illustrated in Figure 5.17. These areas tend to correspond to areas with households that lack regular access to a vehicle, as shown in Figure 5.19. While there are some areas where over 20 percent of households do not have regular access to a vehicle, only 6 percent of all Metropolitan Planning Area households don't have access to a vehicle.

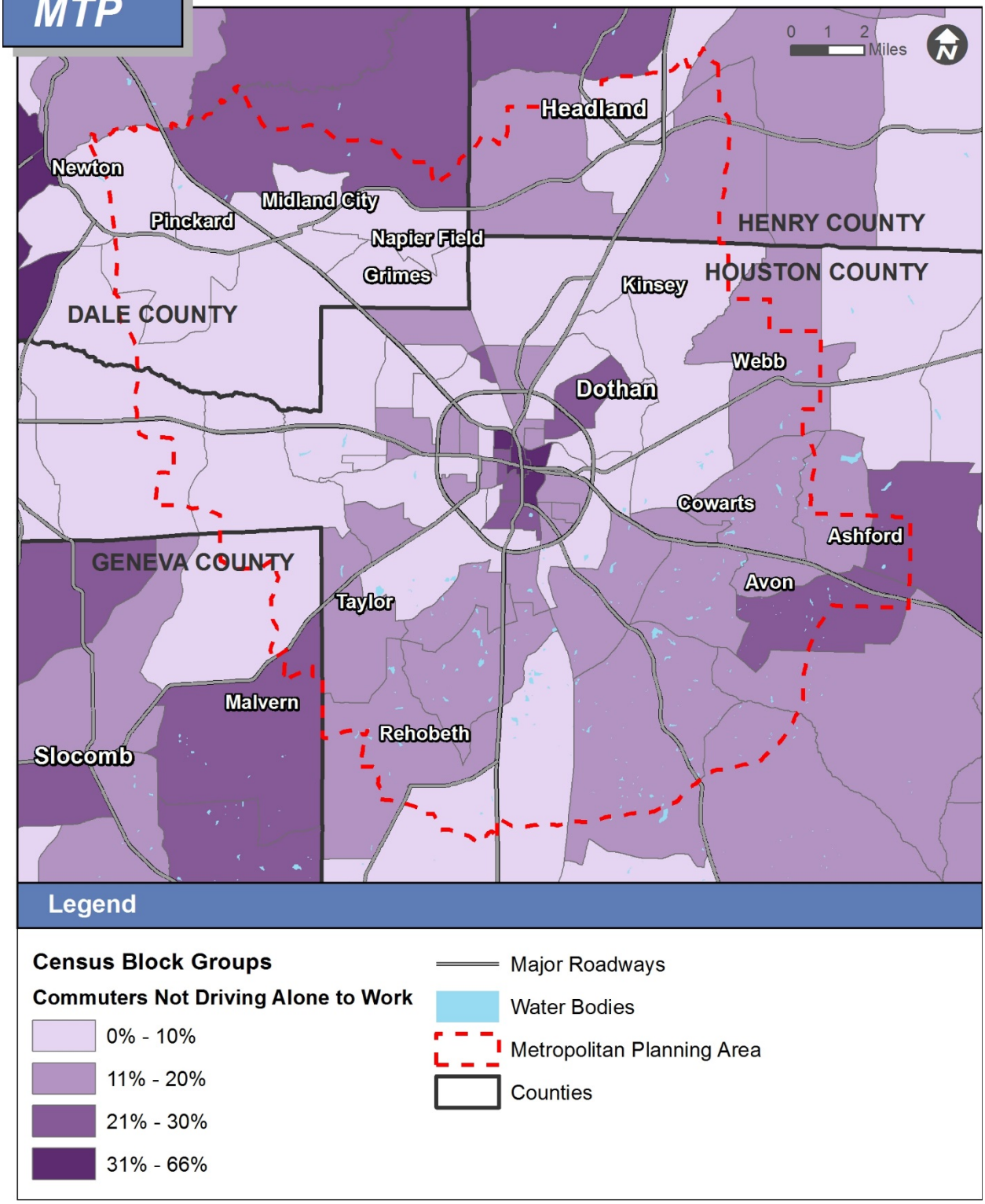
Table 5.5 Means of Transportation to Work in Metropolitan Planning Area

	Number	Percentage
Total Commuters	47,618	100%
Drove Alone	43,021	90.3%
Carpooled	3,435	7.2%
Other	577	1.2%
Walked	279	0.6%
Rode Transit	136	0.3%
Rode Motorcycle	93	0.2%
Rode Taxi	42	0.1%
Bicycled	35	0.1%
Notes: Commuters excludes those that work at home, which was 1.7% of all workers. Numbers based on all block groups intersecting MPA.		

Source: Census Bureau, 2009-2013 ACS

2040 MTP

FIGURE 5.17 COMMUTERS NOT DRIVING ALONE TO WORK



Disclaimer: This map is for planning purposes only.

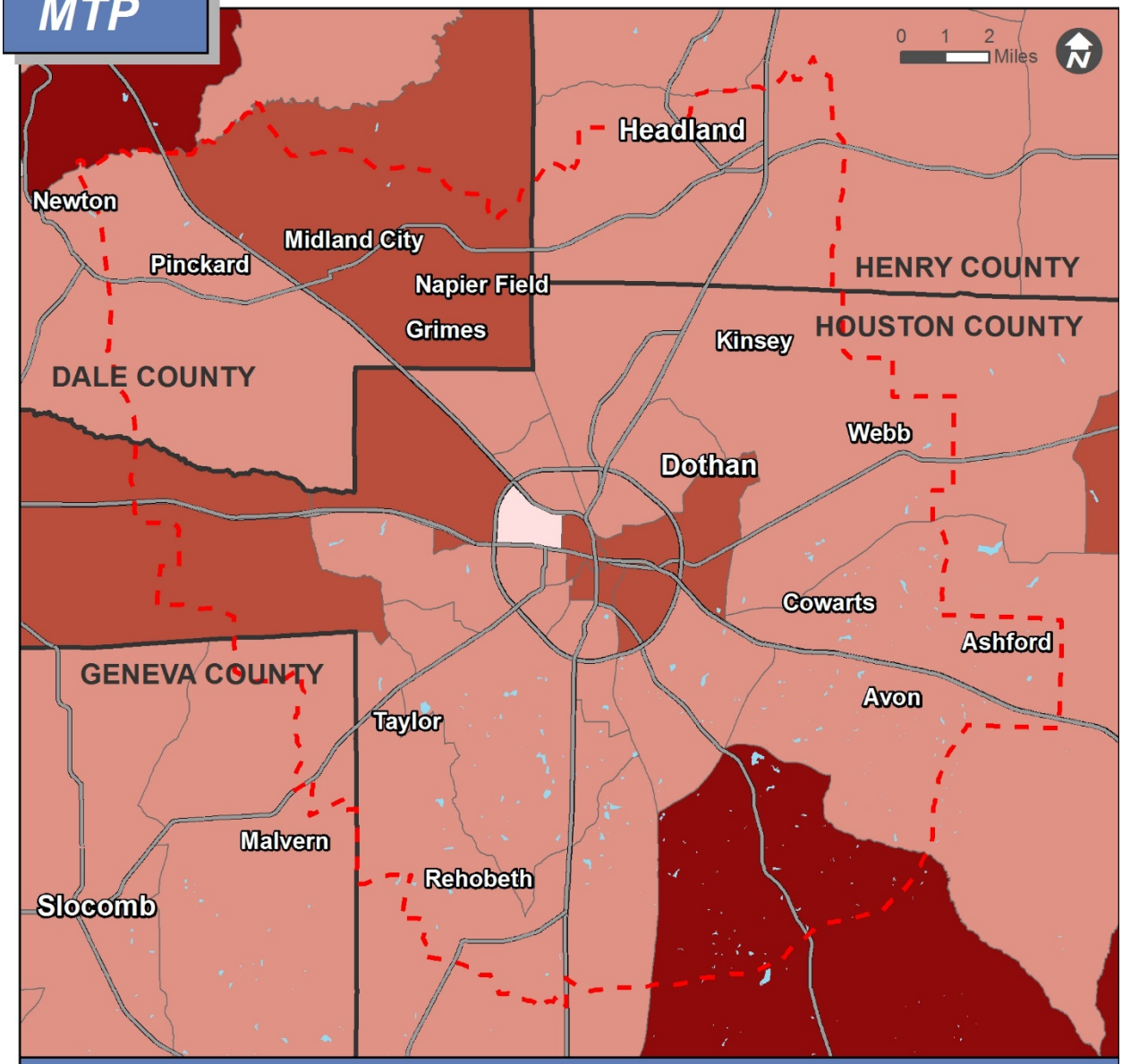
Based on US 2010 Census data

Map Source: Neel-Schaffer, Inc.

Data Sources: 2009-2013 ACS

2040 MTP

FIGURE 5.18 MEAN TRAVEL TIME TO WORK



Legend

Mean Commute Time (minutes)

- 11 - 15
- 16 - 30
- 31 - 45
- 46 - 60

- Major Roadways
- Water Bodies
- Metropolitan Planning Area
- Counties

Disclaimer: This map is for planning purposes only.

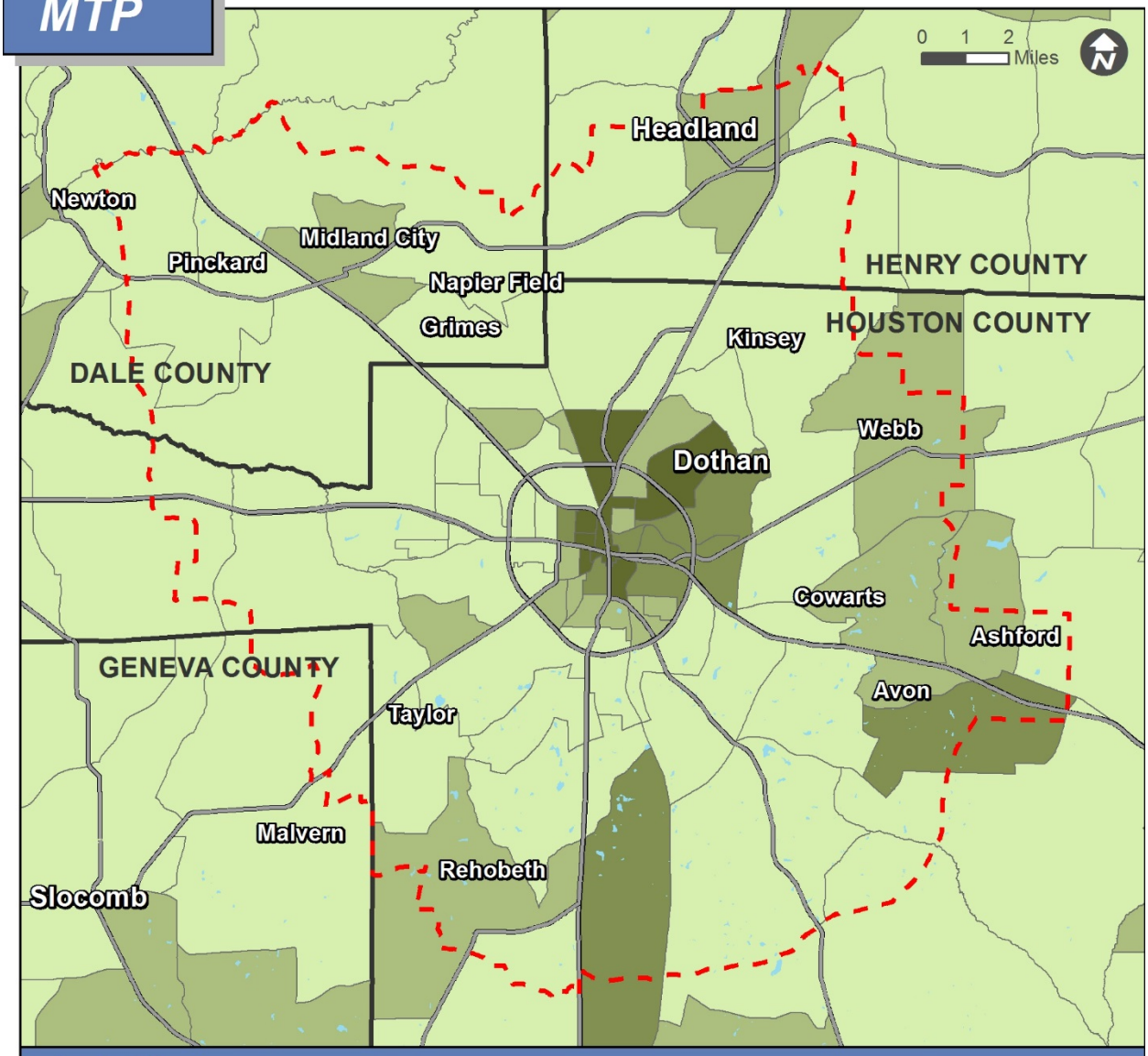
Based on US 2010 Census data

Map Source: Neel-Schaffer, Inc.

Data Sources: 2009-2013 ACS

2040 MTP

FIGURE 5.19 HOUSHOLDS WITH NO ACCESS TO A VEHICLE



Legend

Census Block Groups

Percentage of Households with No Vehicle

- 0% - 5%
- 6% - 10%
- 11% - 20%
- 21% - 45%

- Major Roadways
- Water Bodies
- Metropolitan Planning Area
- Counties

Disclaimer: This map is for planning purposes only.

Based on US 2010 Census data

Map Source: Neel-Schaffer, Inc.

Data Sources: 2009-2013 ACS

6.0 THE EXISTING TRANSPORTATION SYSTEM

Planning for future transportation system improvements starts with evaluating the existing transportation system. This chapter identifies the conditions and characteristics of the existing transportation system.

6.1 ROADWAYS AND BRIDGES

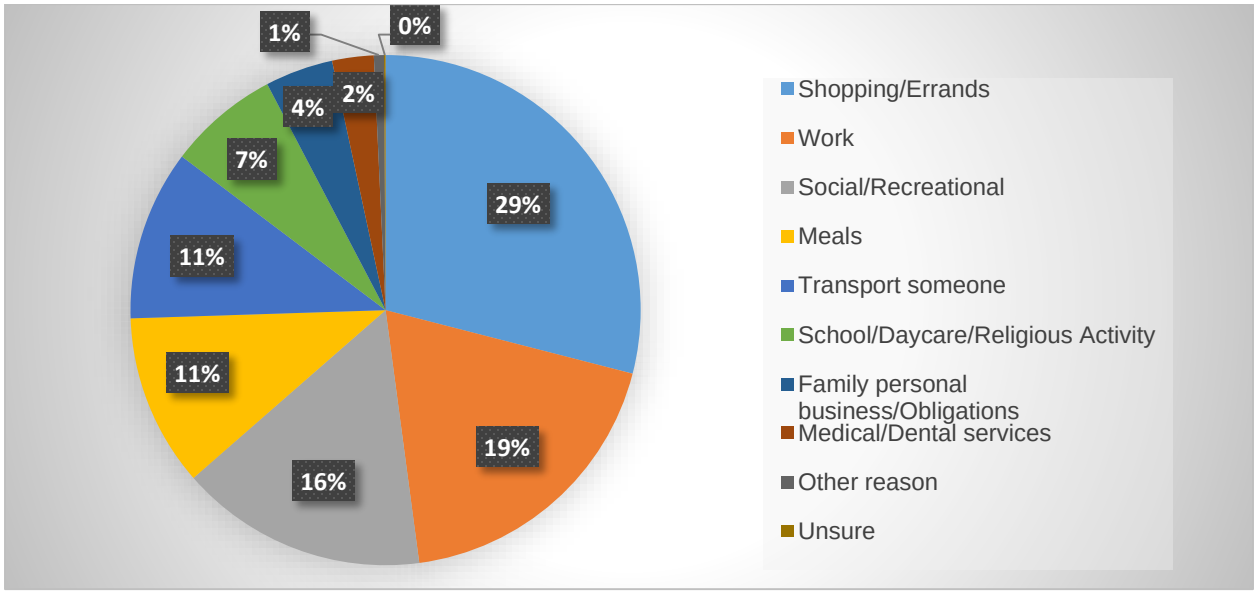
The region's roadways and bridges are used by personal motor vehicles, public transportation providers, private transportation providers, freight trucks, and bicyclists. For this reason the region's roadways and bridges are of great importance.

For households in small urbanized areas like Dothan, traveling by motor vehicle is the primary means of transportation. According to the 2009 National Household Travel Survey (NHTS), approximately 75 percent of all household trips in urbanized areas with populations between 50,000 and 200,000 were made in a motor vehicle. This means that the condition of the MPO's roadways and bridges affect the overwhelming majority of household travel.

The needs of bicyclists, public transit, and freight will be discussed in greater detail later in this chapter. The focus of this section will be on household travel by motor vehicle.

While MTPs typically focus on the work trip, because of its central role in peak period congestion, work-related trips actually only account for about 20 percent of all household trips. According to the 2009 NHTS, shopping and errands accounted for 29 percent of all household trips made in the country, the largest of any trip purpose. Work trips were second largest, with just under 20 percent. Other breakdowns are illustrated in Figure 6.1. While travel may vary slightly by region, these trip purpose trends are largely consistent throughout the country.

Figure 6.1 Household Travel by Person Motor Vehicle by Trip Purpose, 2009



Note: Personal motor vehicles include: Car, Van, SUV, Pickup Truck, and Motorcycle
Source: 2009 National Household Travel Survey

Existing Conditions

Major Roadways

Several federal and state highways serve the study area. These facilities constitute the main network of roadways in the area. The most significant of these facilities are described in Table 6.1

Table 6.1 Major Roadways

Roadway	Description
Ross Clark Circle	This facility, designated as AL 210, encircles the core of the City of Dothan. It includes portions of several US and State highways.
US 231	This federal highway crosses the study area in a north/south direction. Its southern terminus is in Panama City, FL and its northern terminus is in St. John, Indiana in the Chicago metropolitan area. In Dothan, there is a Business spur which goes through the Dothan Central Business District (CBD). This is the primary route between Dothan and Montgomery.
US 431/AL 1	This federal highway progresses through the study area in a north/south direction. The highway begins in Dothan at Ross Clark Circle, though there is a Business spur going through the CBD. The northern terminus of this highway is Owensboro, KY. Within Alabama, AL 1 follows US 431 and continues to the Florida State Line.
US 84/AL 12	This federal highway crosses the study area in a west/east direction. It is referred to as Main St. within Dothan. Its western terminus is in Van Horn, TX at an intersection with Business Interstate 10. Its eastern terminus is in Jacksonville Beach, FL at an intersection with state road A1A. Within Alabama, this route is also designated as AL 12.
AL 52	This federal highway crosses the study area in a west/east direction. Its termini are US 331 in Opp, AL to the west and the Georgia State Line in Columbia where it turns into GA 62.
AL 53	This state highway progresses through the study area in a north/south direction. It follows US 231 for the majority of its route in the State, but it diverges at Ross Clark Circle in Dothan where it then runs between US 231 and US 84.
Other State Routes	There are several other state highways serving the MPA that carry relatively high volumes of traffic. These include: AL 109, AL 134, AL 173, and AL 211.
Major Local Roads	There are many local roads that serve as arterials. These include Denton Rd, Brannon Stand Rd/County Rd 59/203, Westgate Pkwy/Honeysuckle Rd, Park Ave, and Saunders Rd/Forrester Rd.

Roadways by Functional Classification

Each type of roadway serves a function in the overall roadway network. Roadways are divided into functional classes based on their intended balance of mobility (speed) and access to adjacent land. Their designs vary in accordance with this functional classification.

Interstates: These facilities are divided highways with full control of access and grade separations at all intersections. The controlled access character of interstates results in high-lane capacities, which are three times greater than the individual lane capacities of urban arterial streets.

Expressways: These facilities provide for movement of large volumes of traffic at relatively high speed, and are primarily intended to serve long trips. Expressways have some grade separated intersections while the majority of the intersections are widely spaced and signalized.

Arterials: These facilities are important components of the overall transportation system. They serve both as feeders to interstates and expressways, and as principal travel ways between major land use concentrations within the study area. Arterials are typically divided facilities (undivided where right-of-way limitations exist) with relatively high traffic volumes and traffic signals at major intersections. The primary function of arterials is to move traffic; they are the main means of local travel. A secondary function of arterials is land access.

Collectors: These facilities provide both land service and traffic movement functions. Collectors serve as intermediate feeders between arterials and local streets and primarily accommodate short distance trips. Since collector streets are not intended to accommodate long through trips, they are generally not continuous for any great length.

Local Streets: The sole function of these facilities is to provide access to immediately adjacent land. Within the local street classification, three subclasses are established to indicate the type of area served: residential, industrial, and commercial. These streets are not included in the computer network.

Figure 6.2 illustrates the functional classification of the Dothan MPA's roadways and Table 6.2 summarizes this information by centerline miles. The majority of the major roadways are local streets, accounting for almost two-thirds of all centerline miles. Collectors make up the next largest group, with 20 percent of all centerline miles. Minor arterials and principal arterials makeup the remaining 18 percent. There are no interstates or expressways in the MPA.

Table 6.2 Roadway Network Centerline Mileage by Functional Class

Classification	Total Centerline Miles	Percent
Interstate	0	0.0%
Expressway	0	0.0%
Principal Arterial	80	6.7%
Minor Arterial	135	11.3%
Collector	233	19.5%
Local	746	62.5%
Total	1,194	100.0%

Source: Dothan Model and ALDOT Roadway Inventory

Roadways by Maintenance Responsibility

Since most roadways are local roads, it is not surprising that nearly 90 percent of roadways are maintained by counties or municipalities, as indicated in Table 6.3 and illustrated in Figure 6.3. All of the principal arterials and many of the minor arterials are State Highways or Federal Highways and are state-maintained roadways. All of the roadways classified functionally as locals are maintained by a county or municipal agency. Most collectors are also maintained a county or municipal agency.

Table 6.3 Roadway Network Centerline Mileage by Maintenance Responsibility

Maintenance Responsibility	Centerline Miles	Percent
State	142	11.2%
County or Municipality	1,123	88.8%
Total	1,265	100.0%

Note: Total does not exactly equal Table 5.2 because of varying sources.
Source: ALDOT Roadway Inventory

Pavement Condition of State-Maintained Roadways

Pavement condition ratings for all state-maintained roadways, mostly arterials, are illustrated in Figure 6.4 and summarized in Table 6.4. The pavement condition shown is based on an alternative pavement condition rating being tested by ALDOT. It is believed to better reflect overall condition, but at this point is not the official pavement condition rating. No data was available for Alabama Route 109 which was recently added to the state system.

About half of all roadway centerline miles have a pavement condition rating categorized as Good, with another five (5) percent categorized as Fair. However, a very high percentage (43 percent) are categorized as Marginal. Roadways with considerable segments having pavement conditions categorized as marginal include: Ross Clark Circle, US 84, AL 52, AL 109, and US 431 Business (Oates St.). Some of these roadways are being repaved or are programmed for repaving in the next few years, such as Ross Clark Circle and AL 52 from Ross Clark Circle towards Columbia.

Table 6.4 Pavement Condition for State-Maintained Roadways

Condition	Centerline Miles	Percent
Good	66.0	50.1%
Fair	6.9	5.2%
Marginal	56.2	42.7%
New	2.6	2.0%
Total	131.6	100.0%

Note: Total does not exactly equal Table 5.3 because of varying sources.
Source: ALDOT Roadway Inventory

Bridges

There are nearly 200 bridges within or within close proximity to the Dothan MPA. Most of these are crossing streams, but some also cross over railroad tracks or other roadways. According to National Bridge Inventory (NBI) data, no bridges are over navigable waterways or are of historic significance.

Historically, in order to be eligible for federal funds for bridge rehabilitation or replacement, a bridge must have a sufficiency rating of 80 or lower for rehabilitation and below 50 for replacement.

As indicated in Table 6.5 and illustrated in Figure 6.5, most of the bridges in the Dothan MPA, about 70 percent, are in good condition and are not currently eligible for rehabilitation or replacement with federal funds. 27 percent would be eligible for rehabilitation, and two (2) percent, or four bridges, would be eligible for replacement.

Table 6.5 Bridges by Sufficiency Rating

Bridge Sufficiency Rating	Number	Percent
Above 80	130	69.5%
50-80	51	27.3%
Less than 50	4	2.1%
No data	2	1.1%
Total	187	100.0%

Source: ALDOT; National Bridge Inventory

Aside from the sufficiency rating, bridges constructed more than ten years ago in the NBI are evaluated to determine if they are either *structurally deficient* or *functionally obsolete*. Neither of these designations necessarily means that a bridge is unsafe. Structural deficiency is characterized by deteriorated conditions of significant bridge elements and potentially reduced load-carrying capacity. A *structurally deficient* bridge typically requires significant maintenance and repair to remain in service, and would eventually require major rehabilitation or replacement to address the underlying deficiency. A bridge is considered *functionally obsolete* when it does not meet current design standards (for criteria such as lane width), either because the volume of traffic carried by the bridge exceeds the level anticipated when the bridge was constructed and/or the relevant design standards have been revised. Addressing functional deficiencies may require the widening or replacement of the structure.

There are three structurally deficient bridges and 22 functionally obsolete bridges in the Dothan MPA, as illustrated in Figure 6.5.

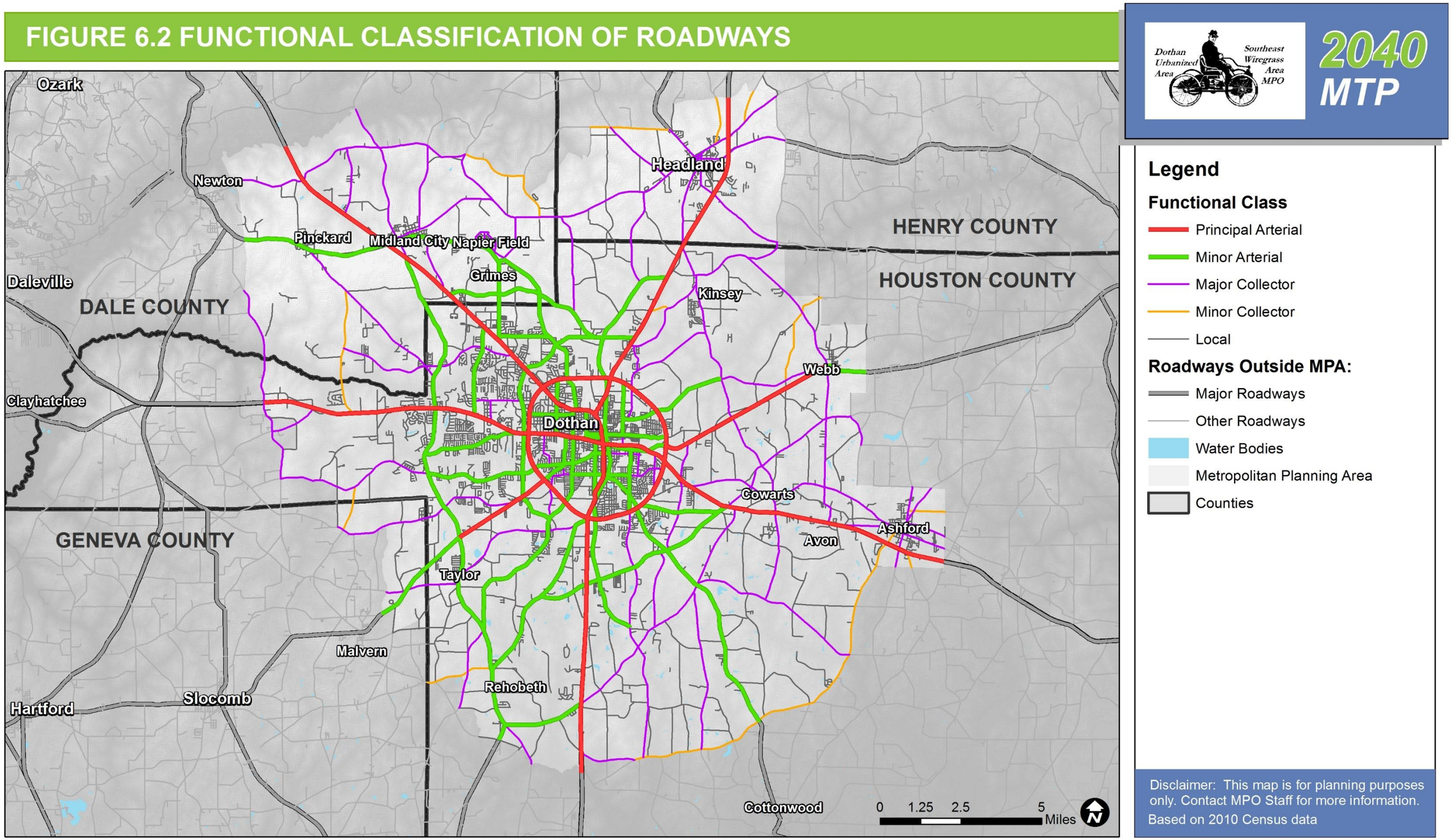
Table 6.6 shows the Dothan MPA's four bridges currently eligible for replacement, which coincidentally also includes the MPA's three structurally deficient bridges. The two bridges with the lowest sufficiency ratings are programmed to begin being replaced in Fiscal Year 2016. The Brookside Drive Bridge is currently funded as a bridge replacement project and the Denton Road Bridge will be replaced as part of the Denton Road widening project.

Table 6.6 Bridges Currently Eligible for Replacement

Bridge ID	Maintenance Responsibility	County	Facility	Feature Intersecting	Year Built	Rating	Status
004593	Municipality	Houston	DENTON ROAD	ROCK CREEK	1953	6.0	Structurally Deficient
010324	Municipality	Houston	BROOKSIDE DRIVE	BRANCH	1970	33.8	Structurally Deficient
006406	State	Houston	SR 210 MP 2.425	STREAM	1958	43.0	Structurally Deficient
001385	State	Houston	US 431 MP 16.659	CSX R.R.	1936	47.7	Functionally Obsolete

Source: ALDOT; National Bridge Inventory

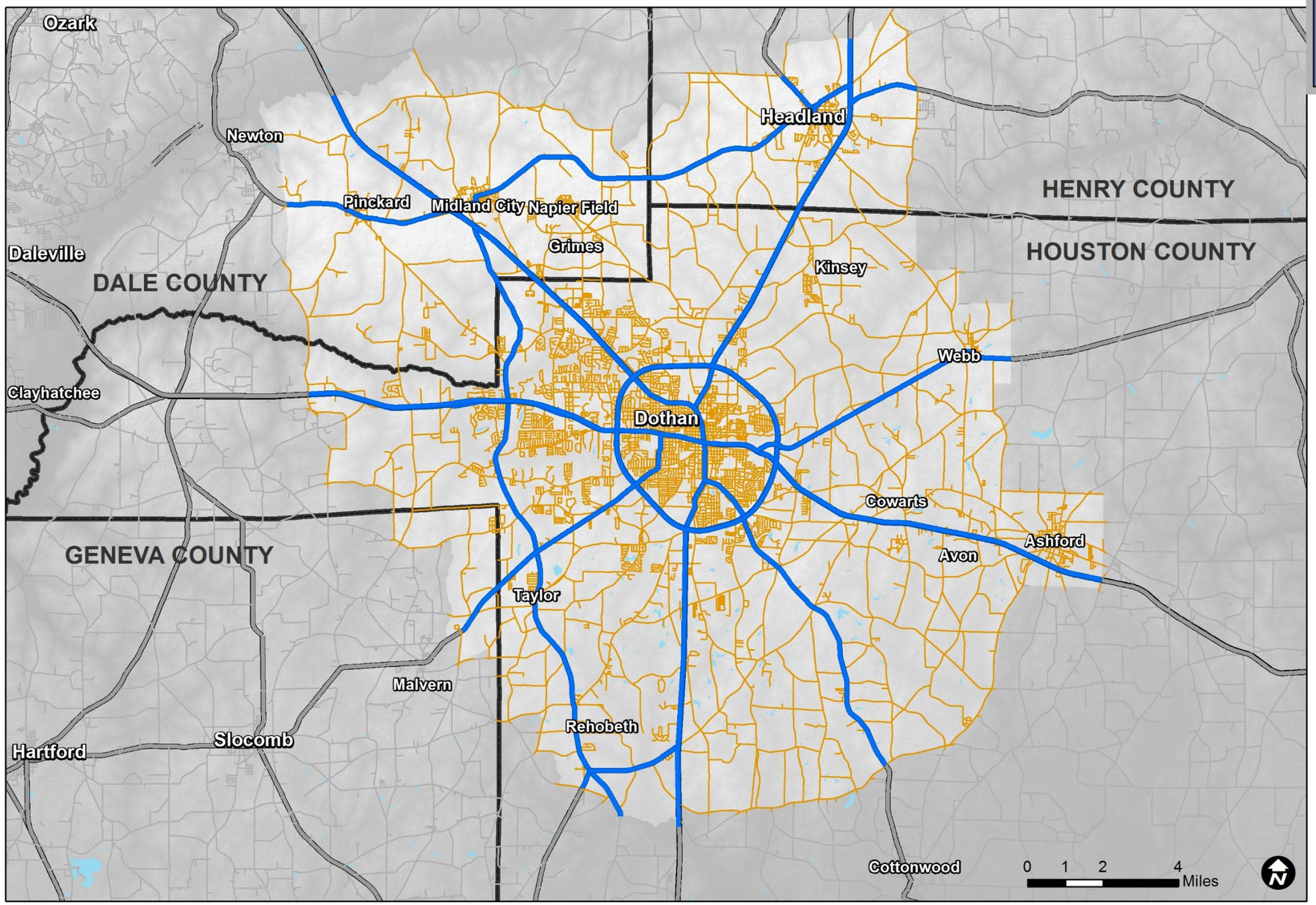
FIGURE 6.2 FUNCTIONAL CLASSIFICATION OF ROADWAYS



Map Source: Neel-Schaffer, Inc.

Data Sources: ALDOT; MPO Staff

FIGURE 6.3 ROADWAY MAINTENANCE RESPONSIBILITY IN MPO



Dothan Urbanized Area
Southeast Wiregrass Area MPO
2040 MTP

Legend

- State (ALDOT)
- Local (County or Municipality)

Roadways Outside MPA:

- Major Roadways
- Other Roadways
- Water Bodies
- Metropolitan Planning Area
- Counties

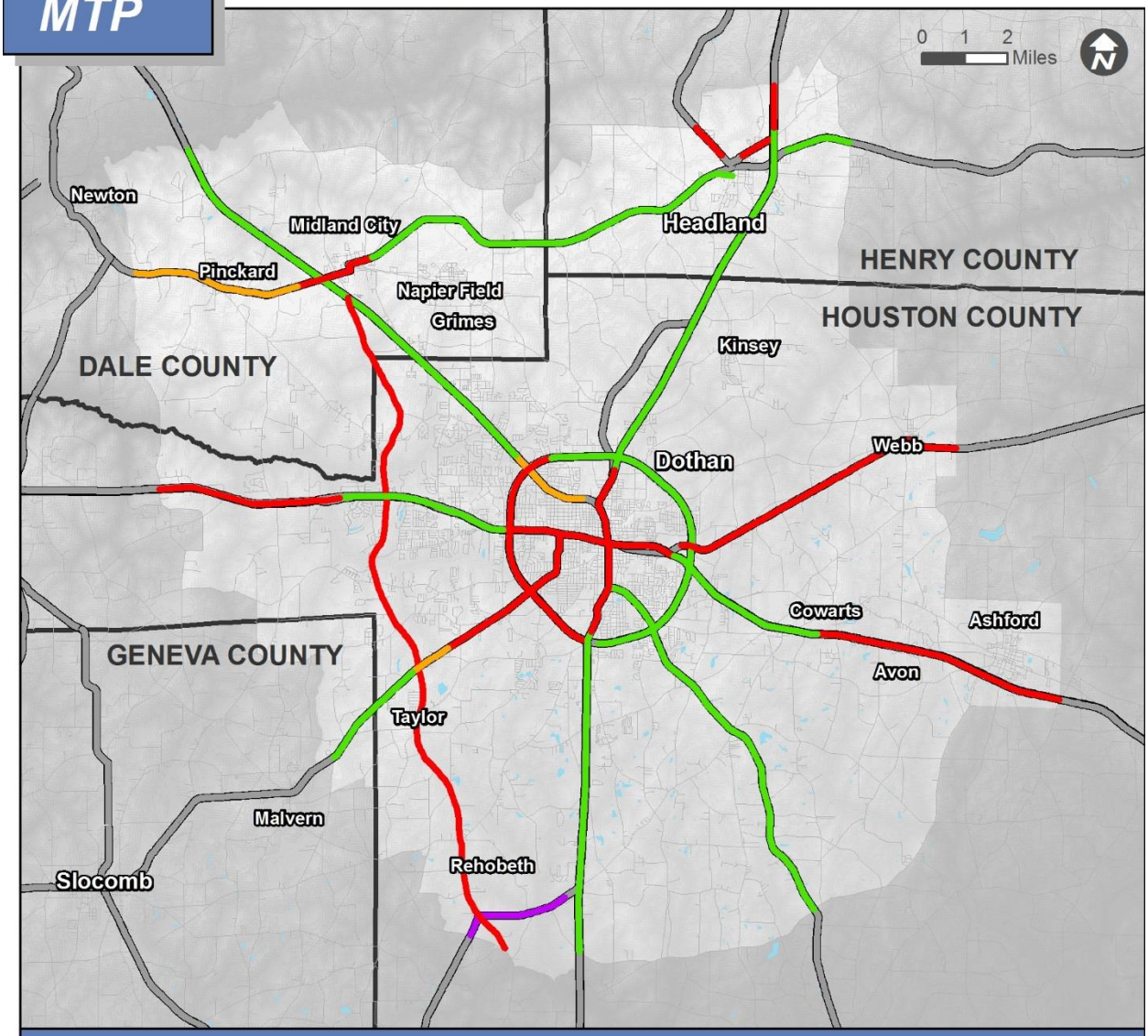
Disclaimer: This map is for planning purposes only. Contact MPO Staff for more information.
Based on 2010 Census data

Map Source: Neel-Schaffer, Inc.

Data Sources: ALDOT Roadway Inventory

2040 MTP

FIGURE 6.4 PAVEMENT CONDITION ON STATE ROADWAYS



Legend

State-Maintained Roadways:

Pavement Condition Rating

- Good
- Fair
- Marginal
- No Data

- Other Major Roadways (no data)
- Other Roadways (no data)
- Water Bodies
- Metropolitan Planning Area
- Counties

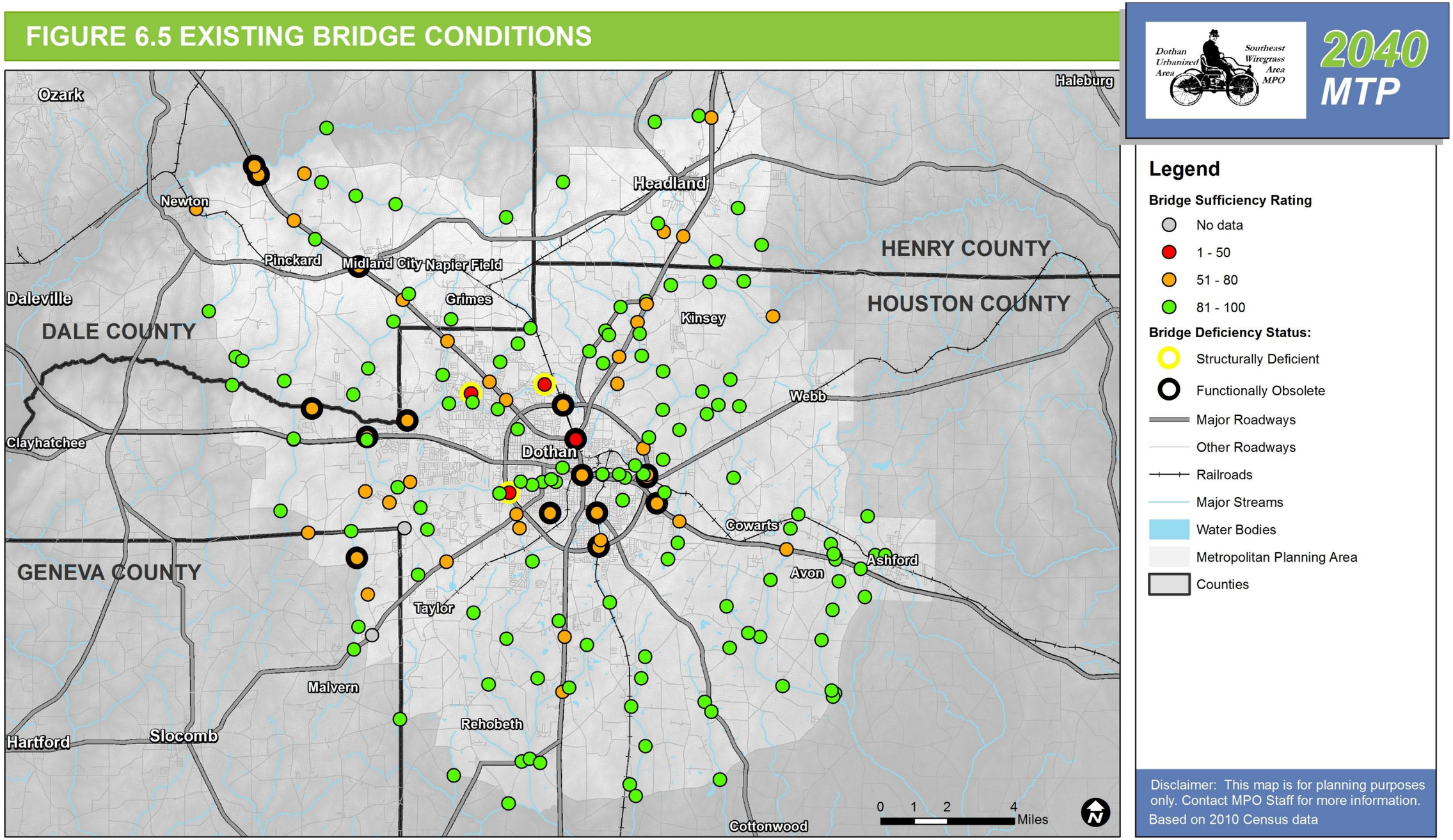
Disclaimer: This map is for planning purposes only.

Based on US 2010 Census data

Map Source: Neel-Schaffer, Inc.

Data Sources: ALDOT

FIGURE 6.5 EXISTING BRIDGE CONDITIONS



Map Source: Neel-Schaffer, Inc.

Data Sources: ALDOT Maintenance Bureau; FHWA National Bridge Inventory

Traffic, Congestion, and Reliability

The number of daily trips by trip purpose in 2010, as estimated by the Travel Demand Model, is summarized in Table 6.7. This data shows that just over one in four vehicle trips is originating outside of the Metropolitan Planning Area and that internal commercial vehicle trips (e.g. freight, taxi, etc.) account for about one in ten vehicle trips. Most household vehicle trips originating in the Metropolitan Planning begin or end at home.

Table 6.8 shows how these trips are distributed onto the modeled transportation network, which excludes local roads. Almost all delay is estimated to occur on the principal arterials, which is also where most vehicle miles traveled and vehicle hours occur. Conversely, there is virtually no delay estimated to occur on collectors and travel on these roadways only account for 13 percent of vehicle miles traveled and 14 percent of vehicle hours traveled.

Table 6.7 Daily Vehicle Trips by Purpose, 2010

Trip Purpose	Vehicle Trips	Percent
Home-Based Work	67,592	17.6%
Home-Based Other	107,260	27.9%
Non-Home Based	58,289	15.2%
External-Internal	106,140	27.6%
External-External	9,069	2.4%
Commercial Vehicle	36,363	9.5%
Total	384,713	100.0%

Source: Dothan Travel Demand Model, NSI

Table 6.8 Roadway System Travel Characteristics, 2010

Functional Class	Daily Vehicle Miles Traveled (VMT)		Daily Vehicle Hours Traveled (VHT)		Daily Vehicle Hours of Delay	
	Number	Percent	Number	Percent	Number	Percent
Freeway	0	0.0%	0	0.0%	0	0.0%
Expressway	0	0.0%	0	0.0%	0	0.0%
Principal Arterial	1,780,068	64.1%	37,647	60.6%	1,607	94.1%
Minor Arterial	638,476	23.0%	15,536	25.0%	92	5.4%
Collector	358,806	12.9%	8,920	14.4%	8	0.5%
Total	2,777,350	100.0%	62,103	100.0%	1,707	100.0%

Source: Dothan Travel Demand Model, NSI

Figure 6.6 confirms that vehicular traffic in the Dothan MPA is greatest on principal arterials, most notably, US 231, including the western portions of Ross Clark Circle, and US 84 from Flowers Hospital to Downtown Dothan. These areas have estimated average daily volumes exceeding 15,000 vehicles. Figure 6.6 shows that next highest volume corridors, those between 10,000 and 15,000 vehicles mostly include the region's arterials. Areas with estimated average daily volumes between 5,000 and 10,000 are mostly limited to roadway segments connecting to these arterials.

Traffic is better understood when roadway capacities are taken into account. Volume to capacity ratios are often used to illustrate congestion on roadway segments. Figure 6.7 shows these V/C ratios for the major roadways in the Dothan MPA. Currently only four roadway segments, summarized in Table 6.9, exceed a V/C ratio of 1.00. These four segments are mostly near the intersections of roadways with high traffic volumes and do not exceed a V/C ratio of 1.00 by a large amount. This suggests that congestion is currently not a major issue in the Dothan MPA.

Table 6.9 Roadway Corridors with Volumes Exceeding Capacity, 2010

Roadway	From/To	Length	Range of Segment Volume/Capacity Ratios
W Main St	Flowers Chapel Rd to Ross Clark Cir	0.46 miles	1.15 to 1.50
S Oates St	Campbellton Hwy to Ross Clark Cir	0.06 miles	1.07 to 1.07
Ross Clark Cir	Hartford Hwy to Timbers Dr	0.32 miles	1.03 to 1.04
Ross Clark Cir	S Park Ave to S Oates St	0.85 miles	1.01 to 1.04

Source: Dothan Travel Demand Model, NSI

While most of the region's roadways do not have daily volumes that exceed their daily capacities, there may still be congestion issues at specific times, notably peak periods. Travel Time reliability addresses this issue by evaluating how travel times vary in time, typically by time of day. For the purposes of the MTP, travel time reliability analysis will focus on peak periods. Reliability issues related to traffic incidents, construction, special events, or other events would require a more detailed analysis.

Figures 6.8 and 6.9 show Travel Time Indices for major roadways during AM and PM peak periods in the Dothan MPA. The Travel Time Index is the ratio of actual travel time to free-flow travel time and illustrates areas that experience congestion during peak periods.

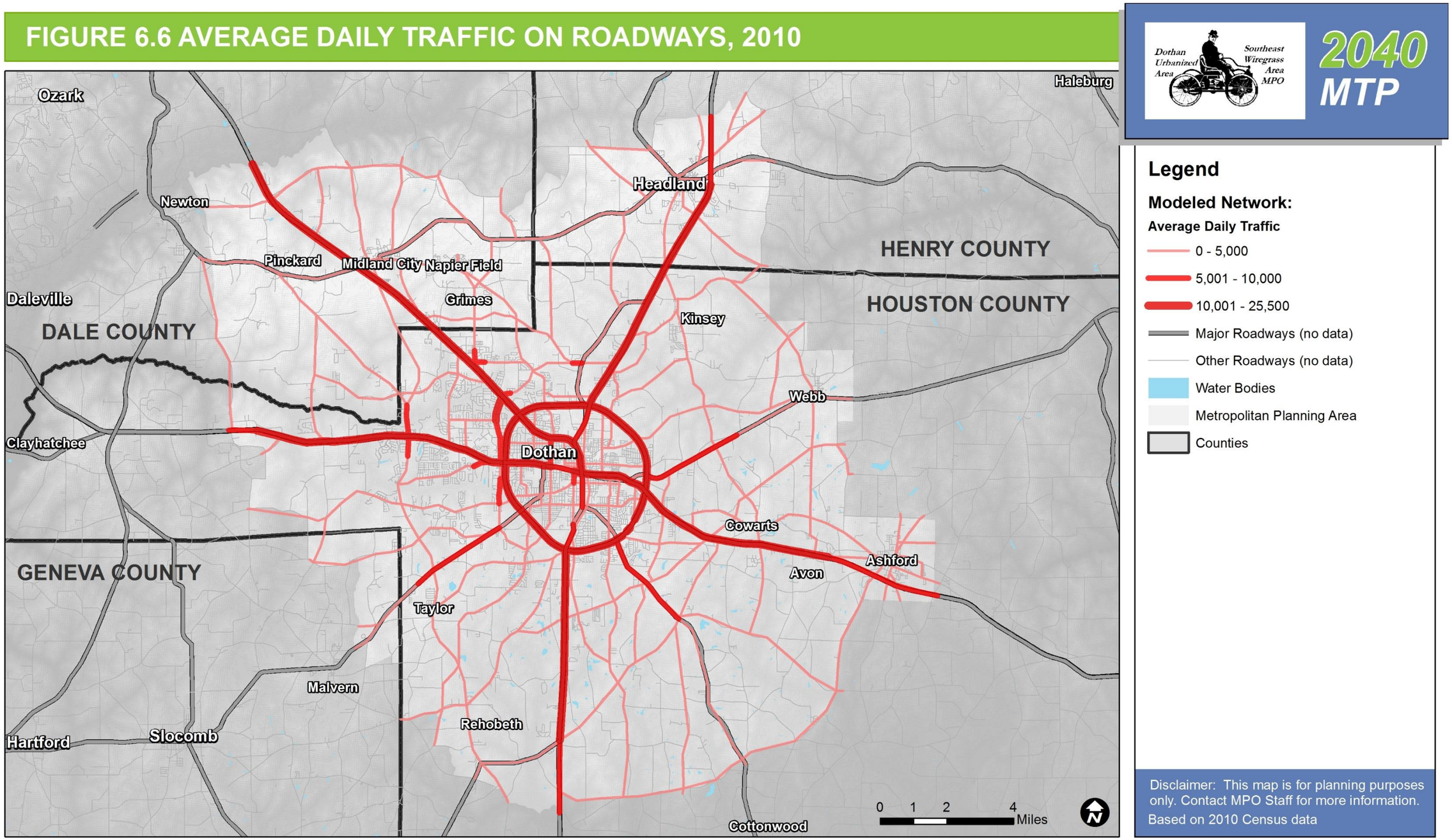
Travel Time reliability overall is worse in the PM peak than in the AM peak. Typically, roadway segments that experience AM travel time reliability issues also experience PM travel time reliability issues. Areas experiencing relatively high peak-period congestion, as indicated by the Travel Time Index include the following areas:

- US 84 (W. Main Street) and Ross Clark Circle (US 231) intersection area
- AL 210 (Ross Clark Circle) from US 84 (W. Main Street) to Denton Road
- AL 1 (Oates Street) north and south of Downtown Dothan
- US 84 (E. Main Street) and AL 210 (Ross Clark Circle) intersection area
- AL 52 (Hartford Highway) from AL 210 (Ross Clark Circle) to Fortner Street
- Denton Rd from AL 210 (Ross Clark Circle) to Westgate Parkway
- US 431 in Headland from AL 134 (E. Church Street) to AL 173 (E. Main Street)

Interestingly, three of the roadway segments with high daily V/C ratios, S. Oates Street and both of the Ross Clark Circle segments, do not show up as particularly unreliable during peak periods. This is likely explained by two reasons

1. The size of the roadway segments for which actual travel time data is available is larger than the V/C model network segment.
2. There is not significant peak period congestion. Instead, traffic is more uniformly distributed throughout the day or has a non-traditional peak period.

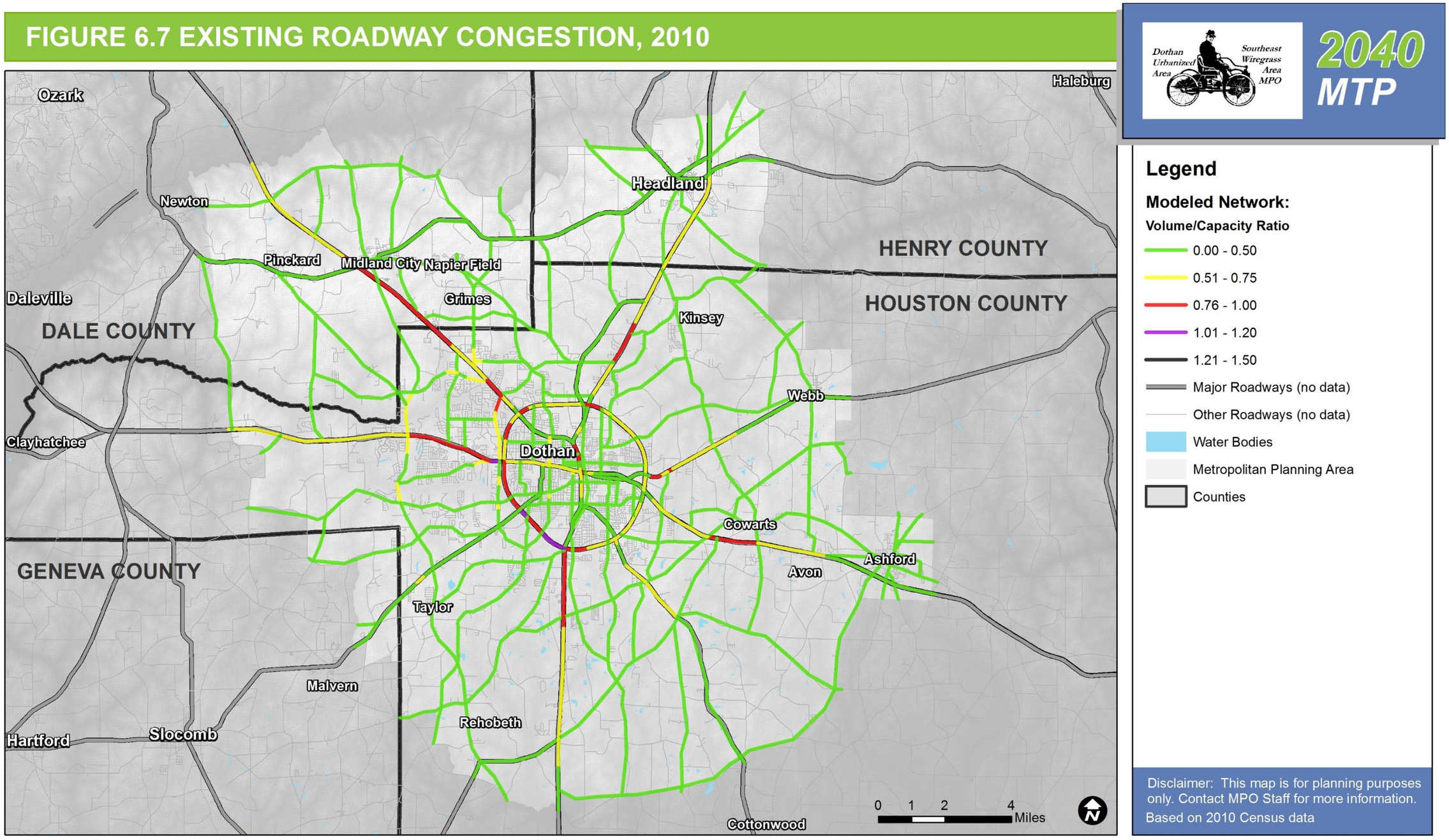
FIGURE 6.6 AVERAGE DAILY TRAFFIC ON ROADWAYS, 2010



Map Source: Neel-Schaffer, Inc.

Data Sources: Dothan Travel Demand Model

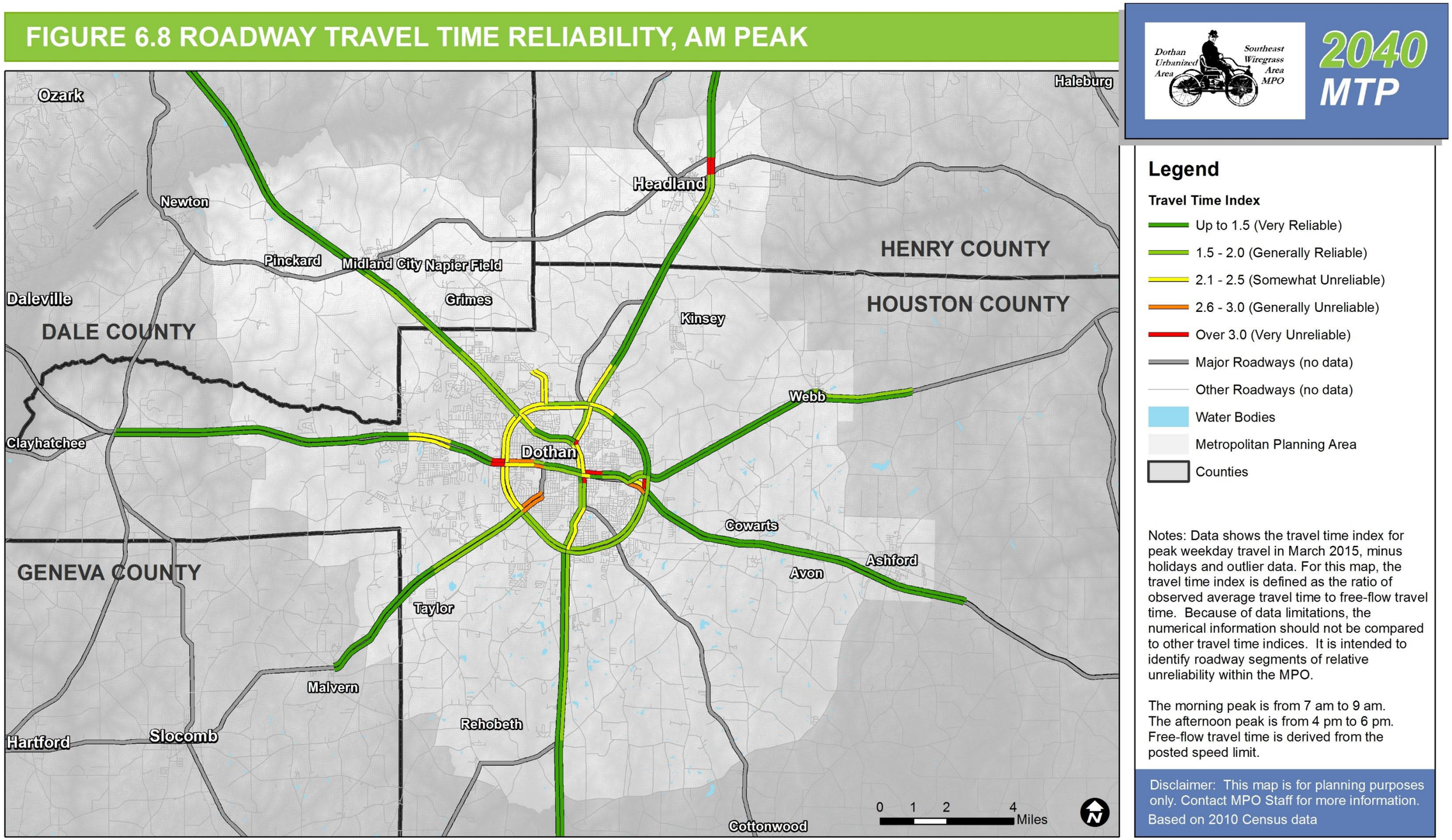
FIGURE 6.7 EXISTING ROADWAY CONGESTION, 2010



Map Source: Neel-Schaffer, Inc.

Data Sources: Dothan Travel Demand Model

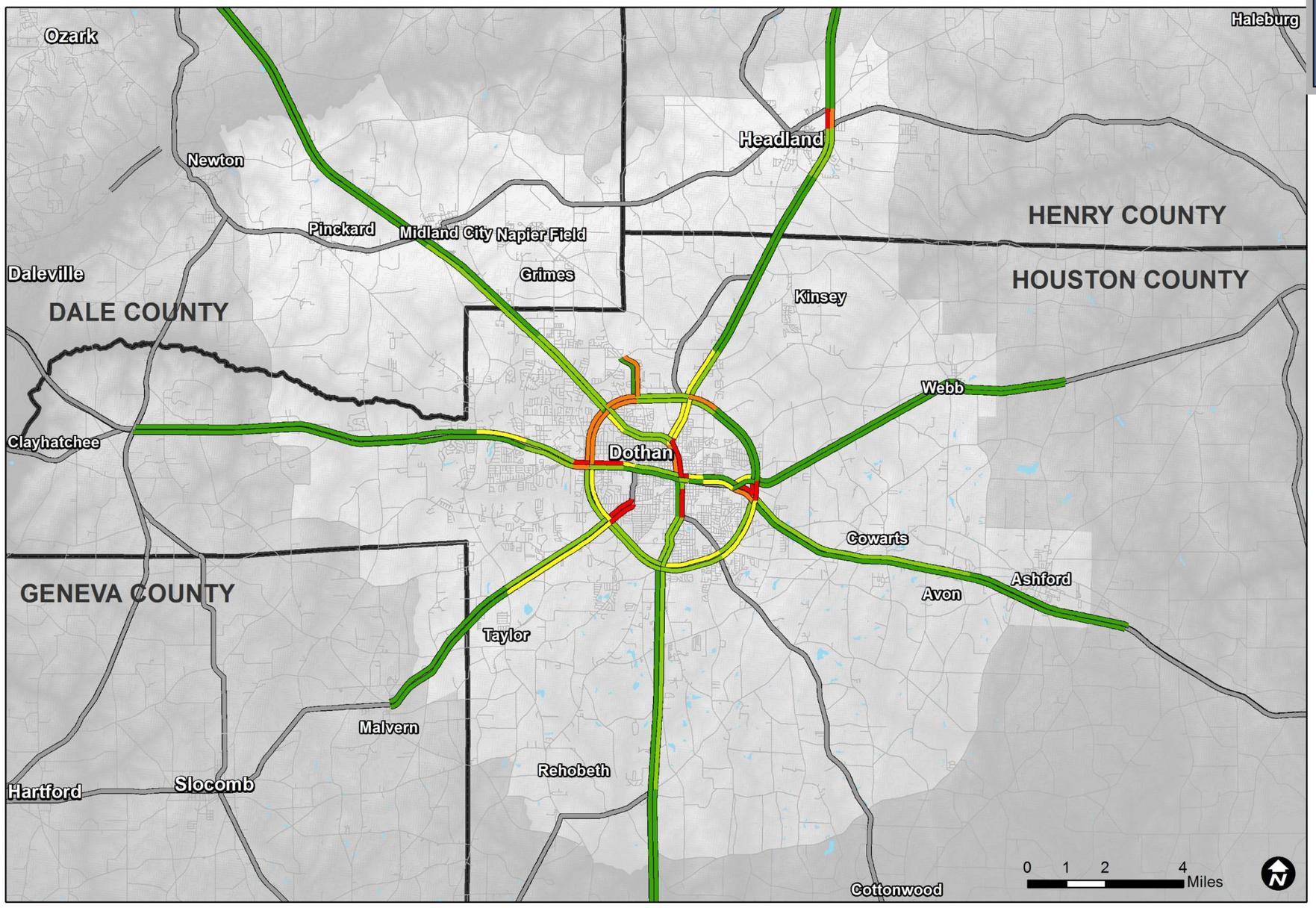
FIGURE 6.8 ROADWAY TRAVEL TIME RELIABILITY, AM PEAK



Map Source: Neel-Schaffer, Inc.

Data Sources: National Performance Management Research Dataset (via HERE); Dothan Travel Demand Model

FIGURE 6.9 ROADWAY TRAVEL TIME RELIABILITY, PM PEAK



Dothan Urbanized Area
Southeast Wiregrass Area MPO
2040 MTP

Legend

Travel Time Index

- Up to 1.5 (Very Reliable)
- 1.5 - 2.0 (Generally Reliable)
- 2.1 - 2.5 (Somewhat Unreliable)
- 2.6 - 3.0 (Generally Unreliable)
- Over 3.0 (Very Unreliable)
- Major Roadways (no data)
- Other Roadways (no data)
- Water Bodies
- Metropolitan Planning Area
- Counties

Notes: Data shows the travel time index for peak weekday travel in March 2015, minus holidays and outlier data. For this map, the travel time index is defined as the ratio of observed average travel time to free-flow travel time. Because of data limitations, the numerical information should not be compared to other travel time indices. It is intended to identify roadway segments of relative unreliability within the MPO.

The morning peak is from 7 am to 9 am. The afternoon peak is from 4 pm to 6 pm. Free-flow travel time is derived from the posted speed limit.

Disclaimer: This map is for planning purposes only. Contact MPO Staff for more information.
Based on 2010 Census data

Map Source: Neel-Schaffer, Inc.

Data Sources: National Performance Management Research Dataset (via HERE); Dothan Travel Demand Model

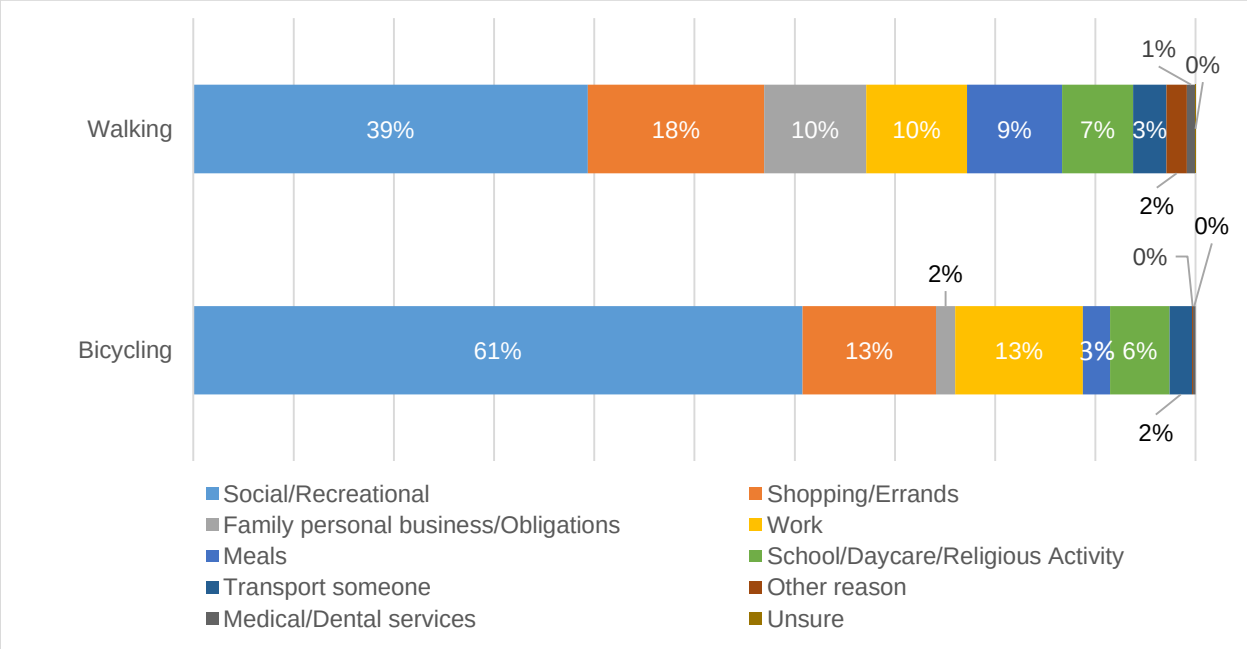
6.2 BICYCLE AND PEDESTRIAN

Bicycle and Pedestrian conditions are often discussed alongside each other. However, their role within the transportation system is very different. First of all, in small urbanized areas like Dothan, the 2009 National Household Travel Survey (NHTS) indicates that walking accounts for 11 percent of all household trips while bicycling only accounts for one (1) percent. Pedestrian trips are not only more common, but they also are of critical importance for those who do not drive and physically cannot or choose not to bicycle.

Survey data showing trip purposes by mode also highlights some of the differences between walking and bicycling in small urbanized areas. While the predominant trip purpose for both walking and bicycling, aside from returning home, is social/recreational purposes, walking has a higher percentage of its trips that are utilitarian in nature, such as shopping/errands and family personal business/obligations. Furthermore, the percentage of all trips made by bicycling for social/recreational purpose is much higher than for walking.

It is important to note that while these household travel patterns represent urbanized areas on average, there are many areas where pedestrian and bicycle trips are more utilitarian and similar to overall travel patterns. Typically, this would be expected in areas with attractive pedestrian and bicycle environments that encourage walking and biking.

Figure 6.10 Walking and Bicycling Trip Purposes



Source: 2009 National Household Travel Survey

Existing Conditions

Sidewalk and Bicycle Facility Coverage

For the MTP, an inventory of existing sidewalks and bicycle facilities was conducted, using the inventory for the City of Dothan's Bicycle and Pedestrian Plan inventory as a starting point. This inventory, illustrated in Figures 6.11 and 6.12, show that sidewalks and bicycle facilities are not common throughout the MPA or even in all urban areas. Sidewalk coverage is best within the Central Business Districts (CBDs) of Dothan and Headland and within new subdivisions in Dothan. Bicycle facilities are very sparse.

Table 6.10 and 6.11 show the linear miles of sidewalk and bicycle facilities, respectively. Most sidewalk and bicycle facilities are in Dothan. However, instead of focusing on the overall length of sidewalk, it is better to compare to the length of sidewalk or bicycle facilities to roadway centerline. This facilitates a better understanding of coverage and how existing roadways accommodate pedestrians or bicyclists. In this regard, no municipalities have good coverage of sidewalk or bicycle facilities. Dothan has the highest ratio of sidewalk to roadways while Headland has the highest ratio of bicycle facilities to roadways. Still, no municipality has what would be considered sufficient coverage.

Table 6.10 Existing Sidewalk Facilities by Jurisdiction

Jurisdiction	Linear Sidewalk Miles	Sidewalk Miles to Roadway Centerline Miles Ratio
Dothan	106.82	0.18
Headland	7.74	0.10
Midland City	1.83	0.06
Ashford	1.17	0.03
Pinckard	1.01	0.06
Unincorporated Houston County	0.73	n/a
Webb	0.19	0.01
Napier Field	0.05	0.01

Note: The only sidewalk outside of municipal boundaries was at the edge of Dothan, in subdivision assumed to be annexed by Dothan. This 0.73 miles was not included in the above analysis.
Source: NSI

Table 6.11 Existing Bicycle Facilities by Jurisdiction

Jurisdiction	Linear Bicycle Facility Miles	Bicycle Facility Miles to Roadway Miles Ratio
Dothan	5.60	0.01
Headland	1.56	0.02

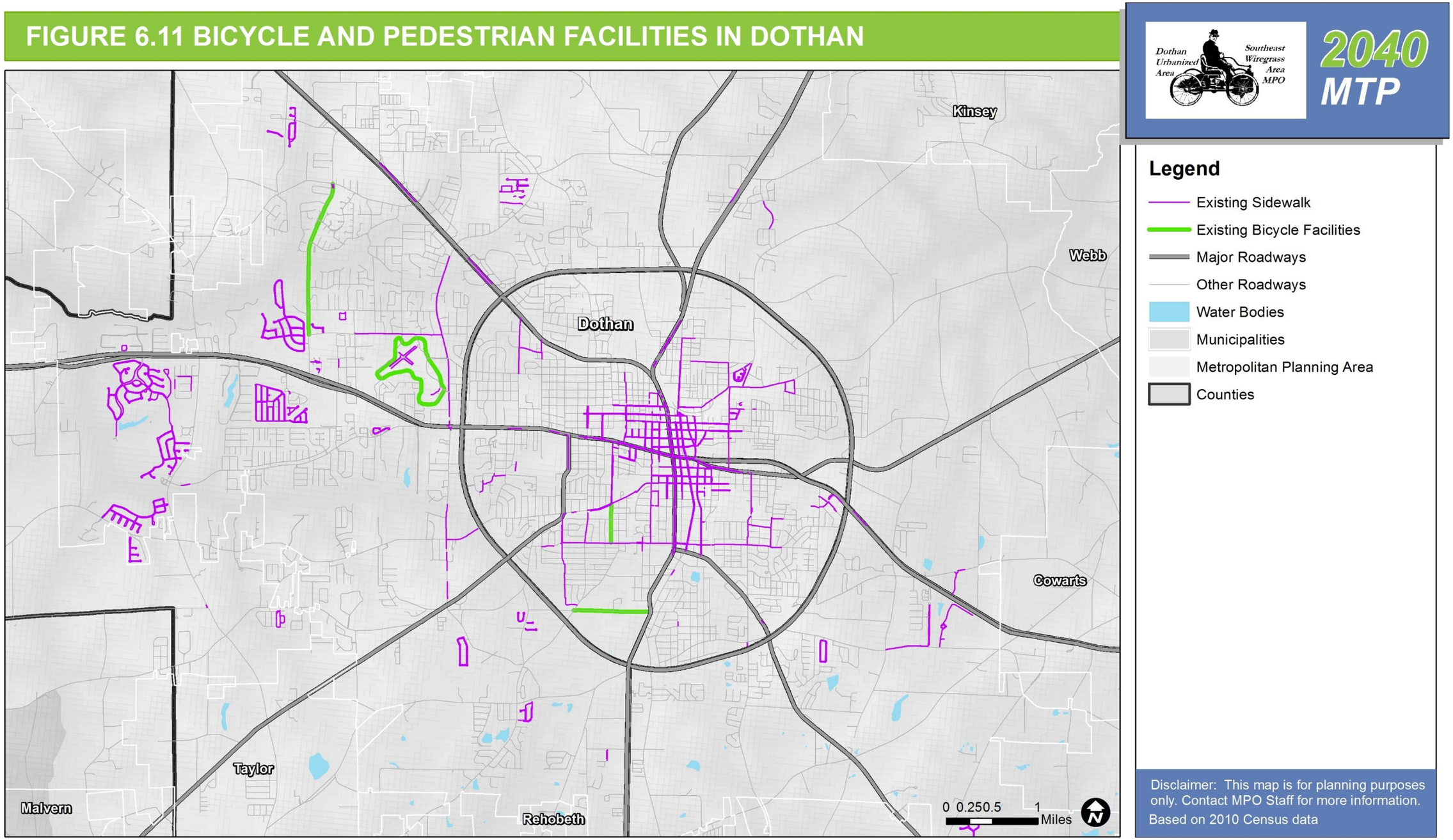
Source: NSI

Sidewalk Widths, Crosswalks, and ADA Accessibility

Though no assessment of pedestrian or bicycle facility conditions was done for the 2040 MTP, the City of Dothan's 2011 Bicycle and Pedestrian plan indicates the following information for the City of Dothan:

- Most existing sidewalks along major roadways do not meet the 5 foot width required by ALDOT and Dothan subdivision regulations.
- Most intersections along major roadways lack crosswalks, especially along urban arterials
- Where crosswalks are provided along major roadways, they are in fair to good condition but rarely provide signage or signals and rarely are ADA accessible.

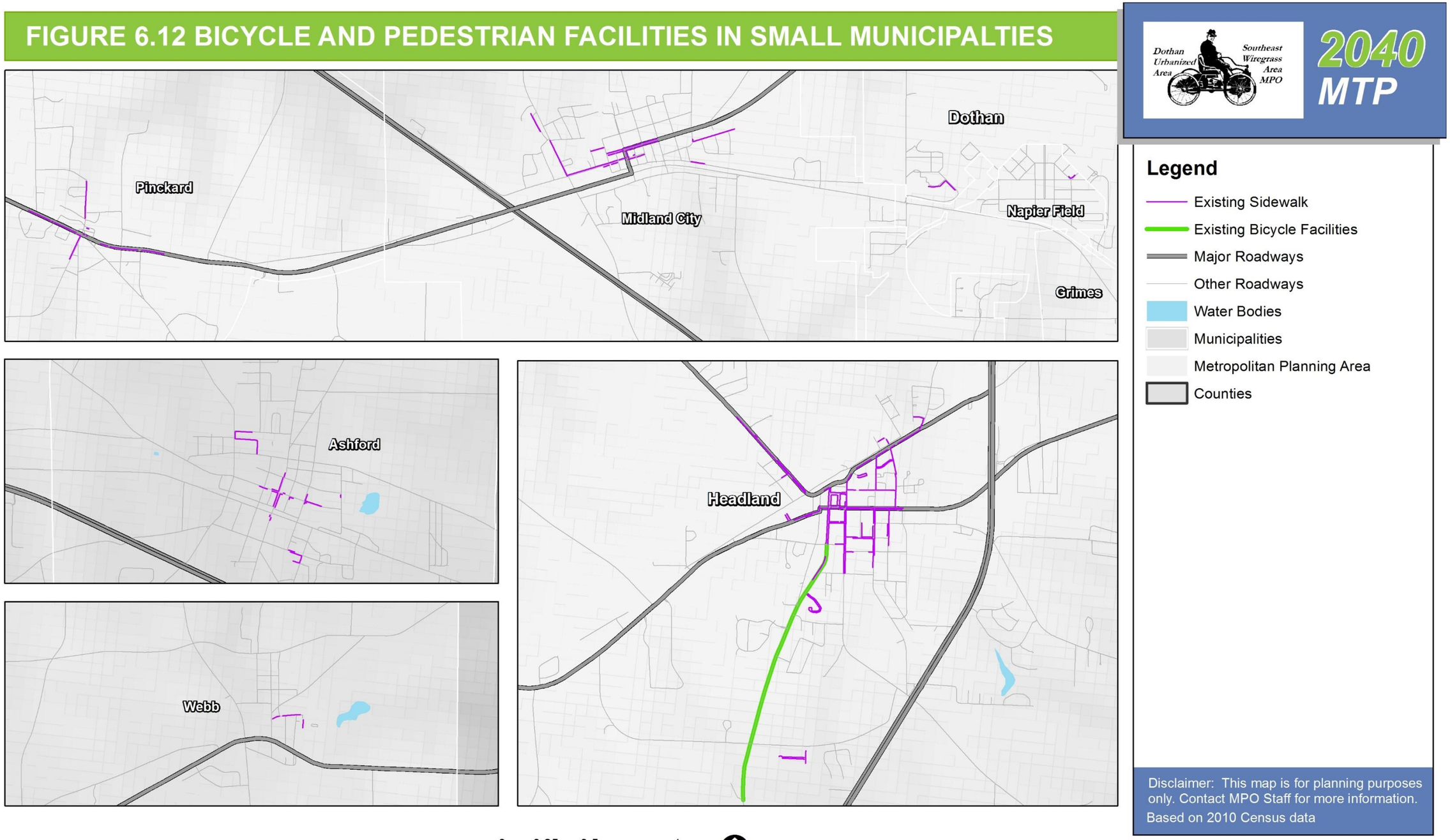
FIGURE 6.11 BICYCLE AND PEDESTRIAN FACILITIES IN DOTHAN



Map Source: Neel-Schaffer, Inc.

Data Sources: Neel-Schaffer, Inc; Dothan Bicycle and Pedestrian Plan

FIGURE 6.12 BICYCLE AND PEDESTRIAN FACILITIES IN SMALL MUNICIPALTIES



Map Source: Neel-Schaffer, Inc.

Data Sources: Neel-Schaffer, Inc; Dothan Bicycle and Pedestrian Plan

Existing Traffic and Usage Patterns

No information on pedestrian or bicycle traffic is available for the Dothan MPA. The distribution of demand will be discussed later, but for purposes of understanding actual usage of pedestrian and bicycle infrastructure, work and school trips are discussed.

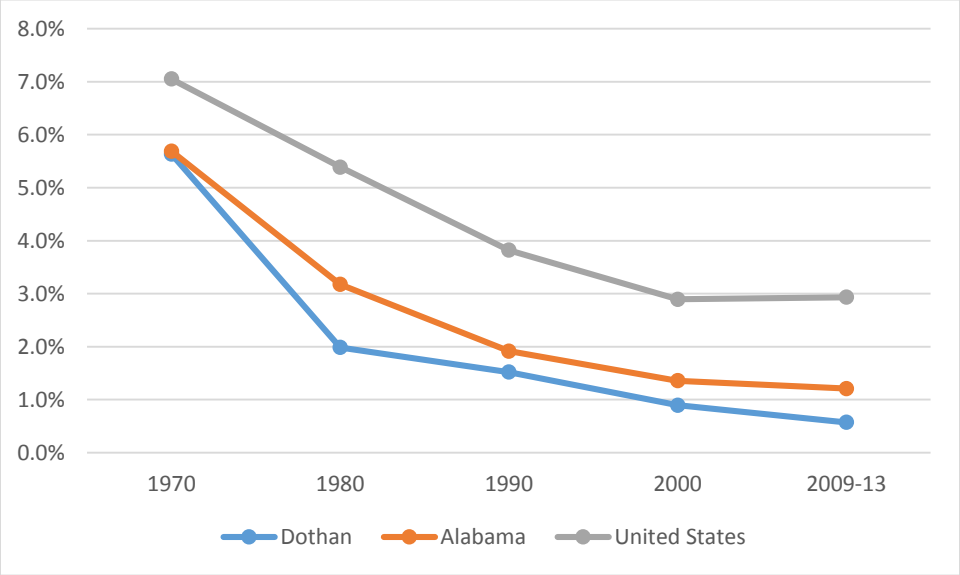
Bicycle and pedestrian trips make up less than one (1) percent of work commute trips in the Dothan Metropolitan Planning Area and City of Dothan. However, this was not always the case, as illustrated in Figure 6.13. Dothan, like many metropolitan areas in the Southeastern United States, saw extensive automobile-oriented suburban growth during the latter half of the 20th century. While this growth pattern enabled workers to live in larger houses on larger lots, it also meant that they typically lived too far from their workplace to make walking or biking to work an attractive option. In areas where transit was not available, this meant an almost complete reliance on the automobile to get to work, either by driving alone or carpooling.

Table 6.12 Means of Transportation to Work

Mode	MPA	Dothan
Drove Alone	90.3%	90.6%
Carpooled	7.2%	6.9%
Rode Transit	0.3%	0.4%
Walked	0.6%	0.6%
Bicycled	0.1%	0.1%
Other	1.5%	1.5%

Note: Excludes those that worked at home. For MPA, mode share was derived from all block groups intersecting the MPA.
Source: 2009-2013 ACS

Figure 6.13 Percentage of Commuters Walking to Work, 1970-present



Source: Census Bureau

For many of the same reasons that walking and biking to work decreased, school children have become less likely to walk or bike to school. Furthermore, in order to reduce operating and capital costs, new schools have tended to be fewer but larger and located at the urban fringe because of more affordable, available land. This is in marked contrast to the historical role of the school in American cities as a neighborhood anchor. According to the National Center for Safe Routes School's 2011 report, *How Children Get to School*:

- From 1969 to 2009, the percent of children 5 to 14 years of age that usually walked or bicycled to school dropped from 48 percent to 13 percent; and
- From 1969 to 2009, the percent of children in grades K–8 that lived within one mile of school dropped from 41 percent to 31 percent.

Latent Demand Score Analysis

In order to better understand the existing potential demand for pedestrian and bicycle trips, a latent demand score analysis was conducted that attempts to illustrate potential demand based on characteristics of the built environment, location of major attractors, and demographics.

The demand analysis is somewhat similar for pedestrians and bicyclists, but a major difference is the travel shed that was utilized. For pedestrians, geographic areas were buffered by a half mile while for bicyclists, geographic areas were buffered by one and a half mile. These distances reflect the difference in typical travel distances between the two modes.

The mapping exercise used fine-grained information to assess an area's potential demand for pedestrian or bicycle trips based on a 0-100 scale. Points were awarded based on the factors summarized in Tables 6.13 and 6.14.

Figures 6.14 and 6.15 show the results of the latent demand score analysis. Again, this exercise reflects relative demand, not absolute demand. Simply put, it shows which areas are most likely to have high or low demand relative to all other areas within the MPA. It does not attempt to quantify the actual number of bicycle or pedestrian trips occurring in these areas.

These maps indicate that potential pedestrian demand is greatest in Downtown Dothan and some of the neighborhoods immediately surrounding it. Smaller pockets of demand are in Downtown Headland, areas of high-density, low-income housing, and near the major hospitals. Because of the larger travel shed for bicyclists, demand was more broadly distributed. Areas of high potential bicycle demand are mostly limited within or immediately surrounding Ross Clark Circle.

Table 6.13 Pedestrian Demand Analysis Factors

Factor	Measure	Maximum Points
Land Use	Population and Jobs per Acre	30
	Within half mile of Popular Destination(s)[1]	15
Demographic	Households receiving food stamps per acre	20
	Elderly (65+) and Youth (<15) Population per acre	10
	Disabled Population per acre	5
Travel Environment	Intersections per square mile[2]	10
	Sidewalk Length to Roadway Length Ratio	10
	Within quarter mile of multi-lane roadway with speed limit 40 mph+	-25%
	Total Possible Points	100

Notes: [1]Popular destinations are parks, major recreation centers, schools, libraries, hospitals, grocery stores, pharmacies, convenience stores, cafes, and restaurants/bars. Schools and Hospitals were weighted 5x and grocery stores, pharmacies, and convenience stores and parks/rec centers were weighted 2x.
[2]Intersections with at least 4 segments are weighted higher.

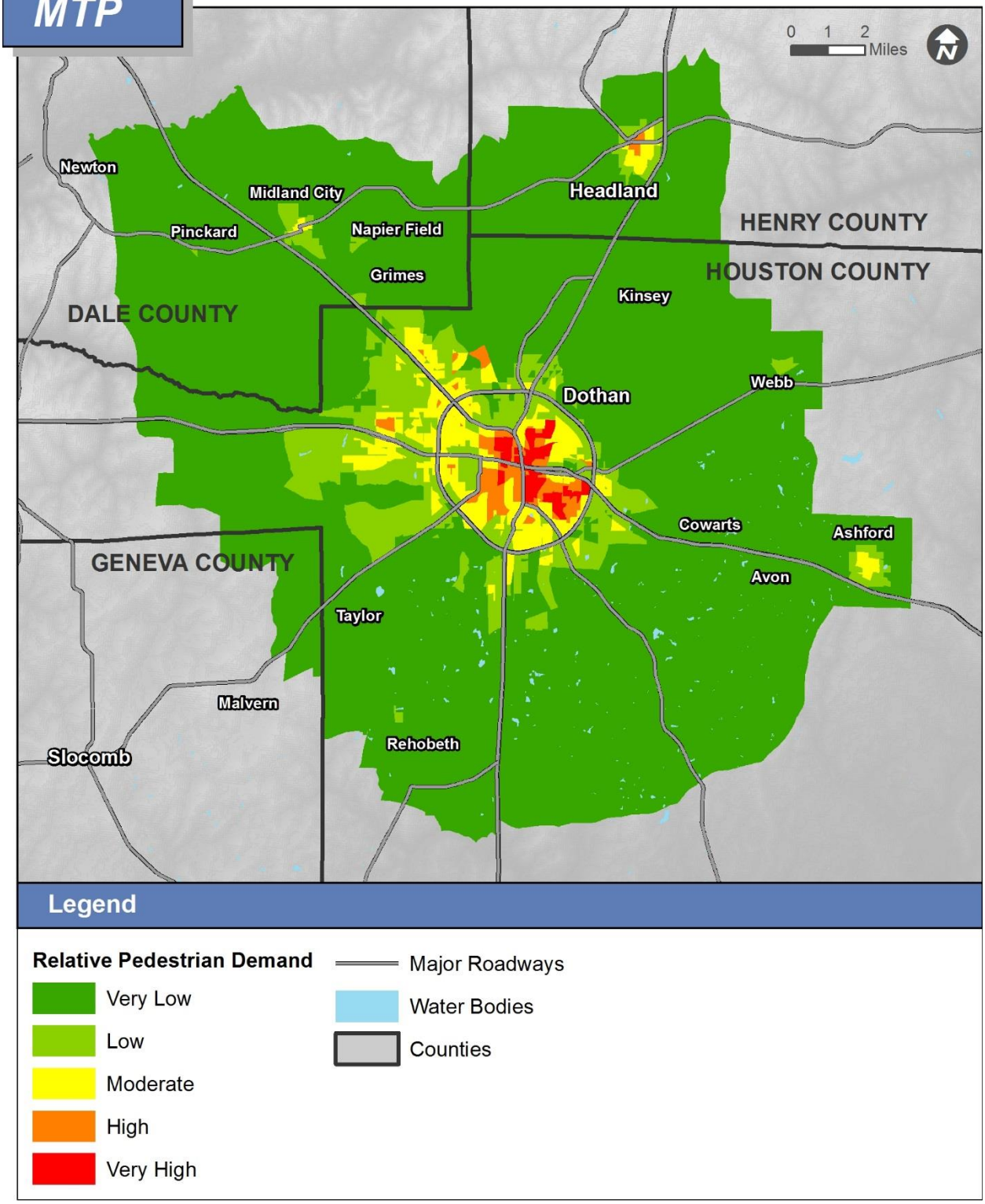
Table 6.14 Bicycle Demand Analysis Factors

Factor	Measure	Maximum Points
Land Use	Population and Jobs per Acre	30
	Within half mile of Popular Destination(s)[1]	15
Demographic	Households receiving food stamps per acre	20
	Youth (<15) Population per acre	10
Travel Environment	Intersections per square mile[2]	10
	Proximity to bicycle facilities or low-speed roadways	15
	Within quarter mile of multi-lane roadway with speed limit 40 mph+	-25%
	Total Possible Points	100

Notes: [1]Popular destinations are parks, major recreation centers, schools, libraries, hospitals, grocery stores, pharmacies, convenience stores, cafes, and restaurants/bars. Schools and Hospitals were weighted 5x and grocery stores, pharmacies, and convenience stores and parks/rec centers were weighted 2x.
[2]Intersections with at least 4 segments are weighted higher.

2040 MTP

FIGURE 6.14 EXISTING PEDESTRIAN DEMAND

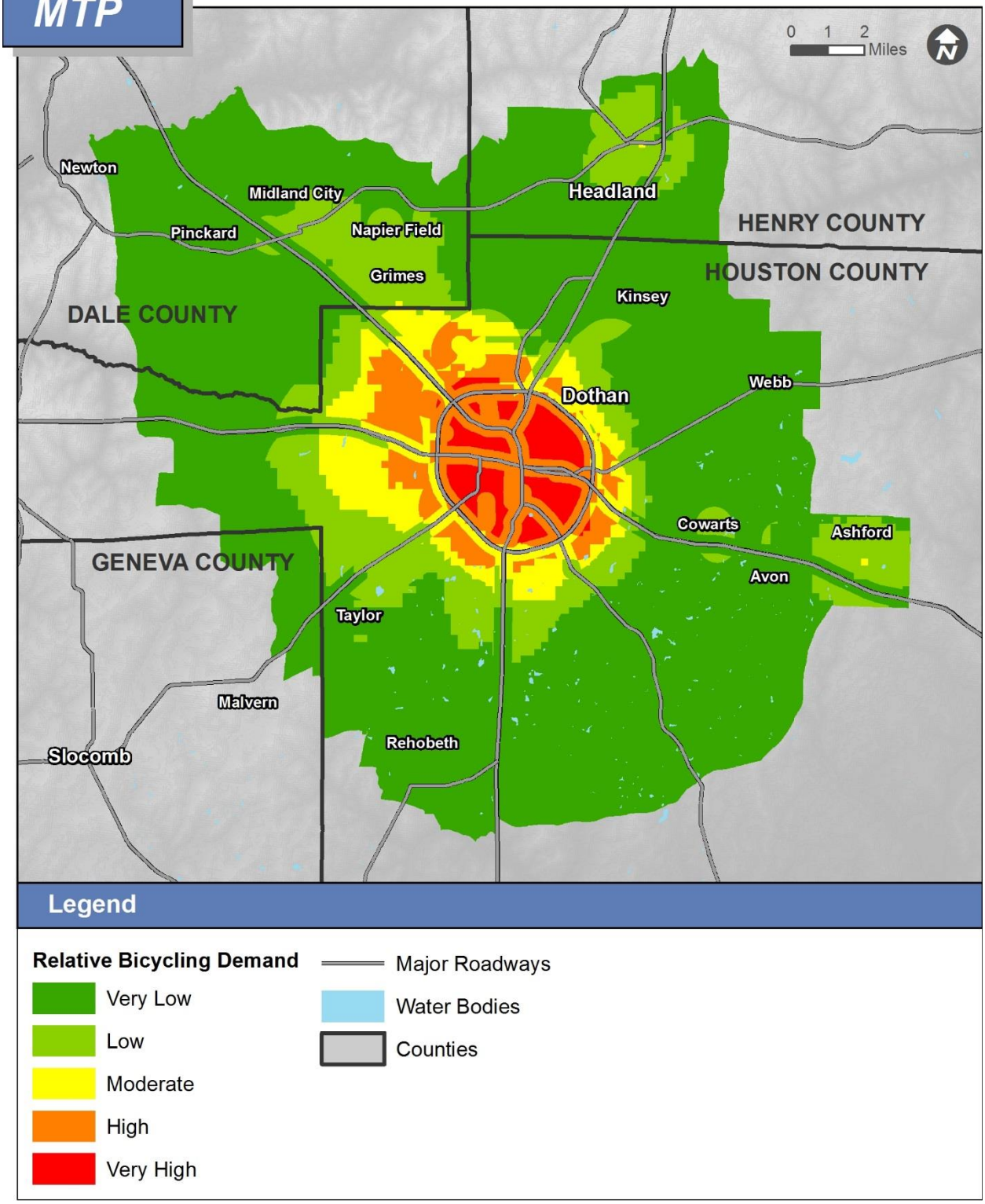


Disclaimer: This map is for planning purposes only. *Based on US 2010 Census data*

Map Source: Neel-Schaffer, Inc. Data Sources: NSI; Census Bureau; InfoUSA; Dothan Travel Demand Model

2040 MTP

FIGURE 6.15 EXISTING BICYCLING DEMAND



Disclaimer: This map is for planning purposes only. *Based on US 2010 Census data*

Map Source: Neel-Schaffer, Inc. Data Sources: NSI; Census Bureau; InfoUSA; Dothan Travel Demand Model

Existing Plans

City of Dothan Bicycle and Pedestrian Plan

This planning effort represents an attempt to provide planning proposals, design and development standards, and organizational and educational/promotional activities related to bicycle and pedestrian facilities in Dothan.

Ultimately, the plan recommends both short-term and long-term recommendations for three improvement types: bikeways, shared-use facilities, and pedestrian facilities. It also recommends designs for the proposed improvements. It makes these recommendations based on a robust public involvement process and technical analysis. The inventory of existing conditions found a general lack of adequate bicycle and pedestrian infrastructure in the City. However, it found that the public was interested in improving existing conditions, particularly by improving intersection treatments, implementing a comprehensive on-street bicycle route system, increasing off-street, shared-use facilities, and providing attractive sidewalks connecting residential neighborhoods to commercial areas, parks, and schools.

Statewide Bicycle and Pedestrian Plan

The ALDOT Bicycle and Pedestrian Plan was developed to: improve processes and practices to minimize barriers for local and regional bicycle and pedestrian planning, improve bicycle and pedestrian planning and design on ALDOT-maintained roadways, and minimize impacts of ALDOT projects on non-motorized transportation.

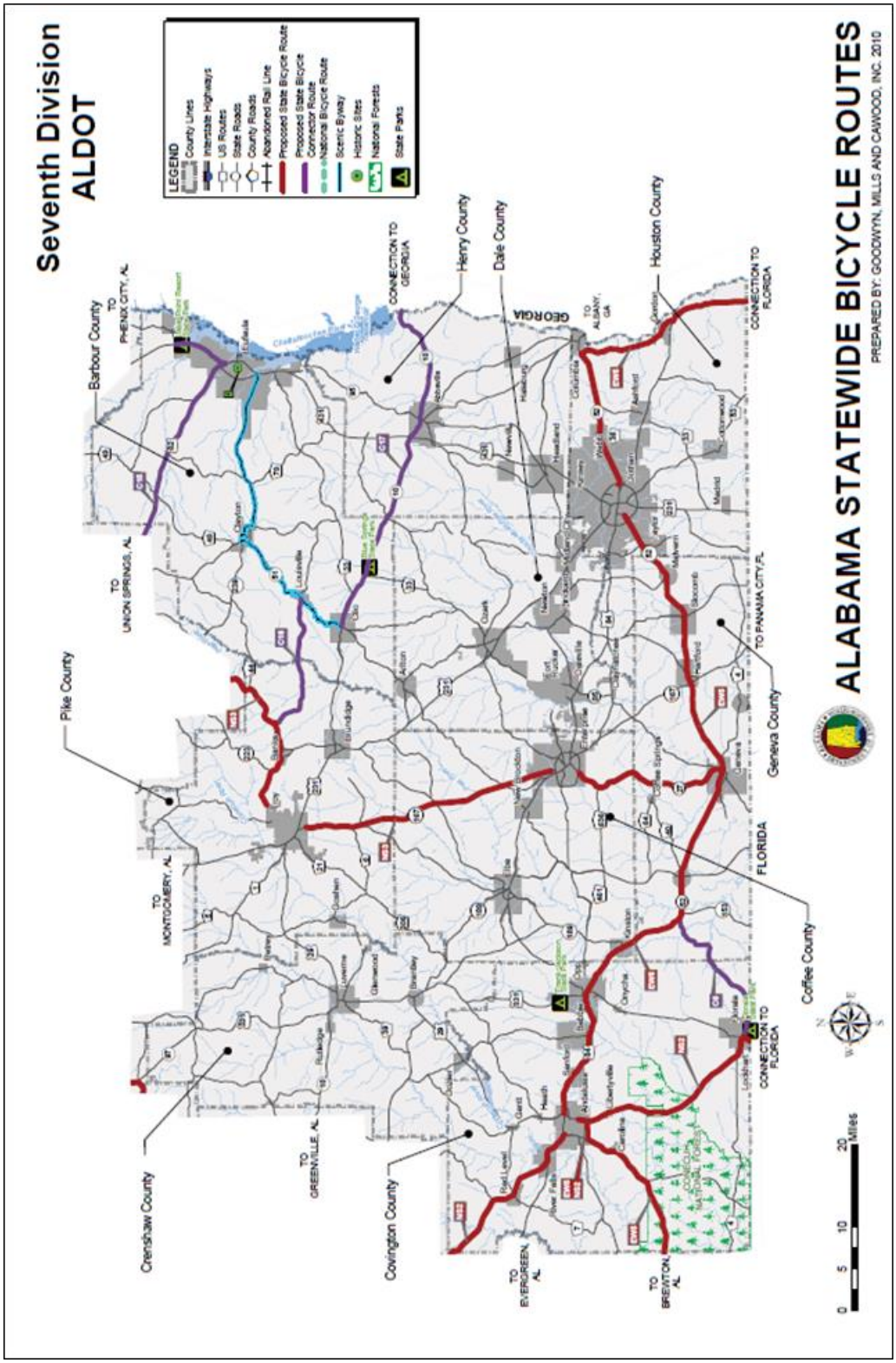
The plan has two main impacts for bicycle and pedestrian planning:

1. It provides a designated statewide network of on-road bicycle facilities that connect Alabama municipalities and natural and cultural resources. These routes were the result of public input, local coordination, and technical analysis. The routes will be improved incrementally as part of the regular cycle of ALDOT road construction and maintenance; and
2. The plan provides a set of design recommendations for bicycle and pedestrian facilities that will guide ALDOT and developers in determining where and what type of facilities are appropriate on ALDOT-maintained roadways.

The statewide bicycle routes in the Dothan MPA are illustrated in Figure 6.16. The only statewide bicycle route is along AL 52. This route, EW5, connects Dothan to Columbia and the Florida State Line to the east and to the City of Geneva in the west.

ALDOT is currently in the process of updating its Bicycle and Pedestrian Plan.

Figure 6.16 Statewide Bicycle Routes



Map Source: Alabama Department of Transportation Bicycle and Pedestrian Plan, 2010
Note: ALDOT has recently reorganized the divisions into regions and Dothan is part of the new Southeast Region.

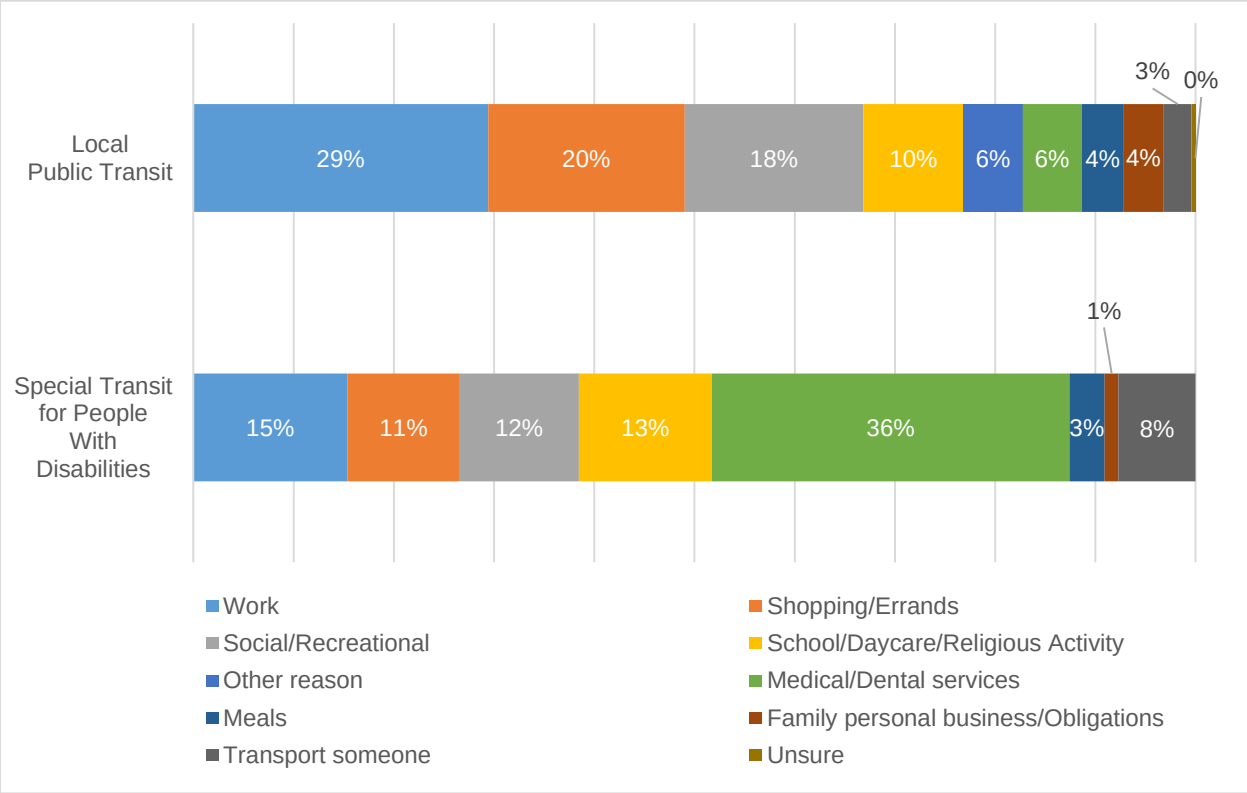
6.3 PUBLIC TRANSIT

Public transit provides people with mobility and access to employment, shopping, medical care, and other destinations and opportunities. For those that have no other choice, either because of economic or physical limitations, it is a lifeline service. For others, it reduces the burden of transportation costs and serves a convenient alternative to driving, among other things. Public transit also has significant benefits for the community as a whole as it can increase local business access to skilled workers, reduce congestion and emissions, reduce urban sprawl, and foster walkable communities.

However, in small urbanized areas like Dothan, the 2009 National Household Travel Survey (NHTS) indicates that local public transit trips only account for only 2.3 percent of all trips. According to the survey data, the predominant trip purpose for local public transit in these areas, aside from returning home, is for work-related trips (29 percent), while shopping/errand trips (20 percent) and social/recreational trips (18 percent) also account for a sizable percentage of all local transit trips.

However, the Dothan Metropolitan Planning Area only offers demand-response service in Houston County, and this service requires at least 24 hours advanced notice. This type of system has more in common with services characterized by the NHTS as *Special Transit for People with Disabilities*. As Figure 6.17 shows, 36 percent of all non-home bound trips for this type of transit service are medical-related. Work-related trips are the second most common, but only account for 15 percent of trips.

Figure 6.17 Public Transit Trip Purposes



Note: Local Public Transit includes local public bus, commuter bus, shuttle bus, commuter train, subway/elevated train, street car/trolley, special transit-people w/disabilities, and ferry.
Source: 2009 National Household Travel Survey

Existing Service and Conditions

Existing Services

Within the Dothan MPA there is both local transit service and inter-city transit service. The Wiregrass Transit Authority (WTA) provides local transit service while Greyhound provides inter-city transit service. The WTA only operates in Houston County and the City of Dothan. It provides the following transit services:

1. A demand response system directly operated by WTA that is open to the general public for all trip types. This service is curb-to-curb service and requires at least 24 hours advanced notice; and
2. Contracted transportation with social service agencies which in turn directly provide transportation to their customers. These social service agencies typically focus on workforce development, job access, and non-emergency medical services.

The focus of the MTP will be on the WTA demand response system since this is available to the general public for all trip purposes. The demand response system operates as a Dial-a-Ride service that operates Monday through Friday between 6:00 AM and 5:30 PM, with the exception of major holidays. It is first come, first serve though there is the option to schedule recurring trips like work trips or recurring medical appointments. Service is not guaranteed because seats and vehicles are limited.

The WTA directly operates 15 passenger vehicles in maximum service, though WTA has 18 total vehicles that it currently utilizes. All of these vehicles are ADA accessible and are equipped with wheel chair lifts and stations. No vehicles have bicycle racks. Passenger capacities range from twelve to thirty.

Fares for WTA are zone-based. Trips within Dothan are $2 while trips from Webb, Ashford, Rehobeth, Taylor, and Cottonwood are $5 and trips from Gordon, Columbia, and Wicksburg are $8.

Existing Conditions

Vehicle condition vary for WTA's fleet. Fourteen of its eighteen vehicles were purchased with American Recovery and Reinvestment Act (ARRA) funds. This means that many of its vehicles were replaced around the same time, mostly in 2010. Of the eighteen vehicles currently utilized for service, five are currently approaching their useful life and the remaining thirteen will be approaching their useful life one year later.

The WTA only maintains administrative facilities and a vehicle parking lot. All vehicle maintenance is outsourced. The administrative facility is located at 201 Depot St. in Dothan. It is approximately 5,400 square feet. The vehicle parking lot is fenced and located in Dothan on N. Cherry Street. It is provided by the City of Dothan.

Because the WTA provides curb-to-curb service, analysis of sidewalks and other pedestrian accommodations are not applicable.

Existing Ridership and Service Patterns

In the last half of 2014, data from WTA indicates that the WTA Dial-a-Ride service served approximately 180 trips per day. The data also shows that ridership peaks at midday, with smaller peaks upon opening service and around 3:00 PM. Seasonally, ridership peaked in September and October, indicating that ridership is likely lower in the summer and winter months.

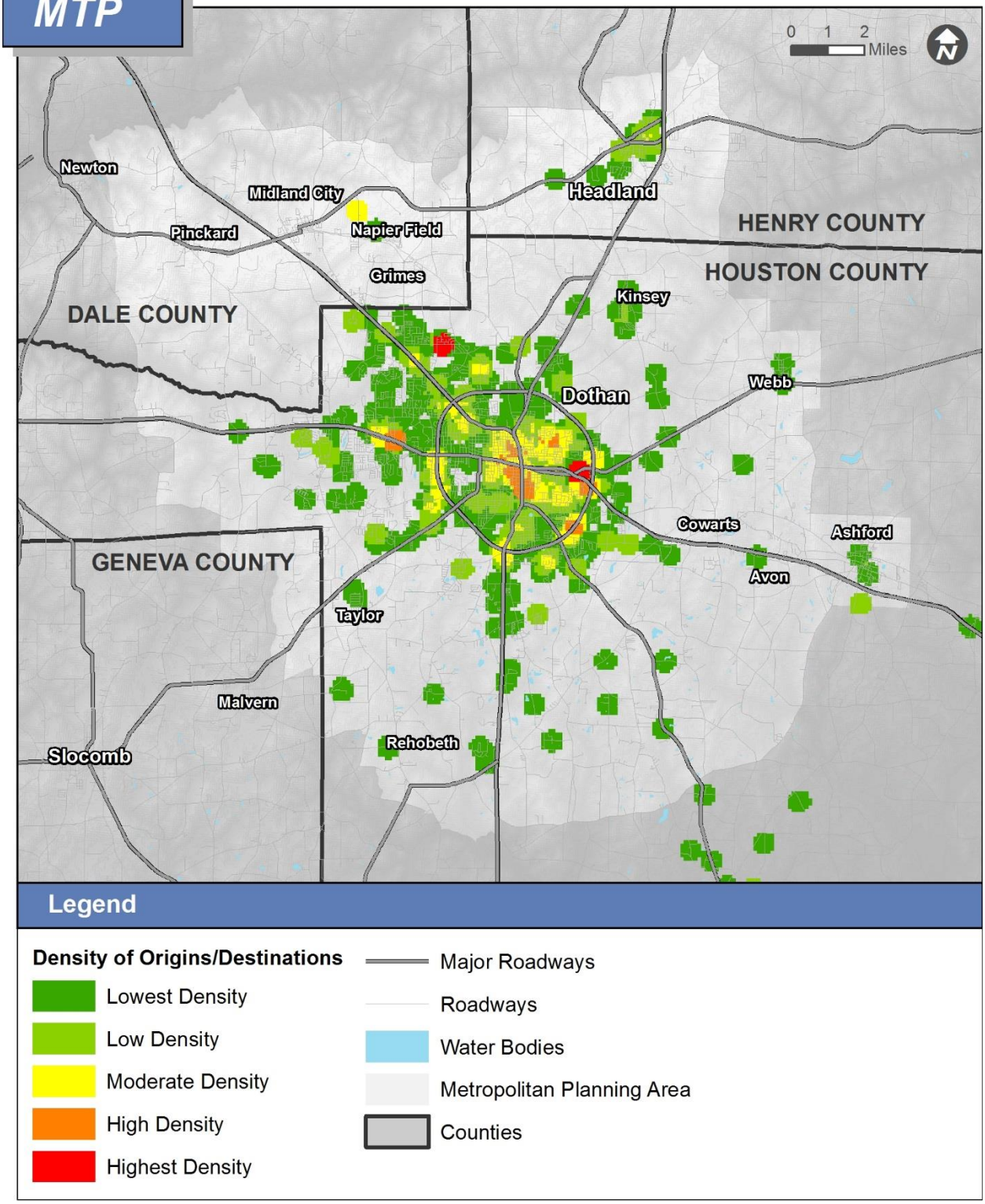
On average, about 75 percent of trips were standing orders, or trips that regularly occur and are booked in advance as such. The percentage of standing orders is lowest around the midday peak and highest at the beginning and end of the day.

Origin and destination data, illustrated in Figure 6.18, indicate that the most popular origins and destination are medical hubs and corridors, Downtown Dothan, and low to moderate-income neighborhoods.

The average trip time was 27 minutes, while the median was 17 minutes. This disparity indicates that most trips are less than twenty minutes but there are many trips which are significantly longer and skew the average trip time.

2040 MTP

FIGURE 6.18 WTA DIAL-A-RIDE ORIGINS AND DESTINATIONS



Disclaimer: This map is for planning purposes only.

Based on US 2010 Census data

Map Source: Neel-Schaffer, Inc.

Data Sources: Wiregrass Transit Authority

Recent Operating Characteristics

Table 6.15 shows operating characteristics of the WTA from Fiscal Year 2009 to 2013. This information includes both the Dial-a-Ride service (15 vehicles in maximum service) and contract services utilizing Urbanized Area (5307) FTA funds (15 vehicles in maximum service). Therefore, the information is partially incomplete, as data for the 20 vehicles utilizing Rural (5311) FTA funds are not included.

This operating information shows that ridership and operating expenses are relatively stable, though it ridership did spike in 2010-2012 and operating expenses spiked in 2011. Likewise, passenger trips per capita, total vehicle revenue miles, and total vehicle revenue hours are decreasing since 2011. Some of this inconsistency between 2010 and 2011 may be due to changes in reporting methodology and the acquisition of many new vehicles with ARRA funding.

The acquisition of the ARRA funded vehicles dropped the average age of the fleet significantly but as mentioned, these vehicles are approaching their useful life again.

The farebox recovery ratio, or percentage of operating expenses covered by fares, is consistently low, hovering around three (3) percent.

Table 6.15 Recent Operating Characteristics for WTA

General Performance	2009	2010	2011	2012	2013
Service Area Population	100,085	101,787	102,423	103,368	103,626
Passenger Trips	177,449	192,130	205,716	187,913	173,830
Total Operating Expense	$2,779,478	$2,980,177	$3,458,005	$2,918,090	$2,951,341
Service Supply and Quality					
Vehicles Operated in Maximum Service	38	52	54	54	50
Vehicle Revenue Miles	1,472,896	1,409,753	1,511,364	1,338,959	1,386,236
Vehicle Revenue Hours	95,397	91,503	102,393	85,421	82,506
Average Age of Fleet	6.0	2.3	2.5	3.5	3.7
Service Consumption					
Passenger Trips per Capita	1.77	1.89	2.01	1.82	1.68
Passenger Trips per Revenue Mile	0.12	0.14	0.14	0.14	0.13
Passenger Trips per Revenue Hour	1.86	2.10	2.01	2.20	2.11
Efficiency					
Operating Expense per Capita	$27.77	$29.28	$33.76	$28.23	$28.48
Operating Expense per Passenger Trip	$15.66	$15.51	$16.81	$15.53	$16.98
Operating Expense per Revenue Mile	$1.89	$2.11	$2.29	$2.18	$2.13
Operating Expense per Revenue Hour	$29.14	$32.57	$33.77	$34.16	$35.77
Farebox Recovery					
Fare Revenue	$76,115	$86,534	$86,403	$91,083	$79,788
Farebox Recovery Ratio	2.7%	2.9%	2.5%	3.1%	2.7%

Note: Service Area is Houston County, AL, population as of July 1 from Population Estimates Program
Source: National Transit Database

Peer System Comparison

Comparing the operating characteristics of the WTA to other similar agencies in Alabama will provide context to the operating characteristics described above. When comparing information to other agencies, it is again important to note that the operating information for WTA excludes its 5311 funded service.

To pick peer public transit agencies in Alabama, only exclusively demand-response systems operating in urbanized areas with similar populations were considered. Fixed-route systems are typically more efficient than demand-response systems in urban areas, so these systems were not selected for comparison. The following urbanized areas were selected for comparison: Florence, AL; Auburn, AL; and Decatur, AL. Table 6.16 provides population totals, population densities, and transit providers for these urbanized areas. While not noted in this table, all of the systems have similar hours of operation.

Table 6.17 provides information on peer system characteristics. What can be gleaned from this comparison is the following information:

- The WTA's service area is less dense than Auburn and Decatur but considerably denser than Florence.
- WTA has more vehicles and serves more trips than its peers, but these trips appear to be made up of more long-distance trips than its peers.
- Because of its high number of vehicles and longer distance trips, WTA has considerably higher operating expenses and a lower farebox recovery ratio. WTA actually has the lowest operating cost per vehicle revenue mile.

Table 6.16 Selected Urbanized Areas in Alabama with Peer Transit Systems

Urbanized Area	Population	Square Miles	Population Density (Pop./Sq.Mi.)	Transit Provider
Florence, AL	77,074	62	1,243	Northwest Alabama Council of Local Governments (NACOLG) Transit
Auburn, AL	74,741	50	1,495	Lee-Russell Public Transit (LRPT)
Decatur, AL	70,436	58	1,214	Morgan County Area Transportation System (MCATS)
Dothan, AL	68,781	56	1,228	Wiregrass Transit Authority (WTA)

Source: National Transit Database, 2013 Reporting Information

Table 6.17 Operating Characteristics for Peer Systems

	NACOLG Transit	LRPT	MCATS	WTA
Transit System Characteristics				
Service Area Population	220,000	115,092	111,064	90,000
Service Area Square Miles	3,250	609	574	600
Service Area Population Density (Pop./Sq.Mi.)	67.7	189.0	193.5	150.0
Vehicles Operated in Maximum Services	40	25	30	50
Purchased (contract)	0	0	0	35
Directly Operated	40	25	30	15
Service Supplied and Consumed				
Annual Vehicle Revenue Miles	411,502	511,167	520,845	1,386,236
Annual Vehicle Revenue Hours	32,357	31,443	45,570	82,506
Annual Unlinked Trips	93,481	94,890	153,291	173,830
Passenger Trips per Revenue Mile	0.23	0.19	0.29	0.13
Passenger Trips per Revenue Hour	2.89	3.02	3.36	2.11
Efficiency				
Operating Expense per Vehicle Revenue Mile	$2.59	$2.14	$2.31	$2.13
Operating Expense per Vehicle Revenue Hour	$32.96	$34.82	$26.40	$35.77
Operating Expense per Passenger Trip	$11.41	$11.54	$7.85	$16.98
Farebox Recovery				
Fare Revenues Earned	$70,708	$88,834	$326,227	$79,788
Operating Funds Expended	$1,066,626	$1,094,992	$1,203,102	$2,951,341
Farebox Recovery Rate	6.6%	8.1%	27.1%	2.7%

Source: National Transit Database, 2013 Reporting Information

Regional Demand Analysis

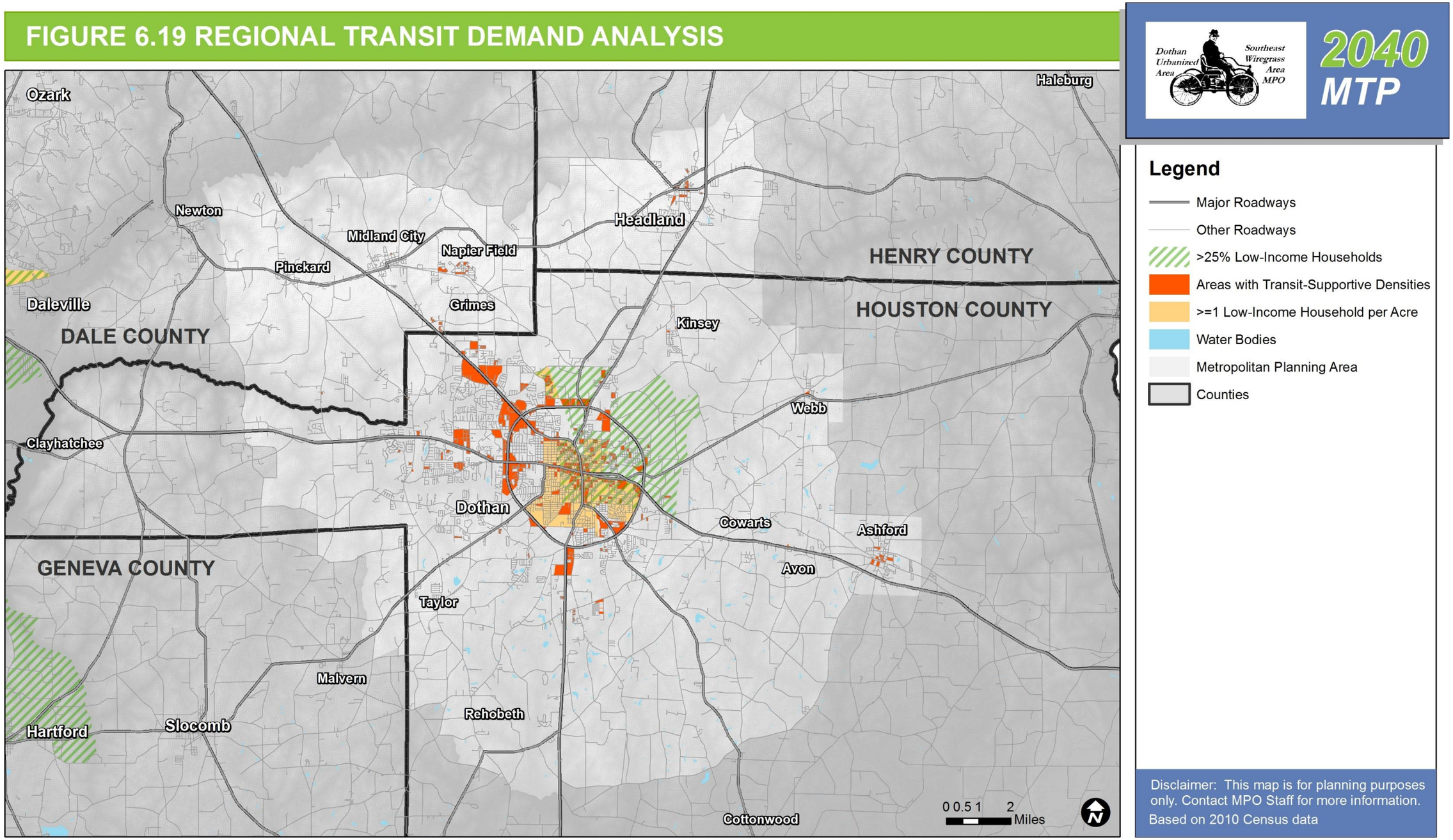
In order to assess the regional demand for public transit, an analysis of population and employment densities was conducted. The results are illustrated in Figure 6.19.

The map identifies areas that generate high demand for public transit. While other areas may also generate transit demand, these areas were determined to be of the highest demand. The map identifies the following areas which contribute greatly to transit demand:

- Census blocks with activity densities of at four (4) jobs and/or dwelling units per acre. High activity densities influence transit demand because the clustering of activities attracts more trips.
- Census block groups with a concentration of low-income households, defined as block groups where there is at least one (1) household using food stamps for every five acres. Areas with a high concentration of low-income households are highlighted because low-income households are more likely to use transit. Even if the activity density threshold above is not met, an area with lower activity densities but higher concentration of low-income households is likely to generate high transit demand.
- Census block groups where over 25 percent of households are low-income, defined as households that use food stamps. This attribute highlights areas that may have high concentrations of low-income persons that may be masked by the large size of the census block group. An example is the block groups near Faine Elementary School.

Most of the areas of high demand are limited to the City of Dothan. While some demand exists within Headland, Ashford, Midland City, and Napier Field, these areas are relatively small and isolated. More detailed analysis of travel patterns, major destinations, roadway limitations, and other considerations would be necessary before implementing fixed-route or deviated fixed-route transit service. However, any future service should prioritize serving the majority of these areas. Aside from serving high demand areas, adequately serving these areas should maximize ridership.

FIGURE 6.19 REGIONAL TRANSIT DEMAND ANALYSIS



Map Source: Neel-Schaffer, Inc.

Data Sources: Census Bureau; InfoUSA

Existing Plans

Southeast Wiregrass MPO Fixed Route Transit Feasibility Study (2010)

This plan explored the feasibility of implementing a fixed-route transit system within Dothan. Ultimately, the plan recommended against implementing a fixed-route system and instead advocated for a deviated fixed-route system consisting of two routes:

1. A north-south route along Montgomery Highway/Oates Street that connects the North Walmart/Dothan Pavilion area with the South Walmart.
2. A west-east route along Main Street from Flowers Hospital to the Southeast Alabama Medical Center.

The two routes would operate on one hour headways and would stop at predetermined stops unless a rider requested a deviation. Deviations would only be allowed within ¾ mile of the fixed route and fare structure would encourage riders to avoid requesting deviations.

SEARPDC Human Services Coordinated Transportation Plan (2011)

The purpose of the federally-required Human Services Coordinated Transportation Plan (HSCTP) is to provide a mechanism and a starting point by which transportation shortfalls may be identified and highlighted in the Southeast Alabama Regional Planning and Development Commission (SEARPDC) region, which includes Barbour, Coffee, Covington, Dale, Geneva, Henry, and Houston counties. Subsequently, transit services may potentially be improved or enhanced for persons with disabilities, older adults, and individuals with lower incomes by ensuring that communities coordinate transportation resources provided through multiple federal programs. This plan, however, is not exclusionary. It should also lead to discussions and initiatives that enhance transportation for the general public as well.

Specific recommendations of the 2011 HSCTP for the MPO include:

1. Establish rural public transportation in Coffee, Dale, Geneva, and Henry counties. This has been partially accomplished through the Job Access Reverse Commute (JARC) service in Coffee, Dale, Geneva and Henry counties.
2. Expand/enhance services provided by the Wiregrass Transit Authority. This can be accomplished through any mix of additional vehicles, expanded hours and days of service, mobility management, enhanced technologies or communications systems, brokered transportation services, or more specialized services for those elderly and disabled passengers.
3. Resource a deviated route system for Wiregrass Transit Authority that will tie the surrounding counties into Dothan. Procure sufficient buses to provide several round trips a day along the following corridors:
    a. US431 N between Dothan and Eufaula (serve Headland and Abbeville as well)
    b. US231 N between Dothan and Ozark (potentially extend as far north as Brundidge)
    c. US84 W between Dothan and Enterprise (possibly extend as far west as New Brockton)
    d. US52 W between Dothan and Geneva (CATS could interface in Geneva with passengers from Covington County)

    The Dixie Depot will serve as the terminus for these routes.

4. As a joint project between the Southeast Wiregrass MPO and the Regional Planning Organization located within the Southeast Alabama Regional Planning and Development Commission conduct a study evaluating the need and efficacy of establishing a regional transportation system that will

serve the entire region and serve as the broker for all publicly funded transportation assets within the region.

5. Across the region, increase/expand access and transportation opportunities for various target groups (elderly, disabled, economically disadvantaged, at risk youth) attempting to access and utilize various social service delivery agencies, job training and education facilities, nontraditional educational opportunities, *latch-key* programs, rehabilitation opportunities, etc.
6. Across the region, increase/expand/provide access to *out of region* or *out of service area* health care facilities for *fragile* and *at risk* populations and aging, disabled, or wounded veterans.
7. Across the region, identify and exploit opportunities to develop public private partnerships with other public, private and nontraditional, transit providers. Examples of these providers could be cab companies, ambulance companies for nonemergency transportation, churches, private industry, charter companies, etc. Identification and development of these opportunities may well provide a *springboard* for the implementation of Mobility Management functions within the region.

6.4 FREIGHT

The movement of freight throughout the MPA affects both the regional and national economy. While the region lacks the presence of a major freight corridor, freight trucks traveling between Northwest Florida and Nashville, TN are likely to come through Dothan.

Freight Transportation Infrastructure

The Dothan MPA has a robust multimodal freight network. Figure 6.20 gives regional context for the region's freight network. Figure 6.21 highlights the MPA's freight-related infrastructure and facilities, including businesses that provide freight-related services.

The MPA has several multi-lane arterials that are designated as statewide primary freight corridors. These include: US 231, US 431, AL 1, and US 84.

There are also several active rail corridors, including:

1. A CSX railroad line, a Class I railroad connecting:
    - Dothan to Montgomery, AL
    - South Georgia and Tallahassee, FL.
    - In the MPA, it passes through Pinckard, Midland City, Napier Field, Grimes, Dothan, Cowarts, and Ashford;
2. A southern Bay Line Railroad line, a Class III short line railroad that connects Downtown Dothan to Panama City, FL;
3. A northern Bay Line Railroad line, a Class III short line railroad that connects the area near the Dothan Regional Airport to Abbeville, AL. It passes through Headland along the way.
4. The Chattahoochee Railroad line, a Class III short line railroad that connects Downtown Dothan to the Chattahoochee River and Port of Columbia. It also passes through Webb;
5. The Hartford and Slocomb Railroad, a Class III short line railroad from Downtown Dothan to Taylor. However, the railroad track is abandoned past Taylor Road in Dothan.

The Dothan Regional Airport and Headland Municipal airport are also integral parts of MPA's freight infrastructure. While only a small amount of freight is shipped by air, the airports also serve as warehousing, maintenance, and manufacturing hubs.

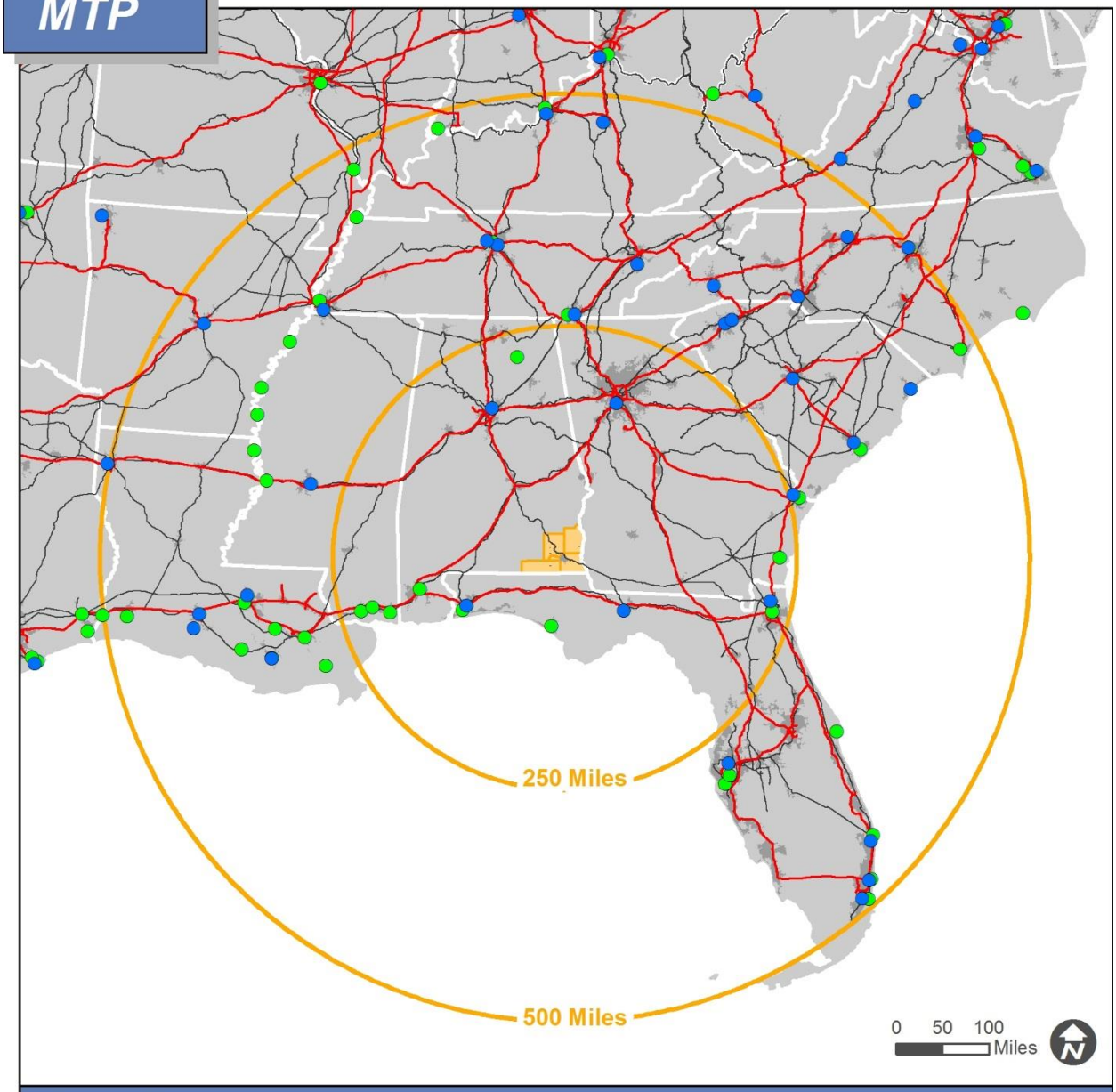
There are three intermodal facilities in the MPA. All three facilities transload cargo between trucks and rail. These facilities include:

1. Sunstates Refrigerated Services, Inc.;
2. Hedstrom Corp.; and
3. Yellow Dothan AL Terminal.

There are no water ports within the MPA, but the Port of Columbia on the Chattahoochee River is just beyond the MPA in Houston County, at the state line with Georgia. This port and the Chattahoochee River do not see significant cargo traffic.

2040 MTP

FIGURE 6.20 REGIONAL FREIGHT CONTEXT



Legend

- Top 150 Cargo Airports
- Top 150 Ports
- Draft National Freight Network
- Active Major Intermodal Rail Lines
- Urbanized Areas
- MPO Counties
- States

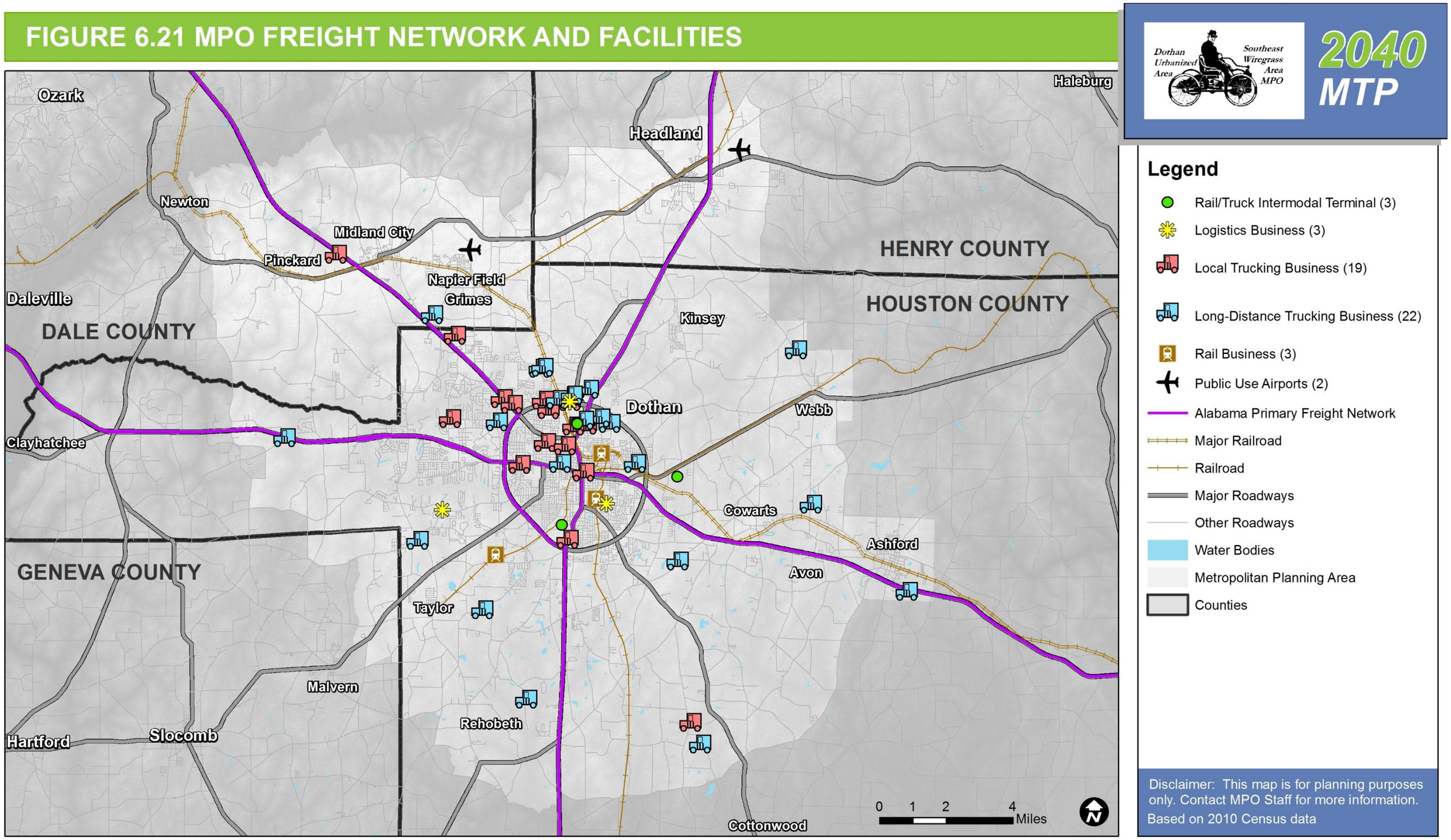
Disclaimer: This map is for planning purposes only.

Based on US 2010 Census data

Map Source: Neel-Schaffer, Inc.

Data Sources: 2014 National Transportation Atlas; FHWA Operations

FIGURE 6.21 MPO FREIGHT NETWORK AND FACILITIES



Map Source: Neel-Schaffer, Inc.

Data Sources: 2014 National Transportation Atlas; InfoUSA; ALDOT

Regional Commodity Flows

Because of Dothan's size, the FHWA's Freight Analysis Framework (FAF) commodity flow data is not available for the Dothan Metropolitan Area. However, we can glean some information from State of Alabama commodity flows. While the amount of actual commodities being moved through an area likely vary considerably throughout the state, the means of transporting freight is more uniform.

Table 6.18 shows that, in Alabama, truck and rail modes account for most ton-miles of freight in the state. A key difference between the two modes of freight movement is that rail tends to travel much greater distances, nearly 1,000 miles compared to under 175 miles for trucks. This trend seems to be continuing as, from 2007 to 2012, the average miles per shipment for rail jumped considerably more than that of trucks. During the same time, rail ton-miles declined slightly more than truck ton-miles.

Table 6.18 Means of Transporting Freight Originating in Alabama, 2012

	Ton-miles (millions)		Average miles per shipment	
	number	percent change from 2007	number	percent change from 2007
All modes	51,227	-12	347	-11.4
Truck	27,458	-9.2	164	6.8
Rail	21,343	-12.6	988	28.2
Inland water	1,581	S	S	S
Parcel, U.S.P.S. or courier	108	-57.5	618	-4.4
Air	27	-14.2	875	13.9
Pipeline	S	S	S	S
Deep sea	S	S	2,511	94.1
Great Lakes	0	-100	0	-100
Other modes	0	-100	0	-100

S - Withheld because estimate did not meet publication standards.
Source: U.S. Department of Transportation, Bureau of Transportation Statistics and U.S. Census Bureau, 2012 Commodity Flow Survey.

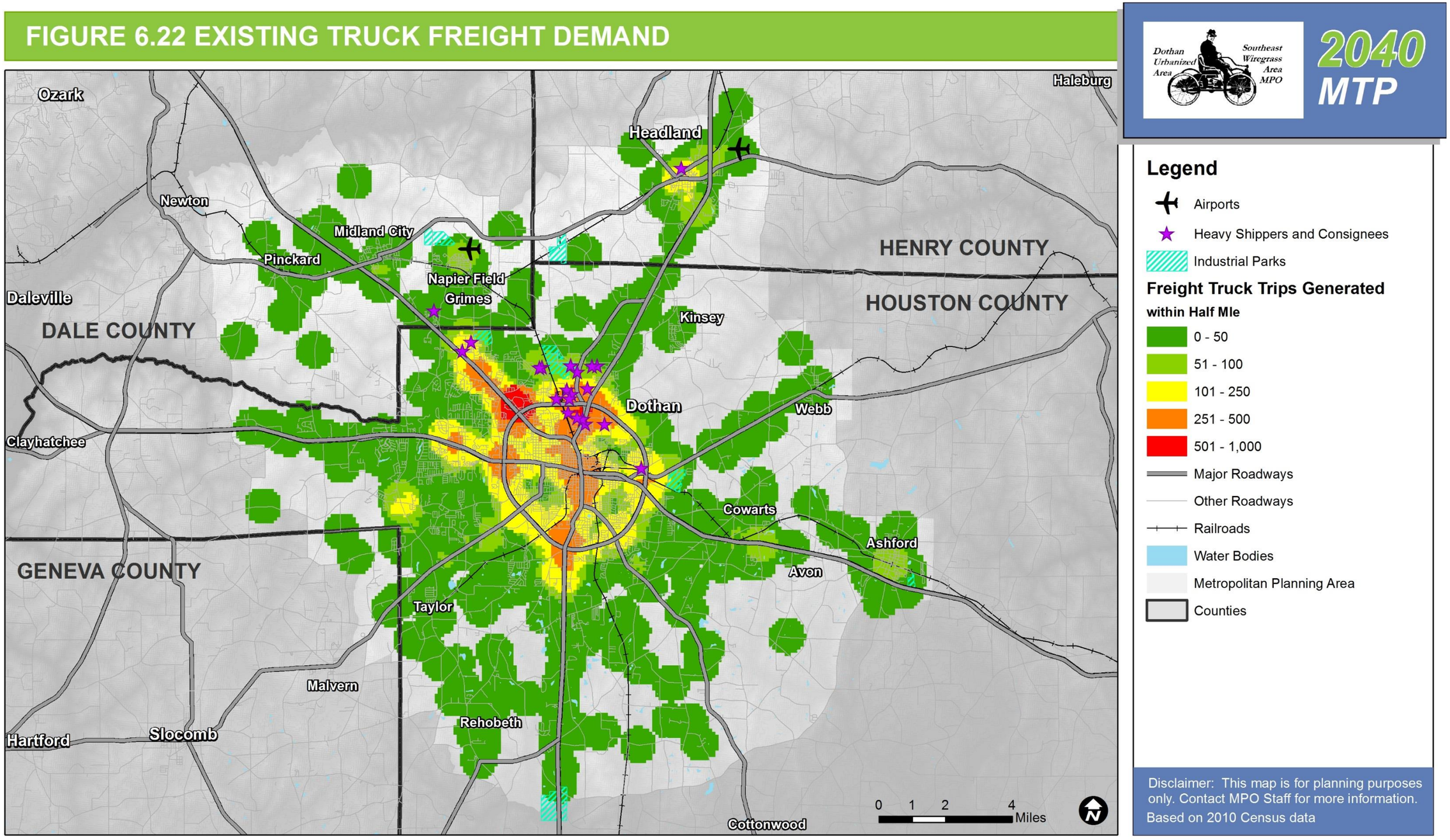
Regional Freight Generating Activities

There are many industrial, wholesale trade, commercial, and other establishments in the MPA that generate freight truck trips. While no data on regionally specific commodity flows was obtained for the MTP, the distribution of freight truck demand was looked at by analyzing InfoUSA employment data. Specifically, using freight truck generation rates from the *National Cooperative Highway Research Program (NCHRP) Report 739: Freight Trip Generation and Land Use*, the number of freight truck trips generated was calculated for each establishment in the MPA. This information was then mapped in Figure 6.22, along with the location of industrial parks and known heavy shippers and consignees.

These maps show that overall, the greatest freight truck generating areas are near the Wiregrass Commons Mall, the industrial area near the intersection of Ross Clark Circle and US 431, and Downtown Dothan. In general, the areas that generate the highest amount of freight truck trips are located along the major arterials.

While most domestic ton-miles of freight are associated with the manufacturing and wholesale trade industries, the trip generation exercise illustrates that retail and services-oriented freight also account for a significant amount of actual freight truck traffic in urban areas, regardless of weight or value.

FIGURE 6.22 EXISTING TRUCK FREIGHT DEMAND



Map Source: Neel-Schaffer, Inc.

Data Sources: InfoUSA; MPO Staff; ALDOT

Freight Traffic and Congestion

Actual freight traffic data is not available for the Dothan MPA. However the FHWA's Freight Analysis Framework (FAF) estimates freight truck traffic over specific highways. The FAF uses models to disaggregate interregional flows from an origin-destination database into flows between localities and to assign these flows to individual highways using average payloads per truck, and truck counts on individual highway segments.

Figure 6.23 shows estimated average daily truck traffic on the major roadways in the Dothan MPA. Figure 6.24 illustrates only long-distance freight-trips. What these maps illustrate is that US 231 is likely the major route for long-distance freight trucks in the MPA, while regional freight traffic is more evenly dispersed.

Nationally, congestion affecting freight is mostly limited to peak hour congestion. The travel time reliability maps (Figure 6.8 and Figure 6.9) show areas that are most likely to cause delay for all vehicles. Of the areas identified as unreliable during peak hours, the greatest concern for freight trucks are the areas that have the most estimated daily freight truck traffic (Figure 6.23 and 6.24), serve the highest demand areas (Figure 6.22), and are ALDOT freight corridors (Figure 6.21). Areas the meet this criteria include the following corridors and nodes which have the highest potential for freight delay and bottlenecks:

- The northwestern quadrant of Ross Clark Circle, from Denton Rd to US 84;
- US 231 from Ross Clark Circle to Flynn Rd;
- Bottlenecks at Ross Clark Circle and US 84 (W. Main Street);
- Bottlenecks at Ross Clark Circle and US 84 (E. Main Street); and
- Bottlenecks on Oates Street and US 84 entering and exiting Downtown Dothan.

Alabama Statewide Freight Study and Action Plan

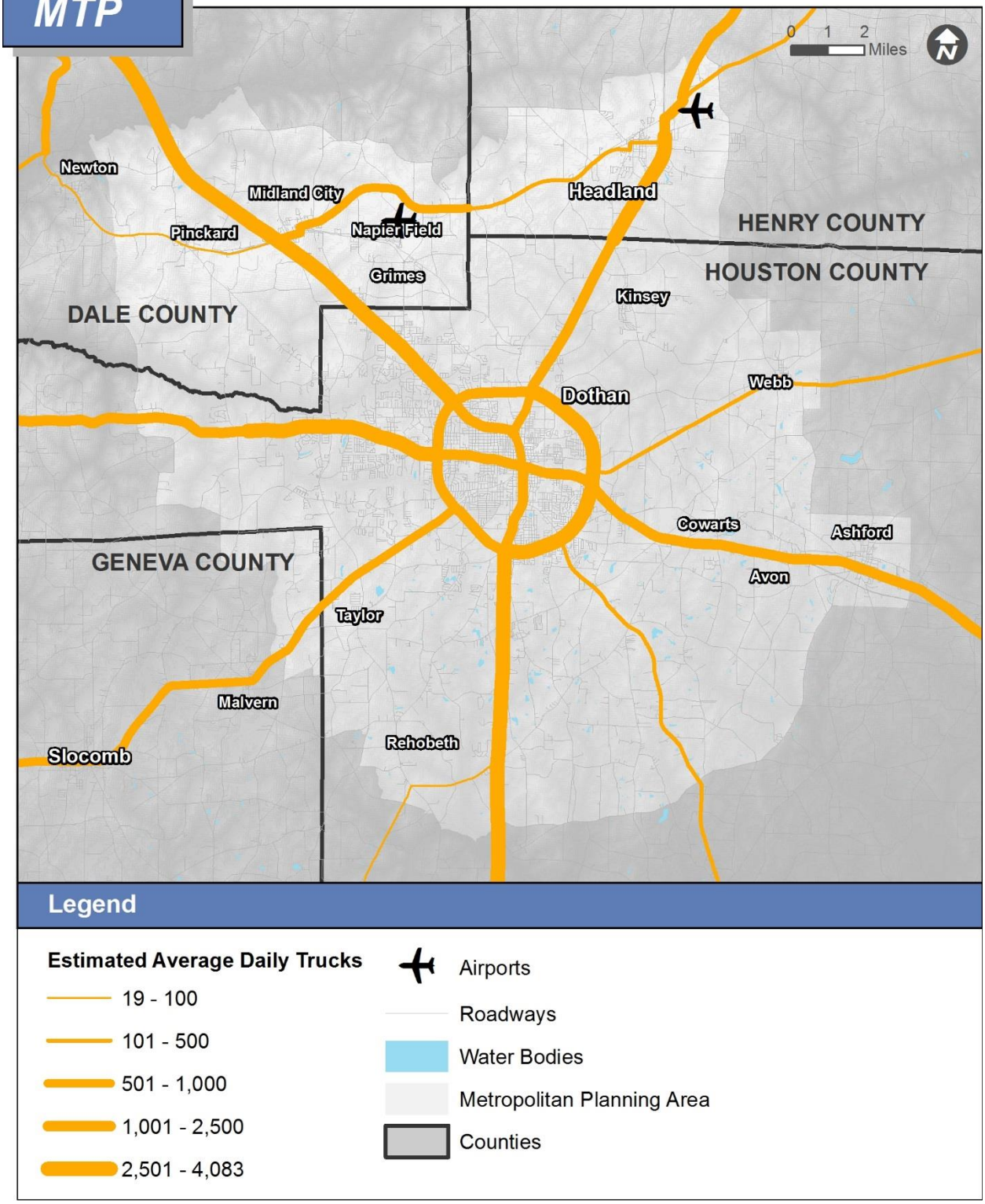
In this plan, adopted in 2010, ALDOT identifies improvements to the state's transportation system that would facilitate freight mobility and support economic development initiatives at the state and local level. The study analyzed multimodal freight movements into and out of the state, analyzed the condition, operations and safety of the multimodal system, identified constraints and considered improvements.

ALDOT is currently in the process of updating its Statewide Freight Plan. The 2016 Alabama Statewide Freight Plan website is currently under construction and the available plan information can be viewed at the following web address:

http://cpmsweb2.dot.state.al.us/TransPlan/FreightPlanning/Default.aspx.

2040 MTP

FIGURE 6.23 TOTAL FREIGHT TRUCK TRAFFIC IN 2007



Disclaimer: This map is for planning purposes only.

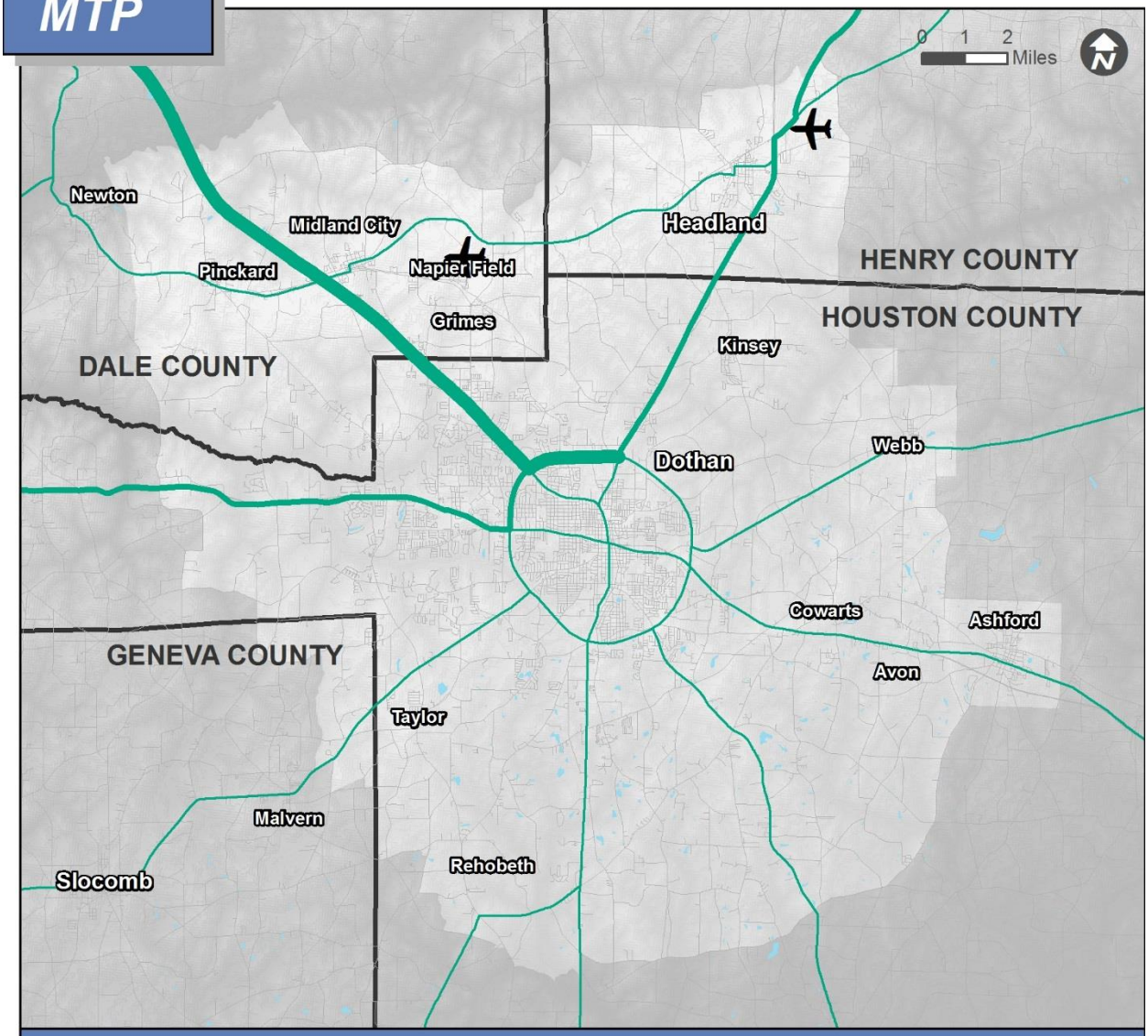
Based on US 2010 Census data

Map Source: Neel-Schaffer, Inc.

Data Sources: FHWA Freight Analysis Framework

2040 MTP

FIGURE 6.24 LONG DISTANCE FREIGHT TRUCK TRAFFIC IN 2007



Legend

Estimated Average Daily Trucks
- 0 - 100
- 101 - 500
- 501 - 1000
- 1001 - 2500
- 2501 - 5000

- Airports
- Roadways
- Water Bodies
- Metropolitan Planning Area
- Counties

Disclaimer: This map is for planning purposes only.

Based on US 2010 Census data

Map Source: Neel-Schaffer, Inc.

Data Sources: FHWA Freight Analysis Framework

6.5 AVIATION

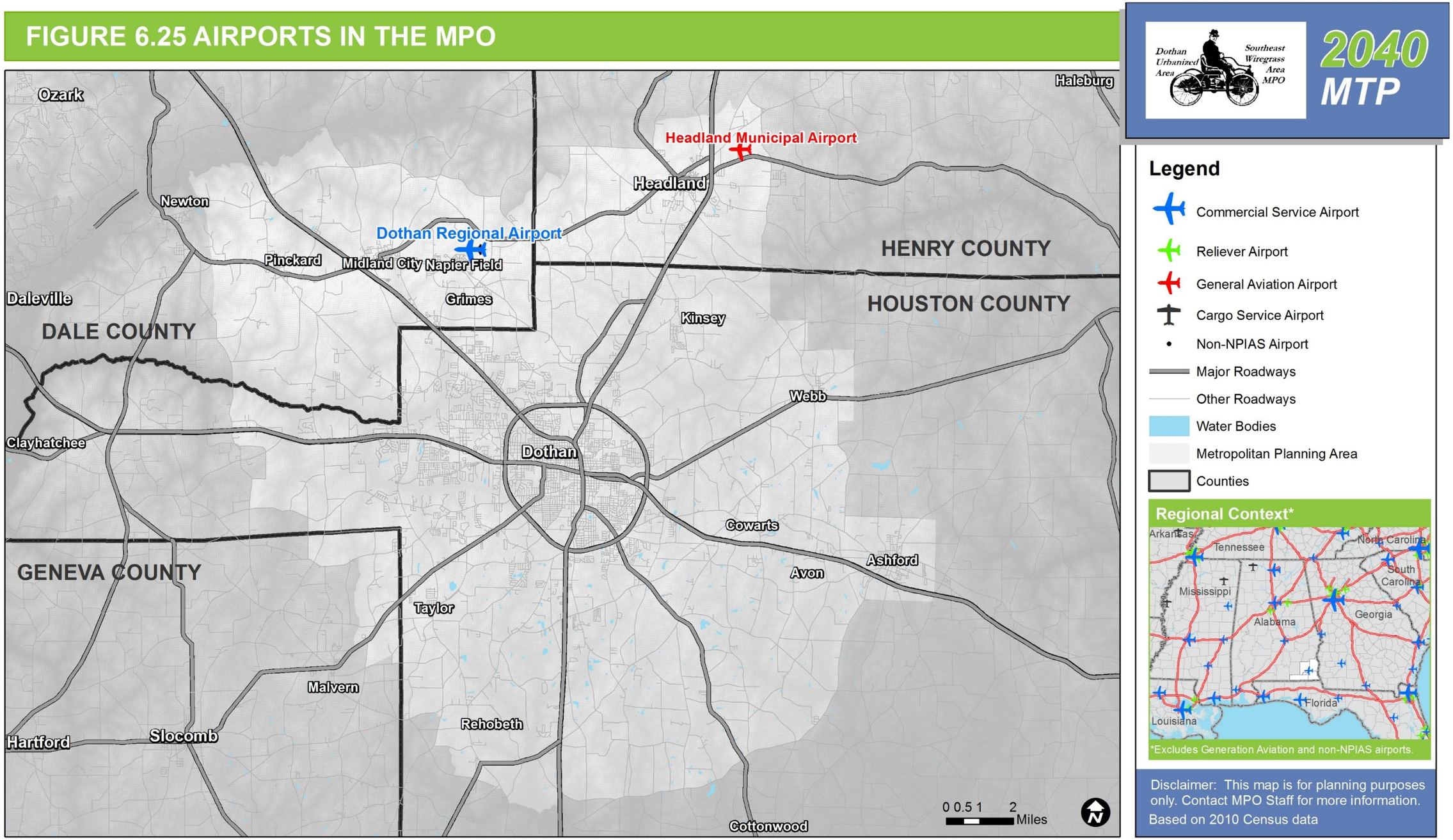
The region's aviation facilities serve a vital role in the overall transportation system. Airports offer services that efficiently move people and freight, aid in corporate recruitment and economic development, provide military support, assist medical, fire, and police responders during emergencies, and provide recreational and tourism opportunities.

There are two publicly-owned airports in the Dothan Metropolitan Planning Area: Dothan Regional Airport in Dothan and Headland Municipal Airport in Headland. Dothan is classified in the National Plan of Integrated Airport Systems (NPIAS) as a Nonhub Primary airport while Headland is classified as General Aviation airport. Only Dothan Regional Airport provides scheduled, passenger air service. Currently, this service is limited to daily, non-stop service between Dothan and Atlanta. This non-stop service is provided by Delta Airlines through its Delta Connection regional service, ExpressJet.

Outside of the MPO region, there are several airports within a few hours' drive that are larger and provide more service. Of these, the Northwest Florida Beaches International Airport and Pensacola International Airport are the most prominent and close by. Both airports are classified as Primary Small Hubs and are served by many airlines. Both provide daily, non-stop service to many airports around the Southeast that serve as larger national and international hubs.

Figure 6.25 shows the location of the two public use airports within the Dothan Metropolitan Planning Area and also shows all public use airports nearby in the Southeast.

FIGURE 6.25 AIRPORTS IN THE MPO



Map Source: Neel-Schaffer, Inc.

Data Sources: 2014 National Transportation Atlas; FAA NPIAS

Existing Conditions

Runways

Runway information is summarized in Table 6.19.

Dothan Regional Airport has two runways. The first, Runway 14/32, is approximately 8,500 feet in length and 150 feet in width. The second, Runway 18/36, is approximately 5,500 feet in length and 100 feet in width. Both have asphalt surfaces that are in excellent and good condition, respectively.

Headland Municipal Airport has two runways as well. Runway 9/27 is approximately 5,000 feet with a width of 80 feet. Runway 17/35 is approximately 2,900 feet with a width of 162 feet. Runway 9/27 is asphalt while Runway 17/35 is turf; both are in good condition.

Table 6.19 Airport Runway Information

	Dothan Regional		Headland Municipal	
	Runway 14/32	Runway 18/36	Runway 9/27	Runway 17/35
Length	8,499 feet	5498 feet	5,002 feet	2,865 feet
Width	150 feet	100 feet	80 feet	162 feet
Surface Type	Asphalt	Asphalt	Asphalt	Turf
Surface Condition	Excellent	Good	Good	Good

Source: USDOT, FAA, Airport Master Records

Figure 6.26 Aerial Image of Dothan Regional Airport

Source: Google Earth aerial imagery; November, 2014

Figure 6.27 Aerial Image of Headland Municipal Airport

Source: Google Earth aerial imagery; November, 2014

Based Aircraft

Runway information is summarized in Table 6.20.

According to the most recently available data, Dothan Regional Airport was home to 91 based aircraft. About half of these aircraft were single engine, with the majority of the remaining aircraft being classified as multi engine. There were also seven jets and one helicopter.

According to the most recently available data, Headland Municipal Airport was home to 35 based aircraft. Of these, 33 were single engine aircraft. The remaining two were multi engine aircraft.

Table 6.20 Aircraft Based at Airports

Aircrafts	Dothan Regional		Headland Municipal	
	Number	Percentage	Number	Percentage
Total Based Aircraft	91	100.0%	35	100.0%
Single Engine	47	51.6%	33	94.3%
Multi Engine	36	39.6%	2	5.7%
Jet	7	7.7%	0	0.0%
Helicopters	1	1.1%	0	0.0%

Note: Operations for 12 months ending 12/31/2012 for Dothan and 11/14/2014 for Headland.
Source: USDOT, FAA, Airport Master Records

Operations

According to the most recently available data, traffic at Dothan Regional airport averages approximately 200 operations per day. Approximately half of all operations are military-related, with another 44 percent coming from General Aviation, or civil aircraft, operations. Commercial and Air Taxi operations, which includes commercial passenger and cargo traffic, account for only five (5) percent of all operations.

According to the most recently available data, traffic at Headland Municipal Airport averages approximately 115 operations per day. There is no commercial passenger or cargo traffic. Approximately 90 percent of all operations are General Aviation, or civil aircraft, operations, with the remainder coming from military-related operations.

Table 6.21 Airport Operations

Operations	Dothan Regional		Headland Municipal	
	Number	Percentage	Number	Percentage
Total Operations	72,921	100.0%	41,203	100.0%
Commercial	2,354	3.2%	0	0.0%
Air Taxi	1,364	1.9%	0	0.0%
General Aviation Local	14,479	19.9%	5,536	13.4%
General Aviation Itinerant	17,906	24.6%	31,667	76.9%
Military	36,818	50.5%	4,000	9.7%

Note: Operations for 12 months ending 12/31/2012 for Dothan and 11/14/2014 for Headland
Source: USDOT, FAA, Airport Master Records

Passenger Boarding and On-Time Performance

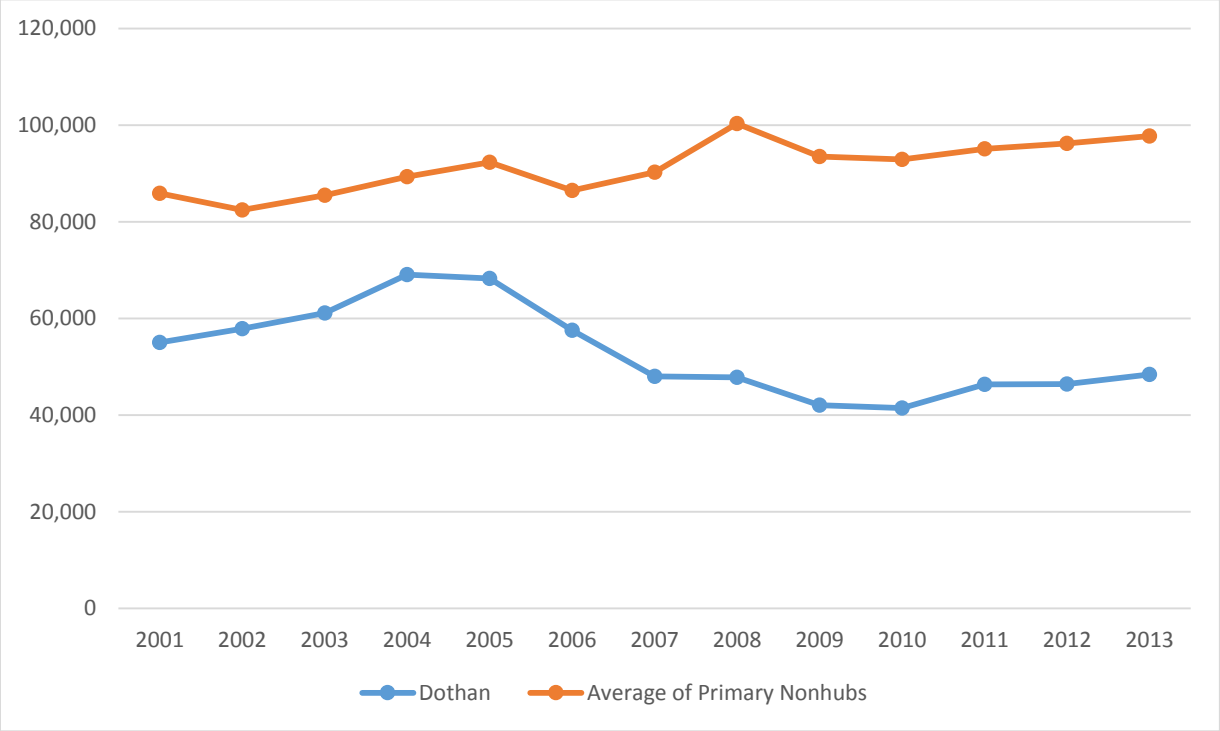
There were 48,500 annual boardings, or enplanements, at Dothan Regional Airport in 2013. That translates to approximately 130 passengers per day.

Historical trends, as illustrated in Figure 6.28 show that passenger traffic at Dothan Regional Airport somewhat mirrors that of other primary nonhub airports in the country. Most notably, passenger traffic decreased after 2004/2005 and again after 2008 at Dothan Regional Airport and as a whole for all primary nonhub airports. However, Dothan decreased more significantly after 2004/2005 and has yet to reach similar levels since then.

The on-time performance for both arrivals and departures of the Dothan Regional Airport appears to be consistent with the national average. Between 2012 and 2014, about 79 percent of arrivals and 83 percent of departures were considered to be on-time, or within 15 minutes of their scheduled time. As illustrated in Figure 6.30, the two major causes of delay are air carrier delay and the aircraft arriving late. Together, these two causes accounted for over 85 percent of all delay.

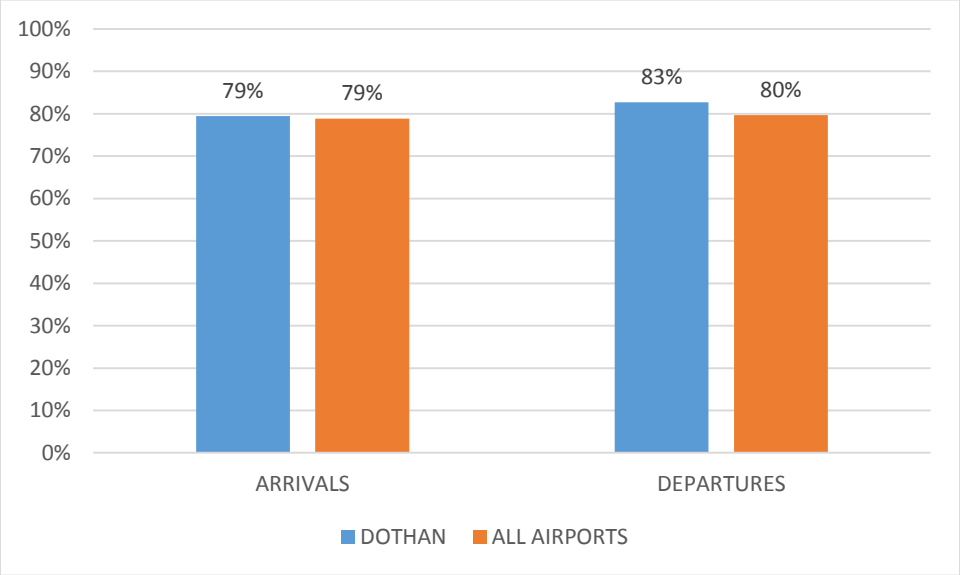
There is no passenger traffic at Headland Municipal Airport.

Figure 6.28 Historical Calendar Year Boarding Data at Dothan Regional Airport



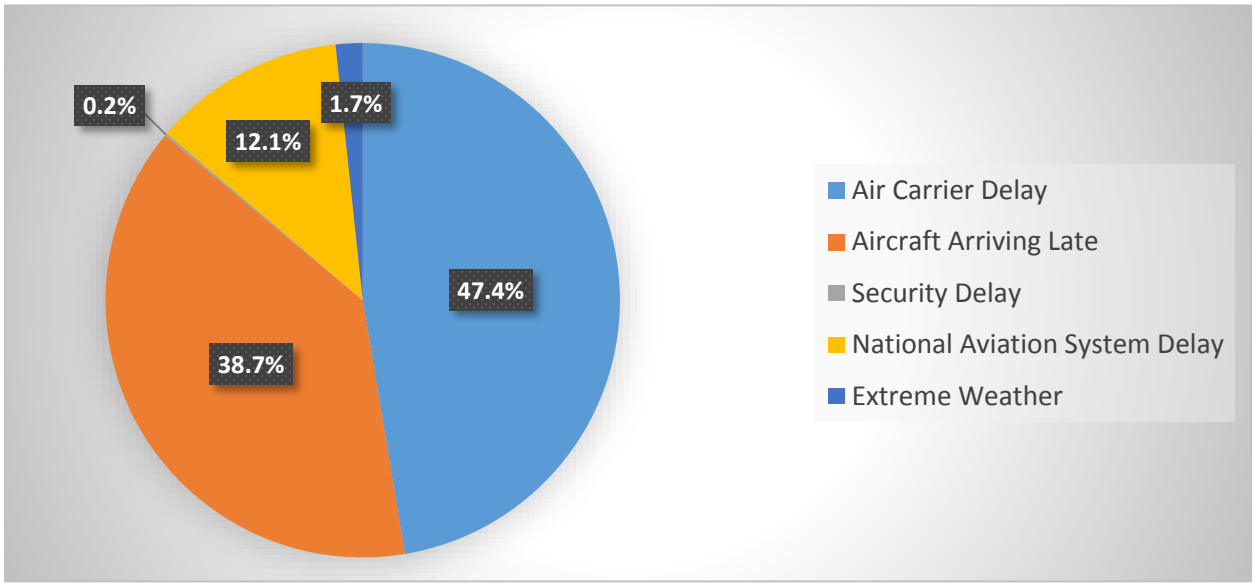
Source: USDOT, FAA, Air Carrier Activity Information System (ACAIS)

Figure 6.29 Percentage of Flights On-Time at Dothan Regional Airport, 2012-2014



Source: USDOT; Bureau of Transportation Statistics, Airline Service Quality Performance 234

Figure 6.30 Percentage of Total Delayed Minutes by Cause at Dothan Regional Airport, 2012-2014



Source: USDOT; Bureau of Transportation Statistics, Airline Service Quality Performance 234

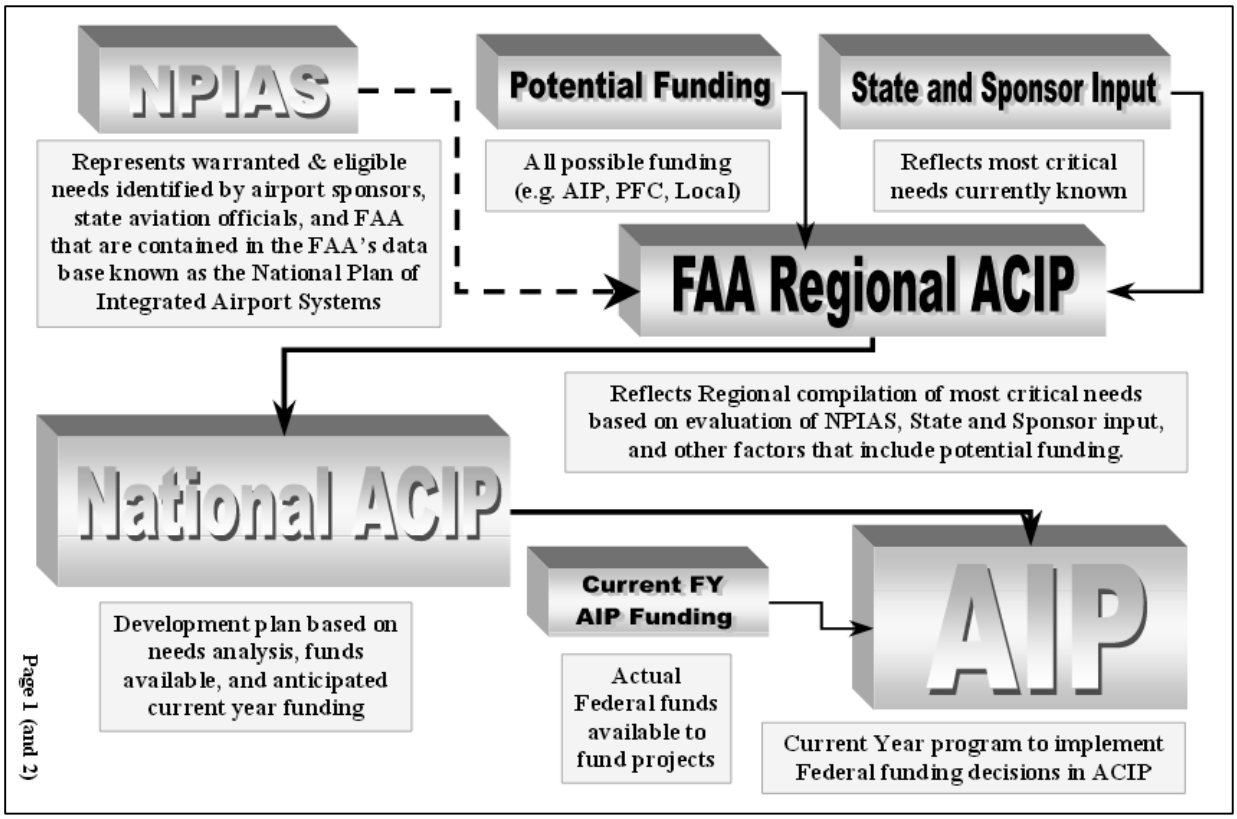
Cargo Movement

Cargo movement at either airport in the Dothan Metropolitan Planning Area is not significant enough for inclusion in national datasets provided by the FAA. Therefore, no information was available for inclusion in this plan.

Airport Planning Process

Various levels of planning and coordination occur in order to meet a region's aviation needs. The framework for airport planning is illustrated in Figure 6.31. These planning processes often occur simultaneously and require regular coordination between federal, state, and local agencies.

Figure 6.31 Airports Capital Improvement Planning Process



Source: USDOT, FAA Order 5100.39A – Airports Capital Improvement Plan

At the federal level, the National Plan of Integrated Airport Systems (NPIAS) provides an overview of national aviation capacity needs and funding requirements. The NPIAS identifies more than 3,300 airports that are of national significance and thus are eligible for federal funding under the Federal Aviation Administration (FAA) Airport Improvement Program (AIP). Both of the publicly-owned airports in the Dothan Metropolitan Planning Area are included in the NPIAS.

The national Airport Capital Improvement Plan (ACIP) serves as the primary planning tool for the FAA to systematically identify, prioritize and assign anticipated funds to projects deemed important to the National Airspace System (NAS). The ACIP also serves as the basis for the distribution of grant funds under the Airport Improvement Program (AIP).

At the regional level, each FAA Region maintains a regional Airport Capital Improvement Plan (ACIP) which represent the needs of the airports in their region. This plan is used to inform the national ACIP and in turn the federal funding in the annual AIP. Alabama is the FAA Southern Region.

The majority of planning and capital improvements for airports in Alabama are funded by FAA funds, with a State match from the ALDOT Bureau of Aeronautics and a local match from the airport sponsor. The Alabama Statewide Airport System Plan was adopted in 2005. It the result of two major processes. The first process involved assessing and marketing the economic impact of Alabama's airports. The second

part developed a detailed capital improvement plan, with a focus on airports deemed to be of significant economic importance.

The plan categorizes publicly owned airports into five functional roles. In the Dothan Metropolitan Planning Area, Dothan Regional Airport is classified as a National airport and Headland Municipal Airport is classified as a General Aviation-Community. The function of National airports is to serve a contributing role in providing the local, regional, and statewide concerns with access to and from the national and global economy. The function of General Aviation-Community airports is to serve a supplemental role for the local economy and focus on providing aviation access for small business, recreational, and personal flying. The plan also establishes benchmarks and minimum criteria for each functional role. These minimum criteria then provide a basis for the capital improvement recommendations.

At the local level, an Airport Layout Plan (ALP) is required by the FAA for airports receiving federal assistance. The ALP serves as a critical planning tool that depicts both existing facilities and planned development for an airport. By definition, the ALP is a plan for a specific airport that shows:

- boundaries and proposed additions to all areas owned or controlled by the sponsor for airport purposes;
- the location and nature of existing and proposed airport facilities and structures; and
- the location on the airport of existing and proposed non-aviation areas and improvements thereon.

Another important aspect of airport planning at the local level is coordination of airport planning and local land use planning in order to ensure that surrounding land uses are compatible with airport activities and vice versa.

Recent Airport Development

There have been many improvements to the Dothan Regional Airport and Headland Municipal Airport, as summarized in Table 6.22.

Improvements continue to occur at both airports. The arrival of Commercial Jet, Inc. to the Dothan Regional airport has spurred ramp improvements to accommodate larger commercial jets, in addition to many other improvements to accommodate the new 400,000 square foot facility for passenger-to-freighter conversion and maintenance, repair, and overhaul services. Meanwhile, Headland Municipal Airport is currently in the process of renovating airport offices. The municipal airport was also awarded an FAA grant for a parallel taxiway, though the project has been temporarily delayed due to a lack of state-matching funds.

Table 6.22 Aviation Projects Recently Completed with AIP Federal Funds

Airport	Federal Fiscal Year	AIP Federal Funds	Brief Description of Work
Dothan Regional	2014	$1,288,299	Rehabilitate Taxiway [Rehab Taxiway (TWY A portion other than between F & K and Taxilane Access to T-Hangars)]
	2013	$161,111	Rehabilitate Apron [General Aviation Apron (Design Only)]
	2012	$72,000	Rehabilitate Taxiway [Rehab Partial Taxiway A and Taxilane Access to T-Hangers(Design Only)]
	2011	$93,100	Wildlife Hazard Assessments
	2010	$482,110	Install Perimeter Fencing, Rehabilitate Apron [Phase 1 of rehabilitate aircraft parking apron]
Headland Municipal	2014	$89,627	Construct Taxiway [Partial Parallel Taxiway - RW 27 End (Design only)], Rehabilitate Runway [Runway Marking Only] - 09/27
	2012	$434,392	Expand Apron [Expand apron (400' x 200')]
	2011	$66,380	Expand Apron [Expand Apron (Design Only)], Remove obstructions to permit WAAS approach
	2010	$180,014	Construct Fuel Farm

Source: Federal Aviation Administration, Airport Improvement Program (AIP) Grant Histories

6.6 SAFETY

The safety element of the 2040 MTP focuses on gathering and analyzing available safety data and then identifying general hazardous areas. Due to the limited scope of this study, it does not identify location specific recommendations for the identified hazardous locations. However, potential countermeasures which could be used to mitigate various crash types have been included in Chapter 8: Future Transportation Needs.

The ALDOT Chief Engineer has directed that the Alabama Department of Transportation cannot allow accident, incident, crash, injury, or fatality information and locations to be shown or presented in association with descriptions of transportation projects, facilities, or locations in formal planning documents (UPWP, Long Range Plan, TIP, Congestion Management Plan, and Air Quality Conformity documentation) that include narrative or tabular project listings or descriptions. Including such language in those documents could potentially expose both the MPO and the State of Alabama to litigation. – *Metropolitan Planning Section, ALDOT, January 29, 2015.*

Multimodal Accident Data Analysis

Roadways and Bridges

According to the National Highway Traffic Safety Administration (NHTSA) Fatality Analysis Reporting System (FARS), between 2009 and 2012 approximately 30,000 fatalities have occurred on United States' roadways each year. Every crash, regardless of the severity, costs money and time in damages, emergency services, and delays. These costs affect both governments and taxpayers. Despite the trend of reduced crashes over previous years, crashes and roadway safety still need to be addressed. One of the goals of this plan is to improve travel safety by reducing the risk of crashes on the roadways.

Crash data was analyzed by using crash records containing latitude and longitude data within the MPO study area from 2012 to 2014. The crash records included the type of crash, location of crash, severity of crash, and crash location conditions. Information regarding injuries and fatalities was also included in this data. A total of 9,439 crashes occurred within the MPO study area during this three year period. Table 6.23 shows a breakdown of the crashes by year.

Table 6.23 Automobile Crashes by Year (2012-2014)

Crash Year	Crashes
2012	3,086
2013	3,122
2014	3,231
Total	**9,439**

Source: The CARE Project, Center for Advanced Public Safety: The University of Alabama

Roadway Crash Trends

The first step in improving travel safety is determining the cause of the crashes. This study analyzed the time of day, roadway surface conditions, roadway lighting, crash severity, collision type, and whether or not alcohol was involved in the crashes. This information is presented and discussed on the following pages.

For each crash, the data shows approximately what time of day the crash occurred. These times are divided into hourly increments as shown in Table 6.24. Within the study area, 82 percent of the crashes occurred from 7:00 AM to 7:00 PM which corresponds with typical travel to work, school, and other various activities. The highest number of crashes occurred between 12:00 PM and 6:00 PM when traffic is likely to be the heaviest. The number of crashes was much lower between 12:00 AM and 6:00 AM when businesses and schools are closed and traffic is typically lighter.

Table 6.24 Automobile Crashes by Time of Day (2012-2014)

Hour Beginning	Number of Crashes	Percentage
Midnight	82	0.9%
1:00 AM	84	0.9%
2:00 AM	77	0.8%
3:00 AM	54	0.6%
4:00 AM	52	0.6%
5:00 AM	87	0.9%
6:00 AM	169	1.8%
7:00 AM	523	5.5%
8:00 AM	374	4.0%
9:00 AM	398	4.2%
10:00 AM	441	4.7%
11:00 AM	591	6.3%
12:00 PM	792	8.4%
1:00 PM	756	8.0%
2:00 PM	782	8.3%
3:00 PM	934	9.9%
4:00 PM	794	8.4%
5:00 PM	857	9.1%
6:00 PM	494	5.2%
7:00 PM	349	3.7%
8:00 PM	264	2.8%
9:00 PM	223	2.4%
10:00 PM	133	1.4%
11:00 PM	114	1.2%
Unknown	15	0.2%
Total	**9,439**	**100.00%**

Source: The CARE Project, Center for Advanced Public Safety: The University of Alabama

The roadway surface condition at the time of the crash may also be a contributing factor. A breakdown of the surface conditions for all crashes in the study area is shown in Table 6.25. While 1,583 crashes (nearly 17 percent) were reported during wet pavement conditions, 7,631 crashes (approximately 80 percent) occurred during dry conditions. Wet roadway surface conditions may have been a factor in some instances, but the majority of the crashes were unaffected by wet conditions.

Table 6.25 Automobile Crashes by Roadway Surface Conditions (2012-2014)

Roadway Surface Condition	Number of Crashes	Percentage
Dry	7,631	80.8%
Wet	1,583	16.8%
Ice	13	0.1%
Snow/Slush	0	0.0%
Muddy Sand/Dirt/Gravel/Water/Buildup/Other/Unknown	2	0.0%
Water Buildup	11	0.1%
Unknown	194	2.1%
Not Applicable	5	0.1%
Total	**9,439**	**100.0%**

Source: The CARE Project, Center for Advanced Public Safety: The University of Alabama

The lighting conditions during the time of each crash are also considered in this analysis. Table 6.26 includes a breakdown of the crashes that occurred under various lighting conditions. Over 75 percent of the crashes occurred during daylight. Approximately 16 percent of the crashes occurred in dark conditions with either no roadway lighting or only spot illumination on one or both sides of the roadway, while over 4 percent of the crashes occurred in the dark with continuous lighting on one or both sides of the roadway.

Table 6.26 Automobile Crashes by Roadway Lighting (2012-2014)

Lighting	Number of Crashes	Percentage
Daylight	7,134	75.6%
Dusk	221	2.3%
Dawn	78	0.8%
Dark – Roadway Not Lighted	549	5.8%
Dark – Unknown Roadway Lighting	43	0.5%
Dark – Spot Illumination One Side or Both Sides of Roadway	994	10.5%
Dark – Continuous Lighting One Side or Both Sides of Roadway	395	4.2%
Unknown	21	0.2%
Not Applicable	4	0.0%
Total	**9,439**	**100.0%**

Source: The CARE Project, Center for Advanced Public Safety: The University of Alabama

Crash severity should also be considered, and this data is shown in Table 6.27. Within the study area, 9,439 crashes occurred between 2012 and 2014, with 31 crashes claiming lives and 1,164 crashes causing injuries. Additionally, another 1,366 crashes were associated with possible injuries. Approximately 6 percent of the total crashes resulted in a fatality or incapacitating injury, while just over 71 percent of the crashes had no injuries reported. A total of 3,538 persons were reported as injured in crashes occurring throughout the three year study period.

Table 6.27 Automobile Crashes by Severity (2012-2014)

Severity	Number of Crashes	Percentage
Fatal Injury	31	0.3%
Incapacitating Injury	560	5.9%
Non-Incapacitating Injury	604	6.4%
Possible Injury	1,366	14.5%
Property Damage Only	6,773	71.8%
Unknown	105	1.1%
Total	**9,439**	**100.0%**

Source: The CARE Project, Center for Advanced Public Safety: The University of Alabama

The type of collision is also an important factor in determining the cause of crashes. Table 6.28 shows the number of crashes by collision type that occurred between 2012 and 2014. The four highest collision types, comprising nearly 79 percent of the crashes in the study area, were rear end collisions, single vehicle crashes, 90^0 side impact collisions, and angled side impact collisions. Rear end crashes account for the majority of the collisions (approximately 43 percent), and over half of these collisions are typically concentrated at intersections. According to the crash data, single vehicle crashes are the second most common collision type followed by side impact crashes.

Table 6.28 Automobile Crashes by Collision Type (2012-2014)

Collision Type	Number of Crashes	Percentage
Non-Collision	69	0.7%
Single Vehicle Crash (all types)	1,375	14.6%
Head-On (front to front only)	104	1.1%
Angle Oncoming (frontal)	178	1.9%
Angle (front to side)	432	4.6%
Rear End (front to rear)	4,097	43.4%
Side Impact (angled)	930	9.9%
Side Impact (90 degrees)	1,033	10.9%
Sideswipe – Same Direction	759	8.0%
Sideswipe – Opposite Direction	98	1.0%
Causal Vehicle Backing	195	2.1%
Other	155	1.6%
Unknown	14	0.1%
Total	**9,439**	**100.0%**

Source: The CARE Project, Center for Advanced Public Safety: The University of Alabama

The last factor considered in this analysis is whether or not alcohol was involved in these crashes. Alcohol is a factor in many crashes across the United States, so it is worth evaluating in this study. Table 6.29 shows a breakdown of alcohol involvement for crashes that occurred in the study area between 2012 and 2014. The data shows that alcohol was not involved in the majority of the crashes (approximately 87 percent). Only 3 percent of the crashes are shown to involve alcohol. However, 3 of the 31 fatal crashes within the study area listed alcohol involvement, so nearly 10 percent of fatality crashes were alcohol related.

Table 6.29 Alcohol Involvement in Automobile Crashes (2012-2014)

Alcohol	Number of Crashes	Percentage
Alcohol involved	283	3.0%
Alcohol not involved	8,241	87.3%
Unknown	334	3.5%
Not Applicable	581	6.2%
Total	**9,439**	**100.0%**

Source: The CARE Project, Center for Advanced Public Safety: The University of Alabama

Crash Locations

During the three year period from 2012-2014, 9,439 crashes were reported in the study area. As shown in Table 6.30, the majority of these crashes (approximately 93 percent) occurred in urban areas, while the remaining 7 percent were reported in rural areas. Table 6.31 shows a breakdown of the municipalities where the crashes occurred. Nearly 85 percent of the crashes were located in the City of Dothan, which is the largest municipality in the study area. The second highest area was rural Houston County, followed by the City of Headland and Midland City.

Table 6.30 Automobile Crashes by Location (2012-2014)

Location	Number of Crashes	Percentage
Urban	8,785	93.1%
Rural	654	6.9%
Total	**9,439**	**100.0%**

Source: The CARE Project, Center for Advanced Public Safety: The University of Alabama

Table 6.31 Automobile Crashes by Municipality (2012-2014)

City	Number of Crashes	Percentage
Ashford	66	0.7%
Cowarts	58	0.6%
Dothan	7,986	84.6%
Grimes	33	0.3%
Headland	191	2.0%
Kinsey	25	0.3%
Midland City	184	1.9%
Pinckard	60	0.6%
Rehobeth	31	0.3%
Rural Dale County	93	1.0%
Rural Houston County	551	5.8%
Taylor	72	0.8%
Webb	52	0.6%
Other (Less Than 10 Crashes Each)	37	0.4%
Total	**9,439**	**100.0%**

Source: The CARE Project, Center for Advanced Public Safety: The University of Alabama

Of the 9,439 crashes that occurred from 2012-2014, a total of 4,807 crashes occurred at intersections within the study area. Table 6.32 shows that rear end collisions are the most common type of collision at intersections, representing over 46 percent. Side impact collisions, which total approximately 25 percent, are the second highest collision type at intersections.

Table 6.32 Automobile Intersection Crashes by Collision Type (2012-2014)

Collision Type	Number of Crashes	Percentage
Non-Collision	26	0.5%
Single Vehicle Crash (all types)	422	8.8%
Head-On (front to front only)	61	1.3%
Angle Oncoming (frontal)	129	2.7%
Angle (front to side)	249	5.2%
Rear End (front to rear)	2,229	46.4%
Side Impact (angled)	558	11.6%
Side Impact (90 degrees)	665	13.8%
Sideswipe – Same Direction	302	6.3%
Sideswipe – Opposite Direction	41	0.9%
Causal Vehicle Backing	57	1.2%
Other	61	1.3%
Unknown	7	0.1%
Total	**4,807**	**100.0%**

Source: The CARE Project, Center for Advanced Public Safety: The University of Alabama

Since the nature of this study is to only identify trends, each specific location and corresponding crash record was not analyzed. All data shown in this study came from the CARE Project and was provided by the Center for Advanced Public Safety at the University of Alabama.

Within the MPO study area, a total of 9,439 crashes occurred between 2012 and 2014. The majority of these crashes took place between the hours of 7:00 AM and 7:00 PM, with the most crashes occurring from 12:00 PM to 6:00 PM. These peak hour crashes are likely the result of intersections and/or roadways not being designed to operate efficiently when presented with large traffic volumes. Safety can likely be improved and collisions reduced by adjusting signal timing, intersection improvements and/or adding lanes. Approximately 80 percent of crashes in the study area occurred during dry roadway surface conditions; therefore, wet roadway surface conditions do not play a major factor in the majority of crashes. Over 75 percent of crashes occurred during daylight hours, with approximately 16 percent of crashes occurring in dark conditions with either no roadway lighting or only spot illumination. The crashes that occurred under these conditions can likely be reduced by providing proper lighting at intersections.

Within the study area, there were 31 fatal crashes and 1,164 injury crashes reported between 2012 and 2014. Another 1,366 crashes were associated with possible injuries. Only 3 percent of the crashes that occurred in the study area involved alcohol, but 10 percent of total fatal crashes are alcohol related. Hence, this study recommends promoting programs that aim to eliminate drunk driving.

The majority of the crashes were located in urban areas (approximately 93 percent) with nearly 85 percent occurring in the City of Dothan. A total of 4,807 of the crashes were located at intersections within the study area, and 46 percent of these intersection collisions were rear end crashes.

The four highest collision types, making up nearly 79 percent of the crashes in the study area, were:

- Rear end collisions
- Single vehicle crashes
- 90^0 side impact collisions
- Angled side impact collisions

Bicycle and Pedestrian

Automobile crashes involving bicyclists and pedestrians were analyzed by using crash records from 2012 to 2014 obtained from the CARE website. This data did not have latitude and longitude data, so the only way to get isolate crashes occurring in the Metropolitan Planning Area was to retrieve data by municipality. Since most crashes occurred within municipalities, most data points were still included.

A total of 56 pedestrian crashes and 33 bicycle crashes occurred in municipalities in the MPA during this three year period. Only the City of Dothan had more than a few reported automobile crashes involving bicyclists and pedestrians. Because of this lack of data for other areas, only the crash data for Dothan was analyzed.

As indicated in Table 6.33, bicycle and pedestrian crashes were relatively consistent from 2012 to 2014, though there was a jump in pedestrian accidents in 2014. Pedestrian accidents were more common than bicyclist accidents.

Between 2012 and 2014, there three fatal pedestrian accidents and no fatal bicyclist accidents, as shown in Tables 6.34 and 6.35. The percentage of pedestrians that had incapacitating injuries was also high, about one in three. For bicyclists, though, it was less than four (4) percent. While the sample size is too low to draw conclusions, it appears that pedestrian crashes in Dothan mirror those of urban areas in Alabama and the state as a whole.

Table 6.33 Bicycle and Pedestrian Crashes by Year in Dothan

Mode	2012	2013	2014	Total
Pedestrian	14	15	21	50
Bicycle	10	10	8	28

Source: The CARE Project, Center for Advanced Public Safety: The University of Alabama

Table 6.34 Pedestrian Crashes by Severity in Dothan, 2012-2014

Crash Severity	Dothan		Urban Areas in Alabama		Alabama Total	
Fatal Injury	3	6.0%	138	7.1%	223	9.5%
Incapacitating Injury	17	34.0%	492	25.1%	625	26.5%
Non-Incapacitating Injury	18	36.0%	605	30.9%	725	30.8%
Possible Injury	8	16.0%	383	19.6%	408	17.3%
Property Damage Only	1	2.0%	179	9.1%	210	8.9%
Unknown	3	6.0%	160	8.2%	164	7.0%
Totals	50	6.0%	1,957	8.2%	2,355	7.0%

Source: The CARE Project, Center for Advanced Public Safety: The University of Alabama

Table 6.35 Bicycle Crashes by Severity in Dothan, 2012-2014

Crash Severity	Dothan		Urban Areas in Alabama		Alabama Total	
Fatal Injury	0	0.0%	15	1.2%	22	1.6%
Incapacitating Injury	1	3.6%	128	10.6%	175	12.8%
Non-Incapacitating Injury	10	35.7%	298	24.8%	338	24.8%
Possible Injury	9	32.1%	159	13.2%	167	12.2%
Property Damage Only	8	28.6%	536	44.5%	593	43.5%
Unknown	0	0.0%	68	5.6%	69	5.1%
Totals	28	100.0%	1,204	100.0%	1,364	100.0%

Source: The CARE Project, Center for Advanced Public Safety: The University of Alabama

Public Transit

Between Fiscal Years 2012 and 2014, the Wiregrass Transit Authority only reported safety events in one year. In 2014 one collision occurred and resulted in an injury.

Rail

According to the Federal Rail Administration, from 2012 to 2014, there were three train derailments in the Houston and Dale counties. There were no injuries or fatalities in any of these derailments. Two of the derailments were on CSX tracks and the other was on Wiregrass Central Railway tracks. All three derailments were caused by structural issues.

Aviation

The National Transportation Safety Board (NTSB) aviation accident database contains information from 1962 and later about civil aviation *accidents* and selected *incidents* within the United States. Full narrative descriptions may not be available for dates before 1993, cases under revision, or where NTSB did not have primary investigative responsibility.

According to the NTSB data, only one aviation safety or security event has occurred in the Metropolitan Planning Area between 2012 and 2014. That event was a non-fatal accident that involved a personal aircraft approaching Dothan Regional Airport in March 2012. The last accident before that was in 2002.

Alabama Strategic Highway Safety Plan

A Strategic Highway Safety Plan (SHSP) is a statewide-coordinated safety plan developed by establishing optimum strategies, projects, and programs among multiple agencies to reduce highway fatalities and serious injuries on all public roads.

The State of Alabama maintains a SHSP that was developed as part of the Safe Accountable Flexible Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) requirements. The original SHSP was developed in 2006.The project was led by the Safety Management, Action and Resources Task Force (SMART) which is a volunteer group comprised of more than 75 members representing 25 stakeholder agencies. Important decisions were based on crash data obtained from the Critical Analysis Reporting Environment (CARE) software that was developed at the University of Alabama, and special interdisciplinary teams were developed to investigate special topics throughout the project. Two specific goals identified for the 2006 SHSP were to:

- Decrease the fatal mileage rate in Alabama from 1.8 to 1.5 per 100 million vehicle miles traveled by 2008
- Reduce run-off-road fatalities from 416 to 357 and run-off-road injuries from 8230 to 7068 by 2008

The SHSP used fatal crash data to identify the following five primary emphasis areas:

- Emergency Medical Services
- Older/Restricted Drivers
- Safety Legislation
- Risky Driving
- Run-Off-Road Crashes

The 2nd Edition of the SHSP was completed in 2012. In this version of the plan, the focus areas were reorganized, the goal was shifted to a Toward Zero Deaths (TZD) program, and a public education/information element was incorporated. While the ultimate vision is to bring the number of fatalities on Alabama roadways to zero, the goal of the current SHSP is to reduce the number of highway fatalities by 50 percent in 25 years. Using the 4E's (engineering, education, enforcement, and emergency medical services) approach, five new emphasis areas and their corresponding priority strategies were identified as follows:

- Driver Behavioral Crashes
  - Continue to participate in nationwide strategies, such as the *Click It or Ticket* Campaign to enforce traffic safety laws
  - Plan enforcement activities for locations identified as being over-represented in speeding and alcohol/drug related crashes (Special Traffic Enforcement Program – STEP)
  - Plan monthly enforcement activities in counties identified as being over-represented in non-fatal commercial vehicle crashes
  - Conduct more compliance reviews on interstates for high risk motor carriers

- Continue to promote the *Drive Sober or Get Pulled Over* Campaign which consists of signs displaying the Campaign slogan, roadblock checks, saturation and line patrols, and placing added emphasis on areas where a high number of alcohol-related crashes have occurred
- Continue to promote the *Take Back Our Highways Campaign* which uses increased enforcement and awareness to address speeding and alcohol use while driving
- Continue to conduct Safety Talks with the public, trucking industry, and governmental agencies related to commercial vehicle safety
- Use Electronic Citation (eCite) and Electronic Crash Reporting (eCrash) to manage traffic citations and crashes to allow more complete and accurate data to be readily available to law enforcement and traffic safety officials
- Continue to provide financial assistance to the Department of Public Safety (DPS) for increased police enforcement on the state highway system
- Continue Public Relations initiatives to improve safety culture
- Certify additional motor coach inspectors and supervisors and enhance training efforts for DPS Motor Carrier Safety Unit employees
- Participate in the Alabama Distracted Driving Summit (UAB and University of Alabama Transportation Centers)
- Educate legislators, decision-makers, and the public by developing and distributing anti-distracted driving campaigns for Alabama
- Continually improve documentation and reporting of Distracted Driving related crashes within the State
- Continue the Alabama Department of Public Health campaign that warns teens about the deadly consequences of distracted driving

➢ Infrastructure Countermeasures

- Categorically assess intersection safety issues
- Implement programs to minimize roadway departure crashes
- Keep drivers on the road and guide their traffic movements
- Utilize supporting programs to evaluate and compare the safety effectiveness of projects
- Create a program to educate teenage drivers about the effect of roadway departure crashes
- Provide training at all levels on the use of the AASHTO Highway Safety Manual
- Educate local government traffic engineers and public works directors
- Develop a speed management program
- Utilize enforcement programs

- Legislative Initiative
  - Continue to review and update legislative work team membership and related tasks
  - Provide list of traffic safety legislation and prioritize accordingly for crash reduction potential, and conduct annual assessments of traffic data to analyze crashes and citations to identify traffic safety legislation needs
  - Develop educational materials and provide to policy makers, legislators, media outlets, interested grass roots organizations, and the general public
- Traffic Safety Information Systems (TSIS)
  - Continue to perform Traffic Record Assessments for the state safety data processes to develop recommendations for improving traffic information in accordance with NHTSA formalized processes
  - Continue to improve existing electronic data systems and provide data exchange mechanisms between the different components using tools such as eCITE, eCRASH, CARE crash database, and roadway GIS and mapping
  - Assist ALDOT in improving infrastructure information systems
  - Support the Traffic Records Coordinating Committee (TRCC) efforts in developing and implementing a strategic plan for TSIS
  - Encourage TRCC to meet regularly to work toward a comprehensive data collection and management system
  - Continue initiative for implementation of AASHTO Highway Safety Manual for Alabama
  - Promote SafeHomeAlabama.gov as primary source for distributing traffic safety information
- Safety Stakeholder Community
  - Conduct a public information and awareness campaign using strategic outreach methods as part of an effort coordinated across the safety stakeholder community
  - Activate safety stakeholders through a Traffic Safety Summit, periodic stakeholder meetings, e-newsletters, printed safety materials, and a Speaker's Bureau
  - Lead stakeholders to advocate for improving Alabama's safety culture

ALDOT is once again updating their SHSP in response to the latest federal transportation authorization, the Moving Ahead for Progress in the 21st Century Act (MAP-21). This project is led by the University Transportation Center for Alabama (UTCA) with support from the Center for Advanced Public Safety (CAPS) at the University of Alabama and technical support and strategic guidance from Cambridge Systems. The plan is expected to be complete by September 2015.

6.7 SECURITY

While safety and security are closely related, they are differentiated by the cause of the harm from which the transportation system and its users are being protected. Safety encompasses the prevention of unintentional harm to system users or their property. This includes vehicular crashes (whether of cars, trucks, buses, airplanes, or bicycles), train derailments, slope failures or other sudden destruction of roadways due to natural causes, and falls or injuries to pedestrians due to poorly constructed or absent facilities, among other issues. Security involves the prevention of intentional harm to the transportation system or its users, including theft or dismemberment of elements of transportation infrastructure, assault on users of the system, or large-scale attacks intended to completely disrupt the movement of people and goods.

The main role of MPOs in planning for security is to coordinate with relevant agencies, such as emergency management officials, police and sheriff's departments, fire departments, and rescue squads. However, MPOs can take certain measures to improve security prevention, protection, response, and recovery.

Prevention

As related to security, prevention refers to efforts to limit access to resources that may be compromised or efforts to increase surveillance. Examples of prevention measures include access control systems, closed circuit television (CCTV) systems, security alarms, fencing, locks, and architectural barriers. The design of facilities and public spaces can also incorporate features that deter security breaches, such as open floor plans, sufficient lighting, etc.

Protection

For facilities that are high vulnerability risks, additional design measures should be considered. These measures would mitigate potential security risks, should they occur.

Response

Redundancy of transportation facilities should be encouraged in capital project planning. This assists in emergency evacuations or detours should a particular segment of the transportation network becomes unavailable. The use of Intelligent Transportation Systems to control traffic signals and other controls also assists in responding to security risks.

Recovery

Short-term and long-term recovery plans should be familiar to transportation decision-makers. This includes everything from evacuating to restoring local businesses and neighborhoods. ALDOT has dedicated evacuation routes and there is a hazard mitigation plan for all counties in the Metropolitan Planning Area.

7.0 FORECASTING FUTURE TRAVEL DEMAND

The following chapter describes how transportation demand in the Metropolitan Planning Area was forecast through 2040 for the Metropolitan Transportation Plan (MTP).

7.1 Generalized Travel Demand Forecast Process

The 2040 MTP uses a regional travel demand model to forecast future travel demand. This generalized four-step process is described below. More detailed information can be found in the Appendix.

Trip Generation

This is the first step of the travel demand modeling process. This step determines the number and type of trips that will be produced from and attracted to a Traffic Analysis Zone (TAZ), or small geographical area defined specifically for transportation planning purposes. Trip generation relies on socioeconomic and land use data. While this data already exists for the base year, it must be forecast for future years.

Trip Distribution

This step determines trip origins and destinations based on land use patterns and a gravity model, which assumes that travelers will gravitate towards the closest establishment that meets the purpose of their trip.

Mode Choice

This step converts person trips to vehicle trips and accounts for the fact that not all trips are made by motor vehicles.

Trip Assignment

This is the final step in which vehicular trips are distributed across the roadway network based on a number of factors, most notably travel time.

7.2 Forecasting Population and Employment Changes

Aside from changes to the transportation system, land use changes are the primary drivers of changes in travel demand over time. For modeling purposes, land use changes are measured by changes in the magnitude and distribution of population, employment, and school enrollment. Changes are forecast at the TAZ level, which is typically comprised of a group of census blocks but is not larger than a census block group.

Population, employment, and school enrollment information for the base year was compiled for all TAZs using the following sources:

- The 2010 Census provided population and housing information,
- Proprietary employment point data, obtained by the MPO staff, from InfoUSA provided detailed information on existing establishments in the Metropolitan Planning Area, including the number of employees.
- School enrollment data provided by the MPO staff, which was compiled from U.S. Department of Education National Center for Education Statistics.

As part of the 2040 MTP development process, population and employment forecasts were developed at the county level by the University of Alabama Center for Business and Economic Research (CBER) for the four counties in the Southeast Wiregrass Area MPO. These forecasts were heavily influenced by population growth from 2000 to 2010.

Using the CBER county forecasts, the generalized process described below was utilized to develop TAZ level population, employment, and school enrollment forecasts:

1. County forecasts were used to develop population and employment control totals for the Metropolitan Planning Area based on the assumption that the MPO's share of all population and employment in the four counties will remain similar or increase through 2040.
2. Wetlands, recreational areas, and existing developed areas were not allocated additional housing units or employment unless there was a known planned redevelopment or high development pressures. Areas in floodplains were assumed to be less likely to develop.
3. New occupied housing units were forecast for each TAZ with the following assumptions:
    a. Most growth will occur near areas where growth occurred from 2000 to 2010.
    b. The growth areas identified in the visioning exercises receive priority for development.
    c. Development known to have occurred since 2010 and recently approved development was added first. For new subdivisions, it was assumed that most lots would be developed by 2020 and virtually all lots would be developed by 2030.
    d. Land use regulations were considered so that housing units were not added in excess of what is legally permissible. If no land use regulations were available, the context of the immediate area was considered for average lot size.
4. Population forecasts were then developed from the TAZ-specific change in housing units, using a cohort-component approach. This approach also created school-age information.
5. Future school enrollment was projected based on the forecasted change in school-age population. The projected enrollment data was assigned to TAZs that are closest to closest public elementary, middle, and high schools. Private school and college/university enrollment was projected to mirror the change in MPO area population.
6. Employment forecasts were developed for each TAZ based on the following assumptions:
    - Most growth will occur near areas where population growth occurred from 2000 to 2010.
    - Priority was given to areas near major roadways and for industrial employment, areas near existing industrial areas, airports, and railroads.

- The growth areas identified in the visioning exercises receive priority for development.
- Development known to have occurred since 2010 or recently approved development was included.
- Land use regulations were considered so that employment was not added to areas where it is not legally permissible.

After initial TAZ forecast data was developed, it was reviewed by MPO staff, stakeholders, and the public. Slight changes were made based on this input. The resulting changes in population and employment are shown in Table 7.1 and illustrated in Figures 7.1 through 7.6.

While there are some areas expected to grow significantly, overall land use patterns remain fairly consistent. Some of the major changes include:

- Growth in both employment and households near the Alabama College of Osteopathic Medicine;
- Notable Increases in household densities between US 231 and Taylor Road, mostly due to the build out of existing subdivisions. Some retail and employment growth follows this residential growth;
- Increases in employment near the two major hospitals and existing commercial corridor along US 231; and
- Increases in employment near Dothan Regional Airport.

Table 7.1 Population Forecast Data by Year

Variable	Description	2010	2040	Change	Percent Change
OCCDU	Occupied Dwelling Units (Households)	39,908	52,387	12,479	31.3%
TOTPOP	Total Population in TAZ	98,934	124,062	25,128	25.4%
HHS1	Households with 1-person	10,755	13,672	2,917	27.1%
HHS2	Households with 2-persons	13,945	18,531	4,586	32.9%
HHS3	Households with 3-persons	6,823	8,924	2,101	30.8%
HHS4	Households with 4-persons	5,171	6,865	1,694	32.8%

Table 7.2 Employment Forecast Data by Year

Variable	Description	2010	2040	Change	Percent Change
TOT_EMP	Total Employment	51,172	65,028	13,856	27.1%
RET_EMP	Retail Employment	13,533	15,338	1,805	13.3%
AMC_EMP	Agriculture, Mining and Construction Employment	2,549	2,696	147	5.8%
MTCUW_EMP	Manufacturing, Transportation/Communications/ Utilities and Wholesale Trade Employment	10,252	13,413	3,161	30.8%
OS_EMP	Government, Office and Services Employment	24,579	33,263	8,684	35.3%
OTH_EMP	Other Employment	259	328	69	26.6%

7.3 Updating the Future Transportation Network

Improvements to the transportation network also affect travel demand. In addition to the socioeconomic forecasts, transportation projects that have committed funding or have been constructed since 2010 were noted. These projects were then added to the model network to create a 2040 Existing plus Committed (E+C) network. The three E+C projects for the SWAMPO are provided in Table 7.3 and illustrated in Figure 7.7.

Table 7.3 Existing and Committed Transportation Projects

Map ID	Route	Location	Improvement	Status	Miles
1	Denton Rd	Ross Clark Cir to Westgate Pkwy	Widen to 4 Lanes	Committed	1.20
2	Ross Clark Cir	Baumann Dr to US 231 North	Widen to 6 Lanes	Committed	2.20
3	SR 52	Brannon Stand Rd to Scott Rd	Realign and widen to 4 Lanes	Complete	3.40

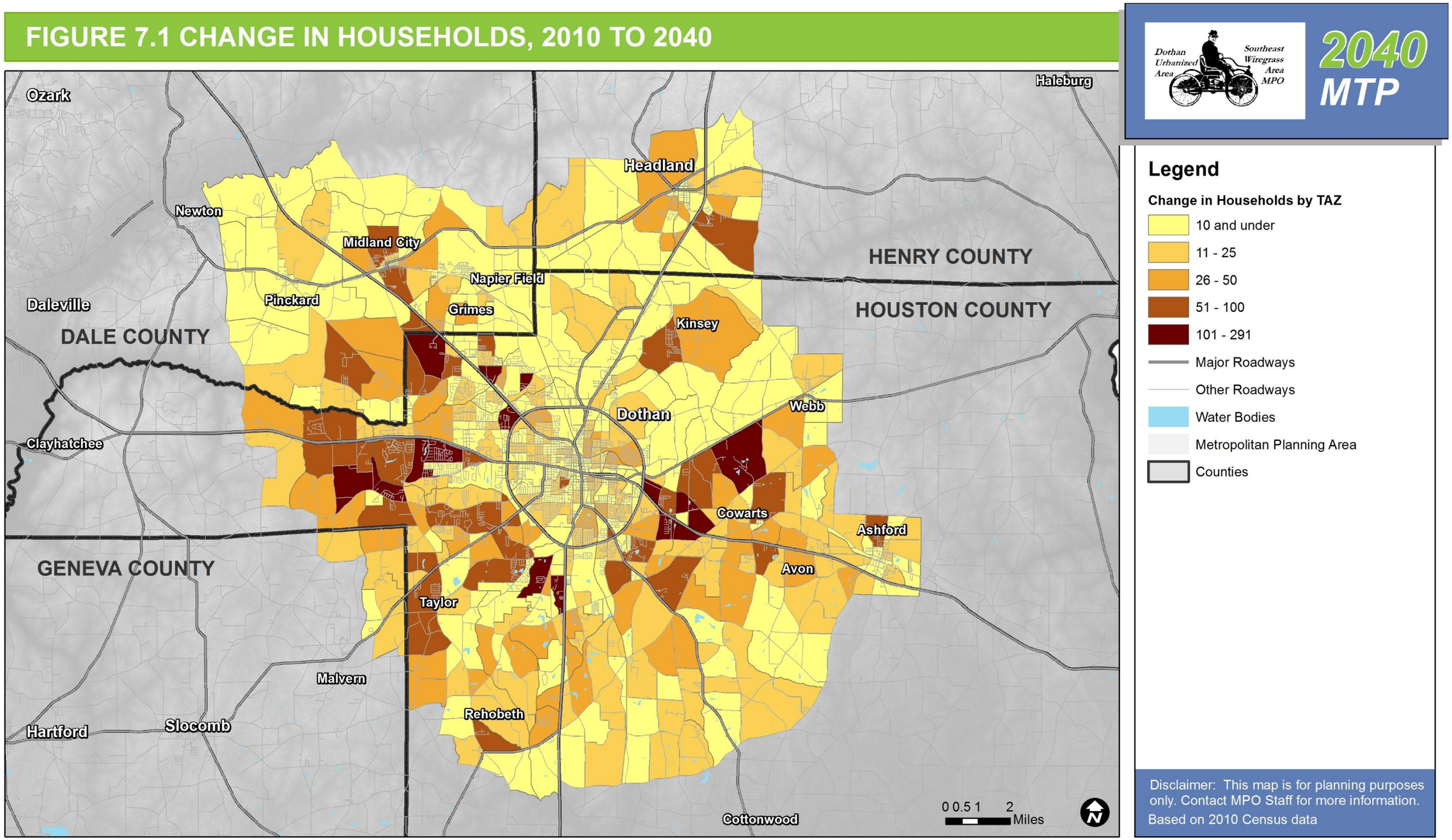
Source: ALDOT, SWAMPO

7.4 Travel Demand Model Outputs

The primary outputs of the Travel Demand Model are vehicle trips, vehicle miles traveled, vehicle hours traveled, and vehicle hours of delay. This information, when combined with roadway capacities and other network information informs the needs analysis in Chapter 8.

Model outputs are included and discussed in later chapters. Table 8.1 and Table 8.2 compare the baseline conditions to the 2040 E+C conditions. Table 11.1 highlights the impact of the fiscally-constrained projects included in the 2040 MTP.

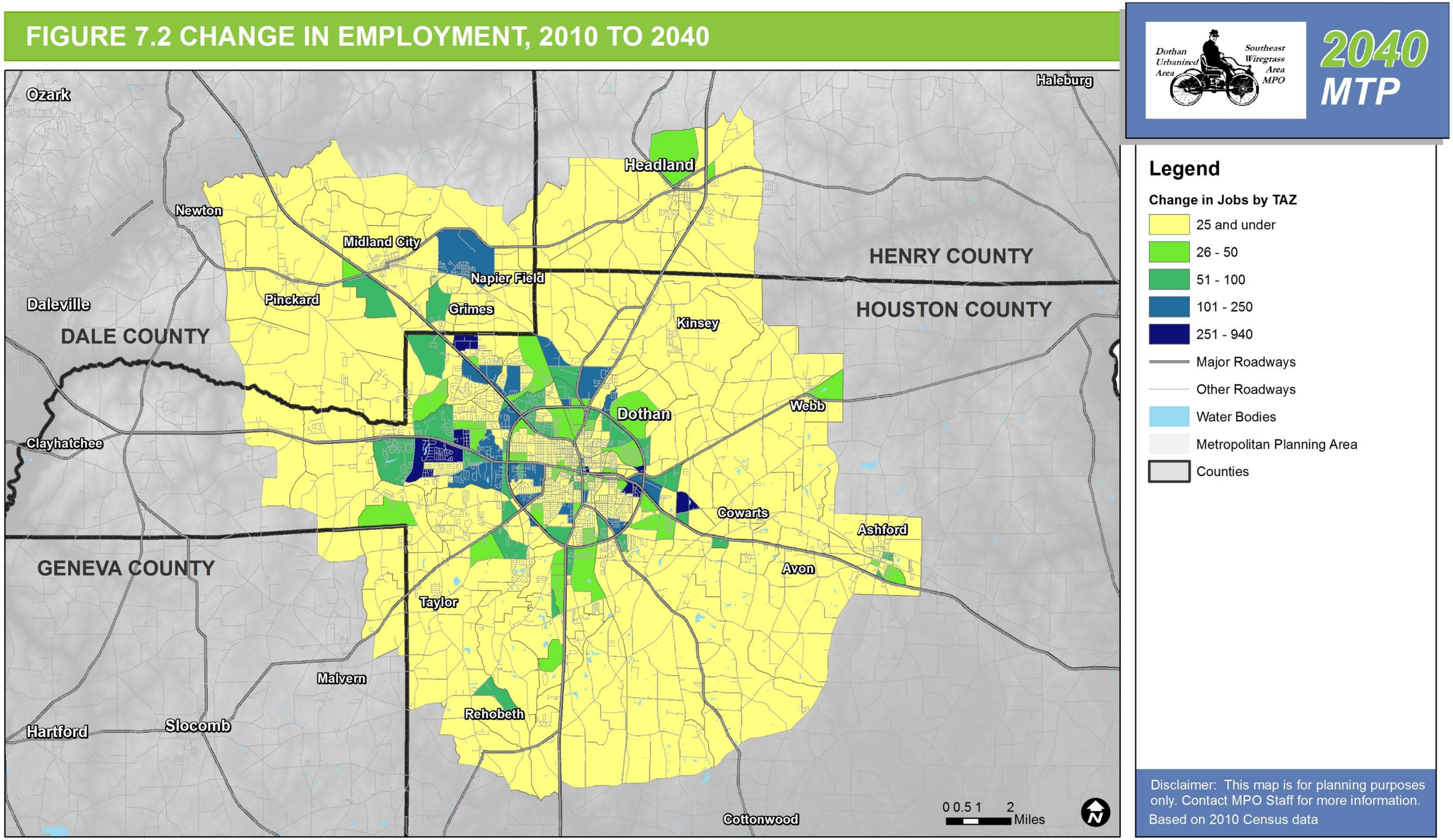
FIGURE 7.1 CHANGE IN HOUSEHOLDS, 2010 TO 2040



Map Source: Neel-Schaffer, Inc.

Data Sources: Dothan Travel Demand Model

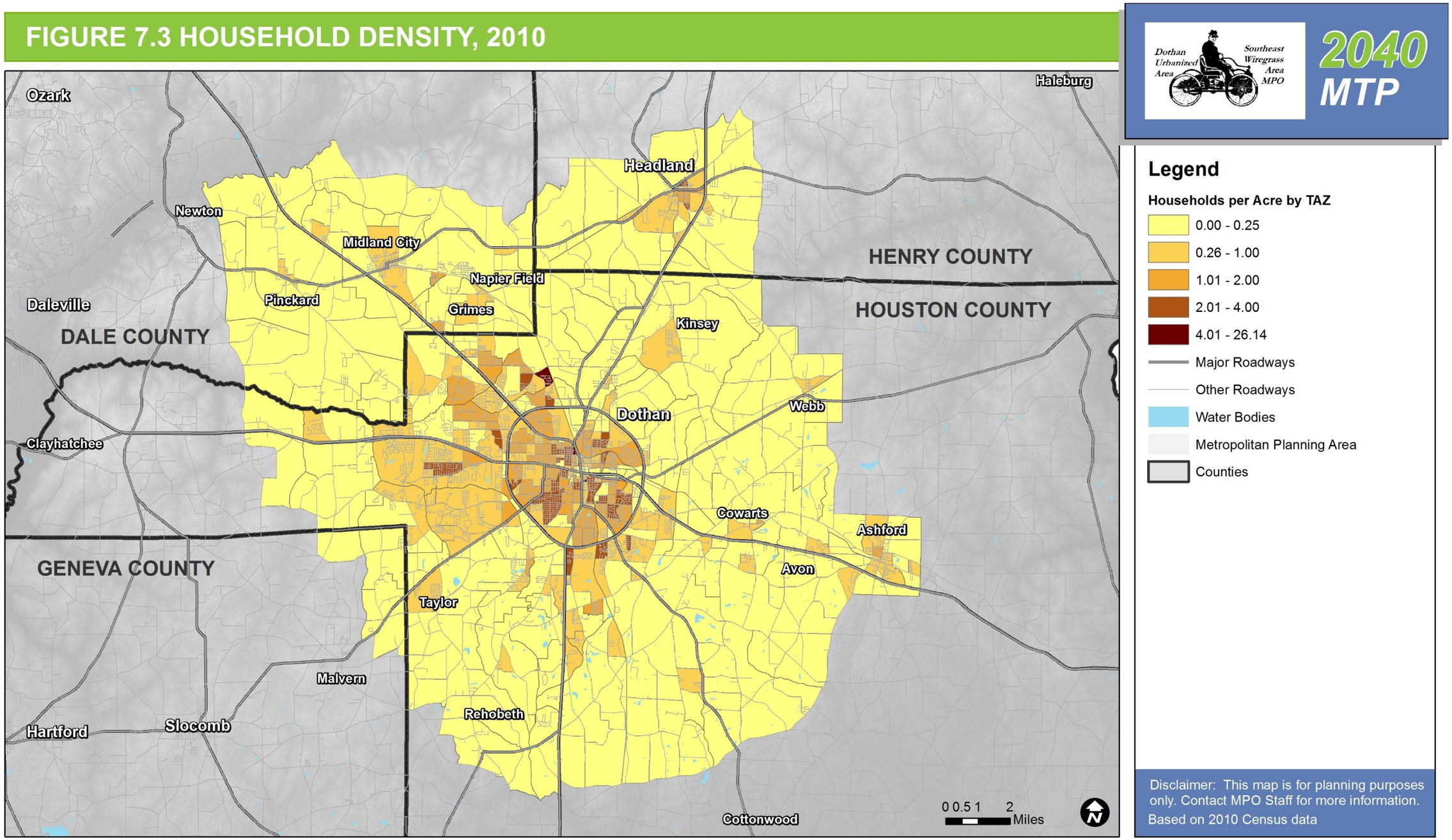
FIGURE 7.2 CHANGE IN EMPLOYMENT, 2010 TO 2040



Map Source: Neel-Schaffer, Inc.

Data Sources: Dothan Travel Demand Model

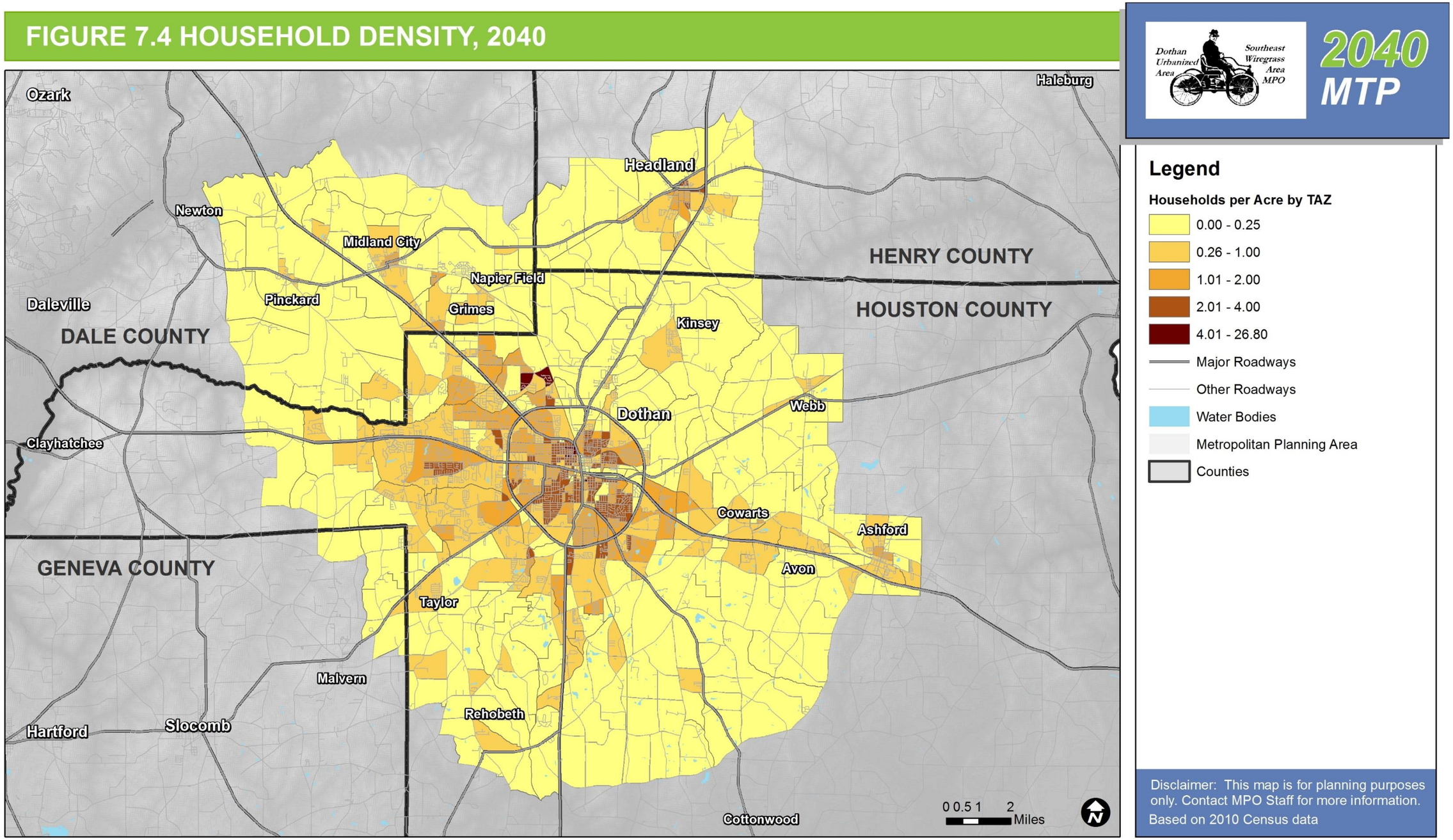
FIGURE 7.3 HOUSEHOLD DENSITY, 2010



Map Source: Neel-Schaffer, Inc.

Data Sources: Dothan Travel Demand Model

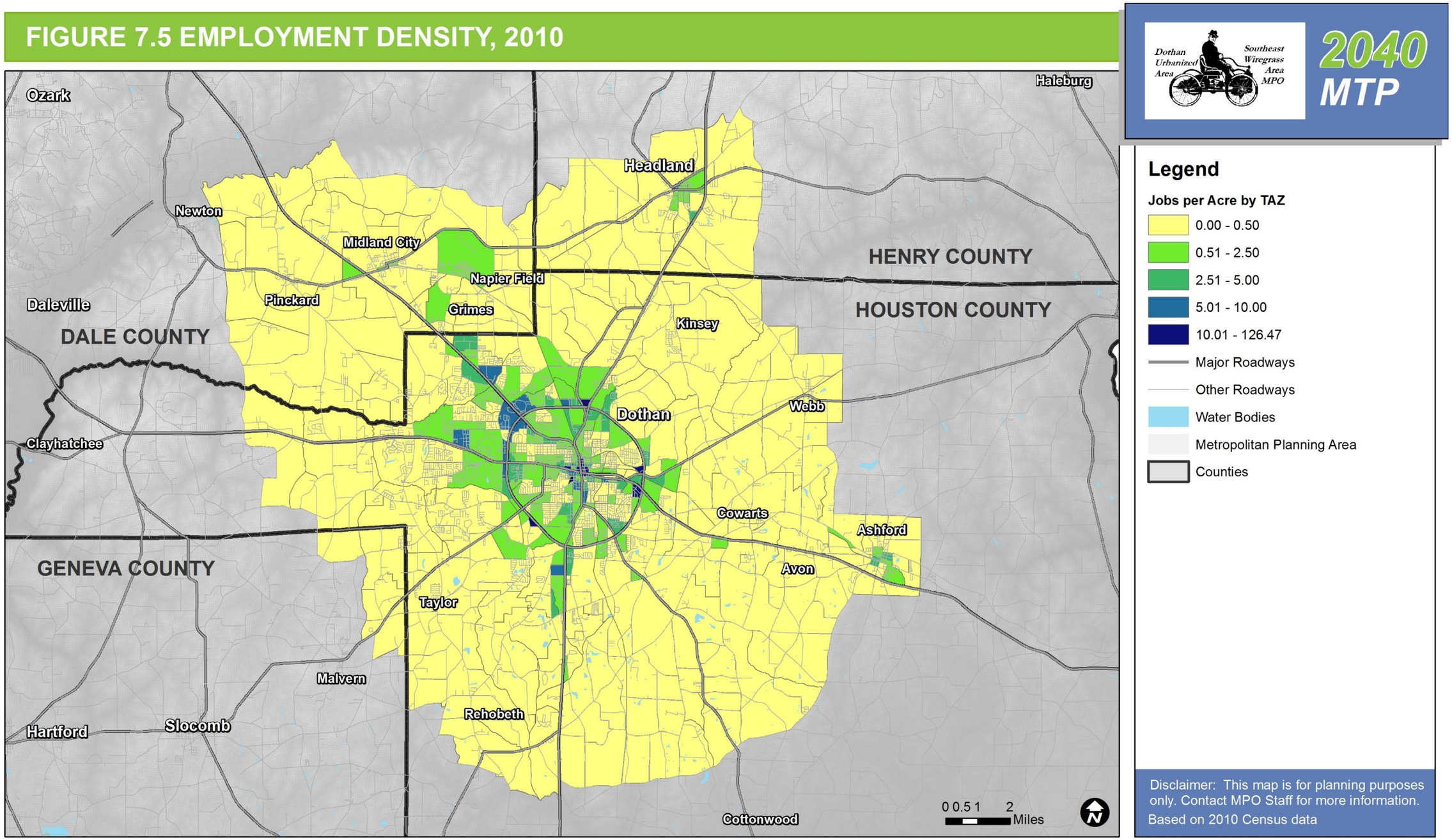
FIGURE 7.4 HOUSEHOLD DENSITY, 2040



Map Source: Neel-Schaffer, Inc.

Data Sources: Dothan Travel Demand Model

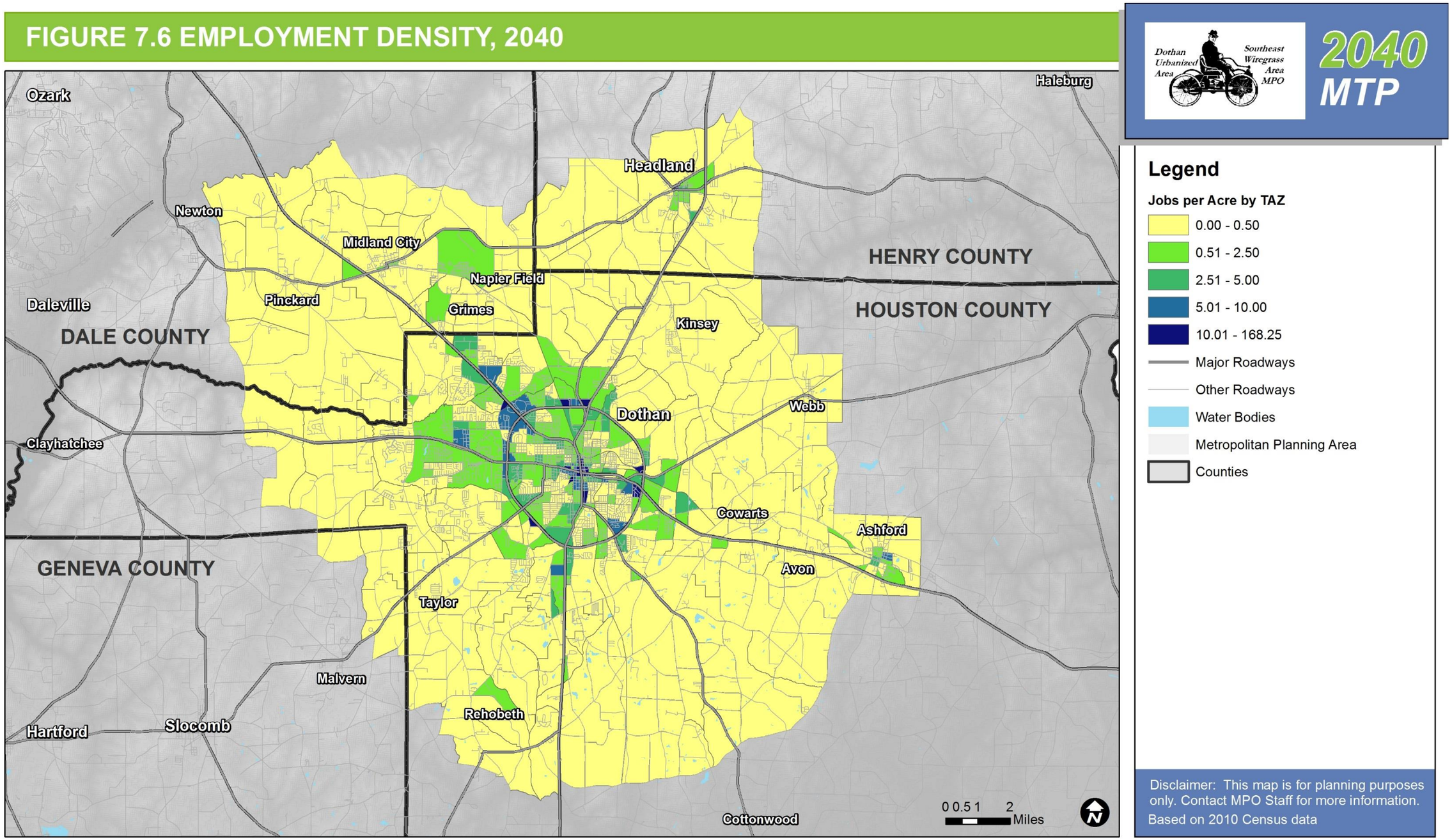
FIGURE 7.5 EMPLOYMENT DENSITY, 2010



Map Source: Neel-Schaffer, Inc.

Data Sources: Dothan Travel Demand Model

FIGURE 7.6 EMPLOYMENT DENSITY, 2040

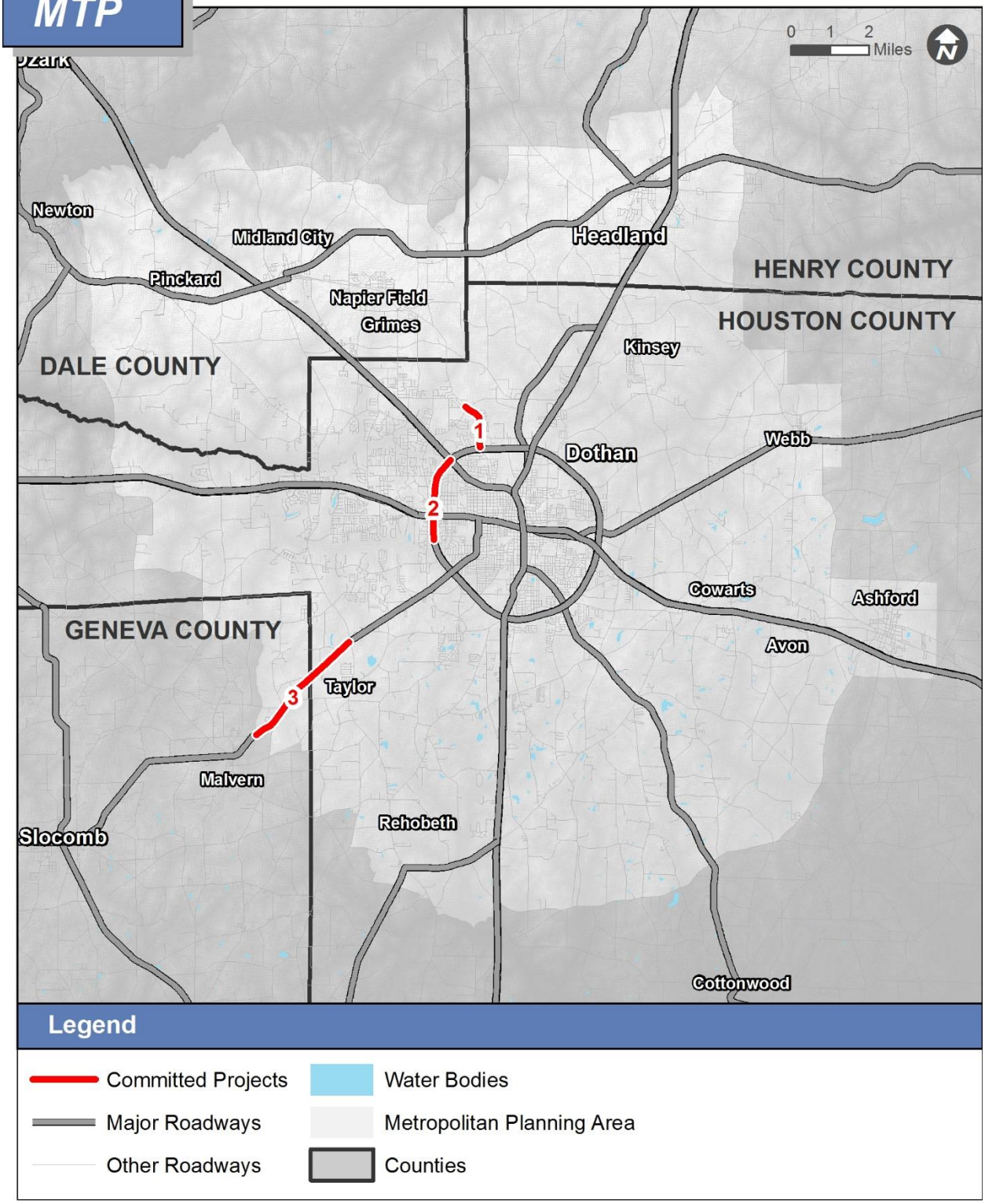


Map Source: Neel-Schaffer, Inc.

Data Sources: Dothan Travel Demand Model

2040 MTP

FIGURE 7.7 FINANCIALLY COMMITTED ROADWAY PROJECTS



Disclaimer: This map is for planning purposes only.

Based on US 2010 Census data

Map Source: Neel-Schaffer, Inc.

Data Sources: ALDOT

8.0 FUTURE TRANSPORTATION NEED

This section discusses transportation issues that will need to be addressed in the future. It was developed by an analysis of existing conditions and travel demand model forecasts. However, existing plans, public involvement, and stakeholder input were also incorporated.

8.1 ROADWAYS AND BRIDGES

Given the population and employment growth forecast to occur by 2040, the Dothan Travel Demand Model indicates that the number of vehicle trips in the Metropolitan Planning Area will increase by nearly 40 percent, increasing by about 150,000 trips from 2010 to 2040. Most trip types grow by the same rate, but trips originating outside of the Metropolitan Planning Area are forecast to grow slightly slower. These changes are summarized in Table 8.1.

Table 8.2 shows that, if only transportation projects that currently have committed funding are constructed, there will be no new roadways. The committed projects are widening projects and will increase the lane miles, but not the centerline miles.

Table 8.2 also shows the forecast change in Vehicle Miles Traveled (VMT), Vehicle Hours Traveled (VHT), and Hours of Delay. This data indicates that both VMT and VHT will increase by about 40-50 percent, largely due to the forecast growth and change in land use patterns. The change in hours of delay shows that without any additional projects beyond those already funded, the additional travel generated by this growth will result in a very high percent increase in delay, mostly on principal arterials. Still, the absolute change in delay is not significant considering the number of daily trips. The minutes of delay per trip in 2040 would still be less than one minute.

Table 8.1 Vehicle Trips by Purpose, 2010 to 2040

Trip Purpose	2010	2040 (E+C)	Change	Percent Change
Home-Based Work	67,592	92,757	25,165	37.2%
Home-Based Other	107,260	147,162	39,902	37.2%
Non-Home Based	58,289	79,977	21,688	37.2%
Commercial Vehicle	36,363	49,903	13,540	37.2%
External-Internal	106,140	149,009	42,869	40.4%
External-External	9,069	12,978	3,909	43.1%
Total	384,713	531,786	147,073	38.2%

Note: E+C is Existing and Committed transportation projects
Source: Dothan Travel Demand Model, NSI

Table 8.2 Travel Demand Impact of Growth and Existing and Committed Projects, 2010 to 2040

Centerline Miles of Roadways				
Classification	**2010 (Base)**	**2040 (E+C Projects)**	**Absolute Difference**	**Percent Difference**
Interstate	0	0	0	0.0%
Expressway	0	0	0	0.0%
Principal Arterial	80	80	0	0.0%
Minor Arterial	135	135	0	0.0%
Collector	231	231	0	0.0%
Total	1,194	1,194	0	0.0%
Daily Vehicle Miles Traveled (VMT)				
Classification	**2010 (Base)**	**2040 (E+C Projects)**	**Absolute Difference**	**Percent Difference**
Interstate	0	0	0	0.0%
Expressway	0	0	0	0.0%
Principal Arterial	1,780,068	2,427,797	647,729	36.4%
Minor Arterial	638,476	929,905	291,429	45.6%
Collector	358,806	536,203	177,397	49.4%
Total	2,777,350	3,893,905	1,116,555	40.2%
Daily Vehicle Hours Traveled (VHT)				
Classification	**2010 (Base)**	**2040 (E+C Projects)**	**Absolute Difference**	**Percent Difference**
Interstate	0	0	0	0.0%
Expressway	0	0	0	0.0%
Principal Arterial	37,647	55,295	17,648	46.9%
Minor Arterial	15,536	22,914	7,378	47.5%
Collector	8,920	13,353	4,433	49.7%
Total	62,103	91,563	29,459	47.4%
Daily Vehicle Hours of Delay				
Classification	**2010 (Base)**	**2040 (E+C Projects)**	**Absolute Difference**	**Percent Difference**
Freeway	0	0	0	0.0%
Expressway	0	0	0	0.0%
Principal Arterial	1,607	6,035	4,427	275.4%
Minor Arterial	92	313	220	238.4%
Collector	8	48	40	503.7%
Total	1,708	6,395	4,687	274.5%

Note: E+C is Existing and Committed transportation projects
Source: Dothan Travel Demand Model, NSI

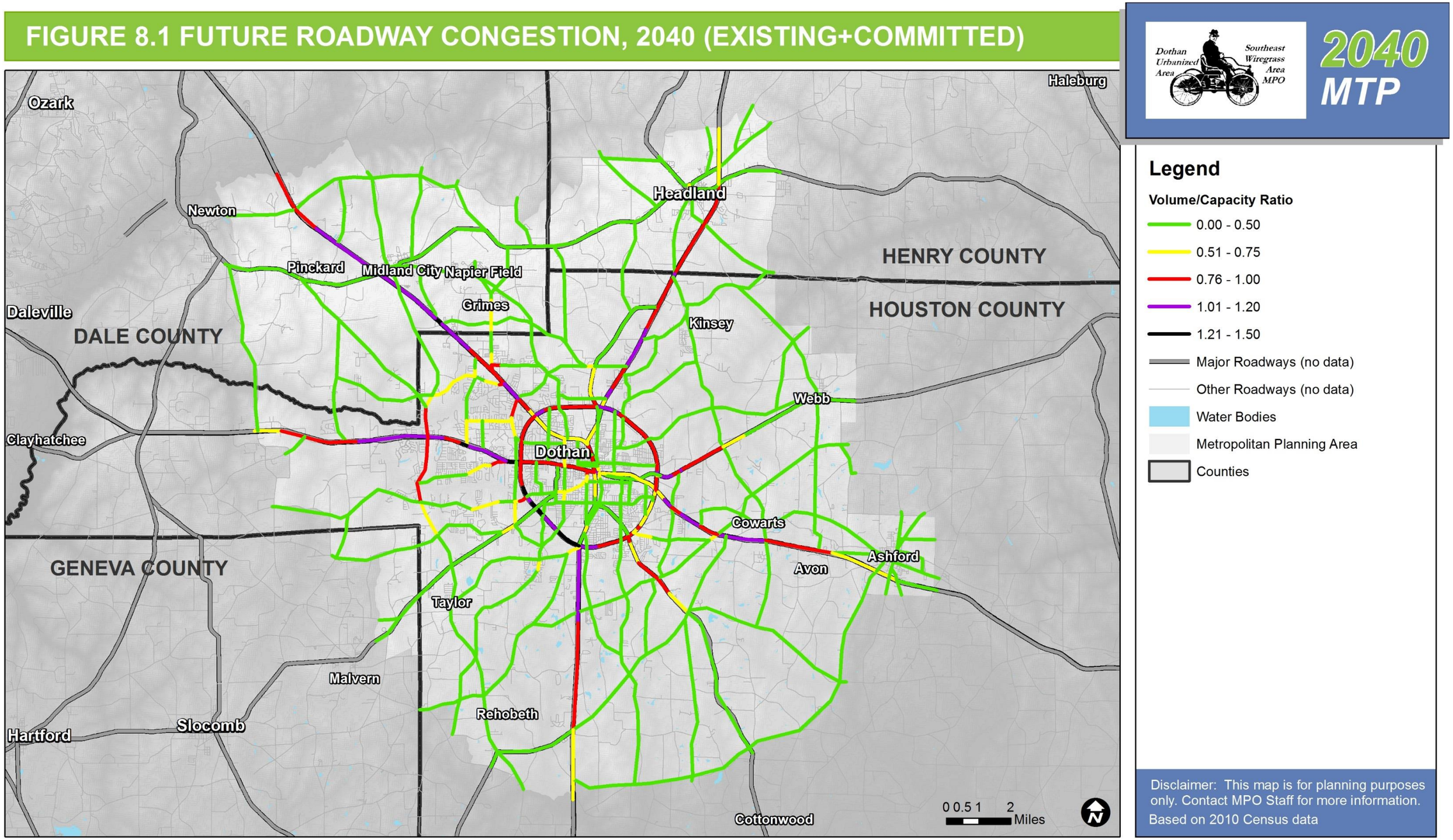
While congestion is not currently an issue for the Dothan Metropolitan Planning Area, by 2040 congestion is forecast to become more widespread if only the existing and committed projects are implemented. The number of roadway segments with Volume to Capacity (V/C) ratios above 1.00 would increase from four in 2010 to seventeen in 2040, as listed in Table 8.3 and illustrated in Figure 8.1. Still, while congestion is forecast to become more widespread, no segments are forecast to have V/C ratios above 1.5.

It is important to note that not all segments with a high V/C ratio should be widened with additional through lanes or turning lanes. In urban settings, it may be more appropriate to consider Intelligent Transportation Systems (ITS) improvements like signalization improvements or reversible lanes. It also may be more appropriate to employ Transportation Demand Management (TDM) strategies and/or improve walking, biking, or transit conditions to encourage alternative means of transportation.

Table 8.3 Segments with Volume to Capacity Ratios above 1.00 in 2040 (E+C)

Route	Limits	Length
W Main St	Enfinger Rd to Ross Clark Cir	5.35
W Main St	Oates St to Columbia Hwy	0.25
S Oates St	Peel St to Ross Clark Cir	2.37
E Main St	0.34 miles W of Beverly Rd to Beverly Rd	0.34
E Main St	Rowland Rd to Drew Rd	0.74
E Main St	Forrester Rd/Glen Lawrence Rd to Broad St	1.52
Columbia Hwy	0.12 miles E of Ross Clark Cir to Sam Houston Blvd	0.89
Reeves St	Murray St to Bunche St	0.57
Reeves St	Westgate Pkwy to Landmark Dr	1.27
US Hwy 431	Bethel Rd to Main St	0.10
US Hwy 231	Sandy Ln to Horace Shepard Dr	6.03
Montgomery Hwy	Murphy Mill Rd to Westgate Pkwy	0.63
Phillip J Hamm Dr	Montgomery Hwy to Flynn Dr	0.20
Ross Clark Cir	0.33 miles N of Fortner St to Maudlin Dr	3.05
Ross Clark Cir	Columbia Hwy to Cliff Rd	0.21
Ross Clark Cir	Headland Ave to Miskell Dr	0.66
Ross Clark Cir	Montgomery Hwy to 0.31 miles east	0.31

FIGURE 8.1 FUTURE ROADWAY CONGESTION, 2040 (EXISTING+COMMITTED)



Map Source: Neel-Schaffer, Inc.

Data Sources: Dothan Travel Demand Model

Roadway Safety Need

Recommendations for reducing the most common types of crashes in the Dothan Metropolitan Planning Area are outlined below.

Rear End Collisions

In the study area, rear end collisions account for the largest number of crashes. These crashes can be attributed to numerous factors. One main cause of rear end accidents is driver inattentiveness. Other potential causes include large turning volumes, slippery pavement, inadequate roadway lighting, crossing pedestrians, poor visibility of a traffic signal, congestion, inadequate signal timing, and/or an unwarranted signal.

The crash data shows high concentrations of rear end crashes at intersections. Correlating the crash data with field conditions and observation reveals that many of these rear-end crashes may be influenced by intersection geometry and traffic operations. Rear-end crash frequency may be reduced by adjusting the yellow clearance intervals in compliance with the *Institute of Transportation Engineers (ITE)* recommended clearance interval practices. The number of crashes may further be reduced by reconfiguring the travel and turning lanes. This can be accomplished in a variety of methods including converting two-way frontage roads to one-way frontage roads, providing exclusive right-turn lanes, providing advanced warning signs, providing indirect left-turns, or by displacing left-turn movements.

In general, the recommendations for reducing rear end crashes include:

- Analyze turning volumes to determine if a right turn lane or left turn lane is warranted. Providing a turning lane separates the turning vehicles from the through vehicles, preventing through vehicles from rear ending turning vehicles. If a large right turn volume exists, increasing the corner radius for right turns is an option.
- Check the pavement conditions. Rear end collisions caused by slippery pavement can be reduced by lowering the speed limit with enforcement, providing overlay pavement, adequate drainage, groove pavement, or with the addition of a *Slippery When Wet* sign.
- Ensure roadway lighting is sufficient for drivers to see the roadway and surroundings.
- Determine if there is a large amount of pedestrian traffic. Pedestrians crossing the roads may impede traffic and force drivers to stop suddenly. If crossing pedestrians are an issue, options include installing or improving crosswalk devices and providing pedestrian signal indications.
- Check the visibility of the traffic signals at all approaches. In order to provide better visibility of the traffic signal, options include installing or improving warning signs, overhead signal heads, installing 12” signal lenses, visors and back plates, or relocating/adding signal heads.
- Verify that the signal timing is adequate to serve the traffic volumes at the trouble intersections. Options include adjusting phase-change interval, providing a red-clearance interval, providing progression, and utilizing signal actuation with dilemma zone protection.
- Verify that a signal is warranted at the given intersection.

Single Vehicle Crashes

Single vehicle crashes are the second most prevalent crash type in the study area. A number of factors could be the cause for single vehicle crashes, including speeding, pavement surface conditions, lighting and markings, roadway geometry, and signal timing.

In general, the recommendations for reducing single vehicle crashes include:

- Conduct speed studies to determine whether or not speed was a contributing factor.
- Ensure roadway lighting is sufficient for drivers to see the roadway and surroundings during dark hours.
- Ensure proper application of traffic control devices.
- Verify proper signal head alignments as well as condition of signal head indications (e.g. lens burn through, L.E.D. usage, etc.)
- Verify that pavement markings are visible during day and night hours.
- Verify that the roadway geometry can be safely maneuvered by drivers.
- Provide and/or increase the shoulder width.
- Relocate fixed objects that are close to travel lanes.
- Improve the visibility of fixed objects during night.

Side Impact Collisions

Side impact collisions (both 90^0 and angled) are the third most prevalent collision type in the study area between 2012 and 2014. They can be caused by a number of factors, including restricted sight distance, excessive speed, inadequate roadway lighting, poor visibility of a traffic signal, inadequate signal timing, inadequate advance warning signs, running a red light, and large traffic volumes.

In general, the recommendations for reducing side impact collisions include:

- Verify that the sight distance at all intersection approaches is not restricted. Options to alleviate restricted sight distance include removing the sight obstruction and/or installing or improving warning signs.
- Conduct speed studies to determine whether or not speed was a contributing factor. In order to reduce crashes caused by excessive speeding, the speed limit can be lowered with enforcement, the phase change interval can be adjusted, or rumble strips can be installed.
- Ensure roadway lighting is sufficient for drivers to see roadway and surroundings.
- Check the visibility of the traffic signal at all approaches. In order to provide better visibility of the traffic signal, options include installing or improving warning signs, overhead signal heads, installing 12” signal lenses, visors, back plates, and/or relocating or adding signal heads.
- Verify that the signal timing is adequate to serve the traffic volumes. Options include adjusting phase change interval, providing a red-clearance interval, providing progression, and/or utilizing signal actuation with dilemma zone protection.

- Verify that the intersection is designed to handle the traffic volume. If the traffic volumes are too large for the intersection's capacity, options include adding a lane(s) and retiming the signal.

Other Collision Types

Within the study area, there are a number of other collision types that are prevalent, including head-on, angle oncoming, angle (front to side), sideswipe - same direction, sideswipe - opposite direction, and vehicle backing.

In general, the recommendations for increasing the safety and reducing the number of crashes at all the study segments and intersections include:

- Determine if the speed limit is too high or if vehicles in the area are traveling over the speed limit. Reducing the speed can reduce the severity of crashes and make drivers more attentive to their surroundings.
- Verify the clearance intervals for all signalized intersection approaches and ensure that there is an all red clearance. For larger intersections, it is particularly important to have a long enough clearance interval for vehicles to safely make it through the intersection before the light turns red.
- Check for proper intersection signage, especially if the roadway geometry may be confusing for the driver. Verify that all one-way streets are marked *One-Way* and *No Turn* signs are placed at appropriate locations.
- Verify that pavement markings are visible during day and night hours.
- Verify that the roadway geometry can be easily maneuvered by drivers.
- Evaluate left and right turning volumes to determine if a right turn and/or left turn lane is warranted.
- Ensure roadway lighting is sufficient for drivers to see roadway and surroundings.
- Check the visibility of the traffic signals from all approaches.
- Verify that lanes are marked properly and provide turning and through movement directions, as well as signage that indicates lane configurations. This will prevent cars from dangerously switching lanes at the last minute and reduces crash potential.

Develop a Safety Management System (SMS)

Traffic safety programs are relatively uniform from state to state in their approach to making the highway system safer for their users. The typical traffic safety program combines several different features from a Safety Management System (SMS), which all states were mandated to develop under the Intermodal Surface Transportation Efficiency Act (ISTEA) in 1991. Under ISTEA, the SMS was required to address:

- Coordinating and integrating safety features for the various modes of travel
- Identifying hazardous locations, investigating them, and establishing countermeasures to increase safety
- Early consideration for safety in all highway projects and programs
- Identifying safety needs of special user groups (handicapped, elderly, etc.)
- Routinely maintaining and upgrading the safety features on the roadways
- Marketing safety programs to encourage community involvement

The SMS mandate was later withdrawn due to the 1995 National Highway System Designation Act. However, MAP-21 Section 1203 requires that each state and MPO have a planning process that addresses the safety performance measure to "achieve a significant reduction in traffic fatalities and serious injuries on all public roads." MAP-21 also retains the SAFETEA-LU requirement that the planning process address the need to "increase the safety of the transportation system for motorized and non-motorized users." A traffic safety program involves several steps and is relatively uniform throughout the United States. The typical traffic safety program includes:

- A crash record system
- Identification of hazardous locations
- Engineering studies
- Selection of countermeasures
- Prioritization of improvement projects
- Planning and implementation of improvement projects
- Evaluation of the implemented projects

The crash record system should contain data on individual crashes that occur in the area. The crash data should include the following information: time, date, weather condition, pavement condition, driver, and roadway. The primary source for this data is usually police reports from local jurisdictions. In order for this record system to be useful, the data has to be processed and available on a timely basis so that it can be analyzed.

The identification of hazardous locations is based on actual crashes that have occurred, and/or the potential of an area to have a high number of crashes. The severity of these crashes must also be considered in order to prioritize the locations and develop solutions for them. Once the hazardous locations are identified, engineering studies can be conducted using the crash record system data. An

analysis can use crash frequency, crash rate, Equivalent Property Damage Only (EPDO) rates, and other methods. Supplemental data from police comments and citizen complaints can also be used in the analysis process in order to find the cause of the crashes.

Once the cause of the crashes has been determined, countermeasures are proposed and then evaluated. Improvement projects are then selected based on the benefits they provide compared to the cost to implement them. Sometimes, enforcement and education may be all that is necessary in order to reduce the number of crashes. Other times, multiple projects may be needed to mitigate a particular problem area.

Once the projects have been selected, they need to be prioritized based on their cost and benefits. Not all improvement projects can be implemented due to funding limitations. After the projects have been selected and prioritized, a plan should be developed in order to implement the projects. An implementation plan will help ensure that resources and finances are available to complete the improvement projects in a timely manner. Implementation of the projects should occur as soon as possible to avoid cost increases and prevent potential crashes that may occur without the project in place.

Projects must be evaluated to determine whether they are effective or can be used to address similar problems in the future. This is typically done in a before-and-after analysis by observing the frequency and severity of the crashes several years before the implementation of the project and again for several years after the project has been completed. Two issues can arise in this method of analysis. First, if enforcement and/or education change from before to after conditions, it can affect the number of crashes at that location. Second, regression to the mean, a statistical phenomenon that can make natural variation in repeated data look like real change, must be taken into account to ensure that change in crash patterns and/or frequency can be attributable to the safety projects. In order to correct these two issues, control sites should be established that are similar to the study locations but have not had any changes made to them.

Roadway Maintenance Need

The existing condition of roadway pavement is only known for state-maintained roadways. These pavement ratings were lasted updated in 2014. The ratings utilized for the MTP analysis are an alternative pavement condition rating being tested by ALDOT. This alternative rating system is believed to better reflect overall condition, but at this point is not the official pavement condition rating.

The roadways with pavement that is currently classified as *marginal* based on the alternative pavement rating reflect the greatest need for roadway maintenance within the Metropolitan Planning Area. Over time, other roadway pavements will degrade and warrant maintenance, especially those with high traffic volumes. However, this list of roadway sections with *marginal* pavement, in Table 8.4, reflects immediate and short-term need.

Some of the roadways with *marginal* pavement are already programmed to be repaved or reconstructed in the next few years, such as portions of Ross Clark Circle and AL 52.

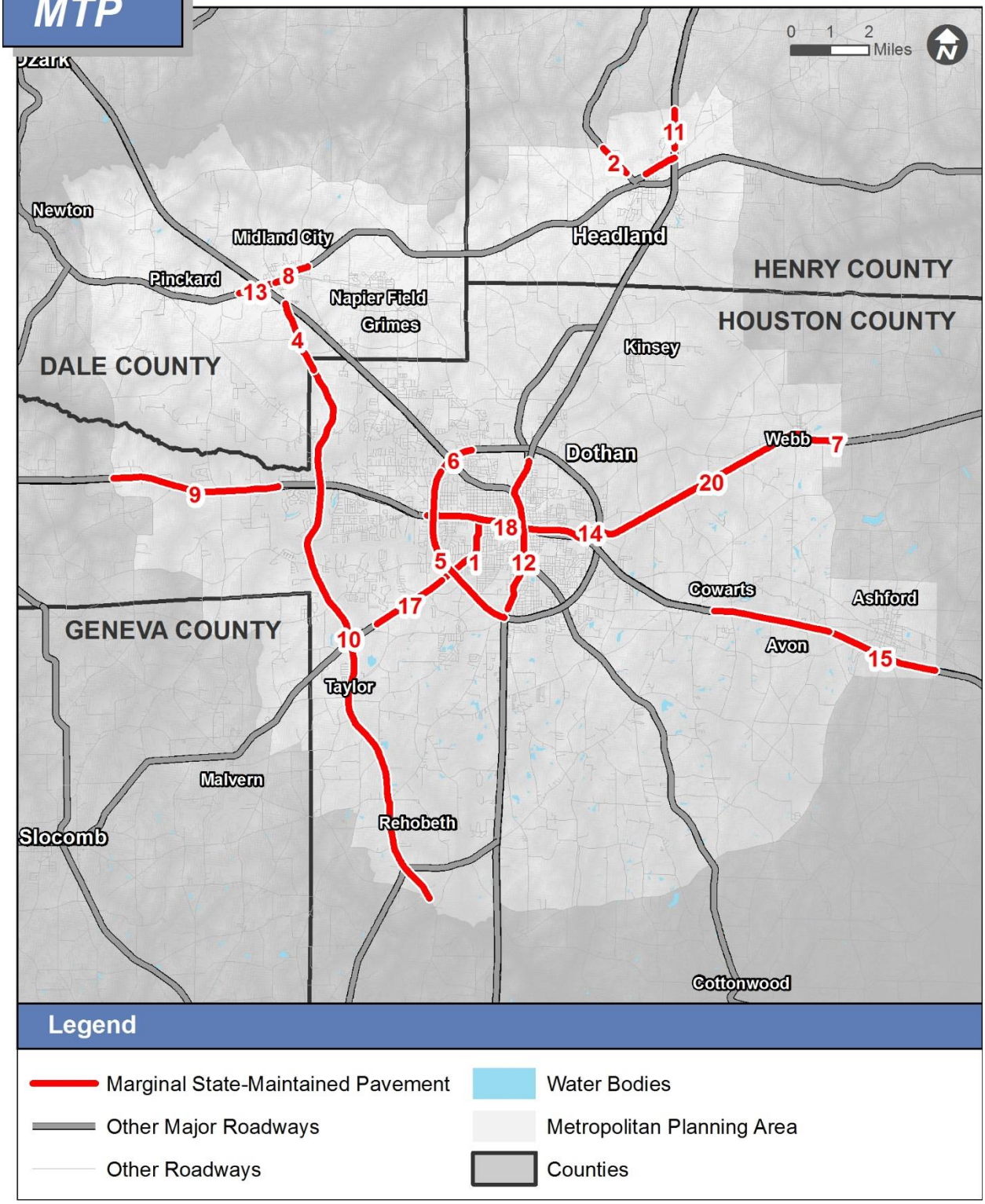
Table 8.4 Roadway Sections with Marginal Pavement Conditions

Map ID	Alabama Route	Beginning Milepost	End Milepost	Length (Miles)	Pavement Condition Rating	Average Daily Traffic	County
1	52	60.87	62.55	1.68	22	4,580	Houston
2	173	1.80	14.46	12.66	25	580	Henry
3	173	1.09	1.80	0.72	26	2,370	Henry
4	605	21.76	23.42	1.66	29	3,000	Dale
5	210	0.00	4.90	4.90	31	33,360	Houston
6	210	4.90	5.25	0.35	32	25,440	Houston
7	52	72.60	80.48	7.87	34	4,520	Houston
8	134	50.10	51.36	1.27	35	3,480	Dale
9	12	196.00	203.00	7.00	35	17,440	Houston
10	605	0.00	21.76	21.76	36	3,650	Houston
11	1	26.27	32.94	6.67	36	11,980	Henry
12	1	13.26	17.28	4.01	37	13,730	Houston
13	134	49.21	50.10	0.88	40	4,190	Dale
14	52	65.14	65.74	0.60	45	4,210	Houston
15	12	218.77	222.99	4.22	46	12,160	Houston
16	12	215.89	218.77	2.89	48	16,470	Houston
17	52	58.73	60.87	2.14	50	13,230	Houston
18	12	207.55	211.98	4.43	54	21,690	Houston
19	134	561.14	562.35	1.21	54	4,100	Henry
20	52	65.74	72.60	6.87	54	5,610	Houston

Note: Scores are from 0 to 100, with a lower score indicating a lower rating.
Source: ALDOT 2014 records

2040 MTP

FIGURE 8.2 PAVEMENT NEEDS ON STATE-MAINTAINED ROADS



Disclaimer: This map is for planning purposes only.

Based on US 2010 Census data

Map Source: Neel-Schaffer, Inc.

Data Sources: ALDOT

Bridge Needs

There are currently 55 bridges that have sufficiency ratings low enough to potentially warrant replacement or rehabilitation. Given this high number, the greatest need for bridges should be those bridges that warrant replacement or rehabilitation and are either structurally deficient or functionally obsolete. These bridges are included in Table 8.5 below. Regardless of inclusion on this list, the MPO should continue to coordinate with ALDOT to rehabilitate or replace bridges with low sufficiency ratings.

Again, the designation of structurally deficient or functionally obsolete does not necessarily mean the bridge is unsafe. Structural deficiency is characterized by deteriorated conditions of significant bridge elements and potentially reduced load-carrying capacity. A structurally deficient bridge typically requires significant maintenance and repair to remain in service, and would eventually require major rehabilitation or replacement to address the underlying deficiency. A functionally obsolete bridge does not meet current design standards (for criteria such as lane width), either because the volume of traffic carried by the bridge exceeds the level anticipated when the bridge was constructed and/or the relevant design standards have been revised. Addressing functional deficiencies may require the widening or replacement of the structure.

The first two bridges, the Denton Road Bridge and Brookside Drive Bridge, are being addressed by projects funded in Fiscal Year 2016.

Table 8.5 Structurally Deficient and Functionally Obsolete Bridges

Bridge ID	Maintenance Responsibility	County	Facility	Feature Intersecting	Year Built	Rating	Status
004593	Municipality	Houston	DENTON ROAD	ROCK CREEK	1953	6.0	Structurally Deficient
010324	Municipality	Houston	BROOKSIDE DRIVE	BRANCH	1970	33.8	Structurally Deficient
006406	State	Houston	SR 210 MP 2.425	STREAM	1958	43.0	Structurally Deficient
001385	State	Houston	US 431 MP 16.659	CSX R.R.	1936	47.7	Functionally Obsolete
005575	State	Houston	SR 53 MP 19.643	ATLANTA * ST. A. BAY R.	1956	56.1	Functionally Obsolete
000207	State	Houston	US 231 MP 15.643	CENTRAL OF GEORGIA R. R.	1923	57.0	Functionally Obsolete
006407	State	Houston	SR 210 MP 12.793	A.*S.A. BAY LINE R.R.	1958	58.3	Functionally Obsolete
006410	State	Houston	SR 210 MP 10.060	C.S.X. RAILROAD	1958	62.9	Functionally Obsolete
006409	State	Houston	SR 210 MP 10.060	C.S.X. RAILROAD	1958	63.0	Functionally Obsolete
006415	State	Houston	SR 210 MP 6.243	CSX RAILROAD	1958	63.5	Functionally Obsolete
008816	State	Houston	AL 605	LITTLE CHOCTAWHATCHEE	1965	63.6	Functionally Obsolete
006309	County	Houston	CO RD 49	LITTLE CHOCTAWHATCHEE	1958	63.9	Functionally Obsolete
006632	State	Dale	US 231 MP 34.953	CHOCTAWHATCHEE RIVER	1959	66.1	Functionally Obsolete
006633	State	Dale	US 231 MP 34.953	CHOCTAWHATCHEE RIVER	1959	66.1	Functionally Obsolete

Table 8.5 Structurally Deficient and Functionally Obsolete Bridges (continued)

Bridge ID	Maintenance Responsibility	County	Facility	Feature Intersecting	Year Built	Rating	Status
008701	State	Houston	US 84 MP 203.26	BEAVER CREEK	1965	66.9	Functionally Obsolete
007278	County	Geneva	HWY 68	NEWTON CREEK	1961	68.8	Functionally Obsolete
006408	State	Houston	SR 210 MP 12.793	A.*S.A. BAY LINE R.R.	1958	69.6	Functionally Obsolete
006412	State	Houston	SR 210 MP 9.990	SR 52,C. OF GA. R.R.	1958	71.6	Functionally Obsolete
010941	State	Houston	US 84 MP 209.19	STREAM	1973	74.6	Functionally Obsolete
006414	State	Houston	SR 210 MP 6.243	CSX RAILROAD	1958	74.8	Functionally Obsolete
006629	State	Dale	US 231 MP 30.576	SR 134 * C.S.X. R.R.	1959	75.1	Functionally Obsolete
006630	State	Dale	US 231 MP 30.576	SR 134 * C.S.X. R.R.	1959	75.1	Functionally Obsolete
006634	State	Dale	US 231 MP 35.264	CHOCTAWHATCHEE RIVER R.	1959	76.0	Functionally Obsolete
006635	State	Dale	US 231 MP 35.264	CHOCTAWHATCHEE RIVER R.	1959	76.0	Functionally Obsolete
012545	Municipality	Houston	S. PARK AVE.	STREAM	1981	77.3	Functionally Obsolete

Source: ALDOT; National Bridge Inventory

8.2 BICYCLE AND PEDESTRIAN NEEDS

Given the existing conditions analysis and latent demand analyses in Chapter 6, the existing bicycle and pedestrian system does not adequately meet the needs of the Metropolitan Planning Area. Sidewalks and crosswalks are lacking on most major roadways. Dedicated bicycle facilities are even less common. While new residential subdivisions in Dothan are providing sidewalks, per the City's subdivision regulations, and new roadway projects funded with state or federal funds will include bicycle and pedestrian facilities, much of the Metropolitan Planning Area transportation right-of-ways are in need of retrofitting to accommodate bicyclists and pedestrians.

While the 2040 MTP recognizes a high need for bicycle and pedestrian improvements, it does not identify all needed bicycle and pedestrian projects in the Metropolitan Planning Area. Instead, it relies on locally-adopted plans to identify projects for evaluation in the MTP. This means that many high demand areas without a local plan will not have future projects identified.

The reason for this approach is that bicycle and pedestrian planning is much more subject to local conditions than other modes of transportation. Right-of-Way issues, facility design, and alternatives evaluation greatly impact bicycle and pedestrian project development. The MTP is not intended to analyze areas in this great of detail.

The City of Dothan is the only local government with an adopted bicycle or pedestrian plan. Therefore, the projects identified in Dothan's plan are the only bicycle and pedestrian projects that will be evaluated in the MTP prioritization. This prioritization exercise, included in Chapter 9: Project Development and Prioritization, highlights which projects address the greatest need at the least cost.

Bicycle and pedestrian projects identified in the MTP Visioning exercises will remain visionary until they are included in locally-adopted plans or further studied. Still, the MPO should encourage all local governments to continue funding bicycle and pedestrian improvements.

Given the lack of bicycle and pedestrian planning outside of Dothan, a major need for the MPO will be to encourage these areas to participate in regional bicycle and pedestrian planning and to develop local plans with bicycle and pedestrian projects. In the MPO's 2016 Unified Planning Work Program (UPWP), the MPO intends to fund an MPO-wide Bicycle and Pedestrian Plan that will include all local governments in the MPA. The scope of this plan should focus on building a regional network of bicycle and pedestrian facilities that are accessible and attractive to all users, regardless of age or ability. It should include consideration of programs that encourage bicycle and pedestrian travel and educate the public about these modes.

The MPO should also encourage all local governments to revisit their development ordinances and consider requiring pedestrian and bicycle accommodations for new development with urban densities or in close proximity to urban areas. This will ensure that future development addresses bicycle and pedestrian need and does not exacerbate existing system gaps and deficiencies.

ALDOT received a written directive from FHWA – Alabama Division, June 12, 2009, that the MPOs must "include a **policy statement that bicycling and walking facilities will be incorporated** into all transportation projects unless exceptional circumstances exist." This guidance was reinforced by a USDOT email broadcast March 17, 2010, in which recommendations were forwarded to state DOTs with regard to bicycle and pedestrian policy. These two directives effectively modified 23 USC 217 in implementing improvements using federal funds to state routes under ALDOT jurisdiction.

This is now ALDOT bicycle and pedestrian policy and it carries over to the short-range TIP subset and new bicycle and pedestrian plans and updates. The MPO will comply with these provisions.

For future federally-funded transportation projects, bicycling and walking facilities will be incorporated into all transportation projects unless exceptional circumstances exist. In order to assess the project-specific bicycle and pedestrian needs, the surrounding context will be considered, including: land use patterns; existing, informal bicycle or pedestrian activities; any reference to bicycle or pedestrian needs in the planning process; and public, agency, or other comments requesting bicycle or pedestrian facilities. This approach is consistent with federal and state guidance.

Local jurisdictions may take this a step further by adopting Complete Streets policies or ordinances which require similar or more stringent actions for all locally funded transportation projects, regardless of involvement of state or federal funding.

8.3 PUBLIC TRANSIT NEED

Maintaining the Existing System

Operating expenses for the Wiregrass Transit Authority (WTA) have grown over the last decade as the system has expanded to include contracted transportation with social service agencies for Job Access Reverse Commute (JARC) initiatives. Since this expansion, operating expenses have been relatively stable. The main issue for maintaining the existing system in the future will be maintaining vehicles in good condition.

The WTA acquired many vehicles between 2009 and 2012 using ARRA grants that provided 100 percent federal funding. This acquisition of so many vehicles at the same times means that there will be a recurring cycle of replacement or rehabilitation for vehicles. All of WTA's directly operated vehicles will reach their useful life by 2017. In an attempt to prolong the use of these vehicles, WTA plans to rehabilitate some of these vehicles instead of replacing all vehicles. The planned replacement and rehabilitation schedule for transit vehicles is discussed further in Chapter 11: Implementation Plan.

Since all maintenance for WTA is outsourced, there is no need for maintenance facility improvements. This is built into the operating costs. And since the system does not plan on expanding significantly, there is no need for parking lot capacity improvements. Administrative office improvements may be necessary in the future, but this need has not been communicated at this time.

Reported safety accident do not indicate any safety issues. While an analysis of more detailed data could identify areas to improve, no safety improvements are recommended for the 2040 MTP.

Increasing Transit Service

The deviated fixed route system identified in the MPO's 2010 *Fixed Route Transit Feasibility Study* covers many of the areas that the 2040 MTP identifies as high transit demand areas. These areas, along with the proposed deviated fixes routes and their service areas, are illustrated in Figure 8.3. The system connects many major destinations and serves most concentrations of low-income households.

The WTA, MPO, and City of Dothan should advance efforts to implement a deviated fixed route system. Initial efforts should focus on coordination and then a detailed study should be performed that has extensive public involvement, identifies routes, estimates ridership, estimates operating and capital costs, identifies potential funding scenarios, and considers all economic, social, and environmental benefits of public transit when weighing benefits versus costs. It may also be desirable to explore additional routes to surrounding counties and involve these areas, as mentioned in the 2011 *Human Services Coordinated Transportation Plan* and reiterated below.

For the WTA, the 2011 *Human Services Coordinated Transportation Plan* (HSCTP) identifies a need for service to be expanded and enhanced by adding vehicles, expanding hours and days of service, mobility management, technology improvements, and contract transportation services.

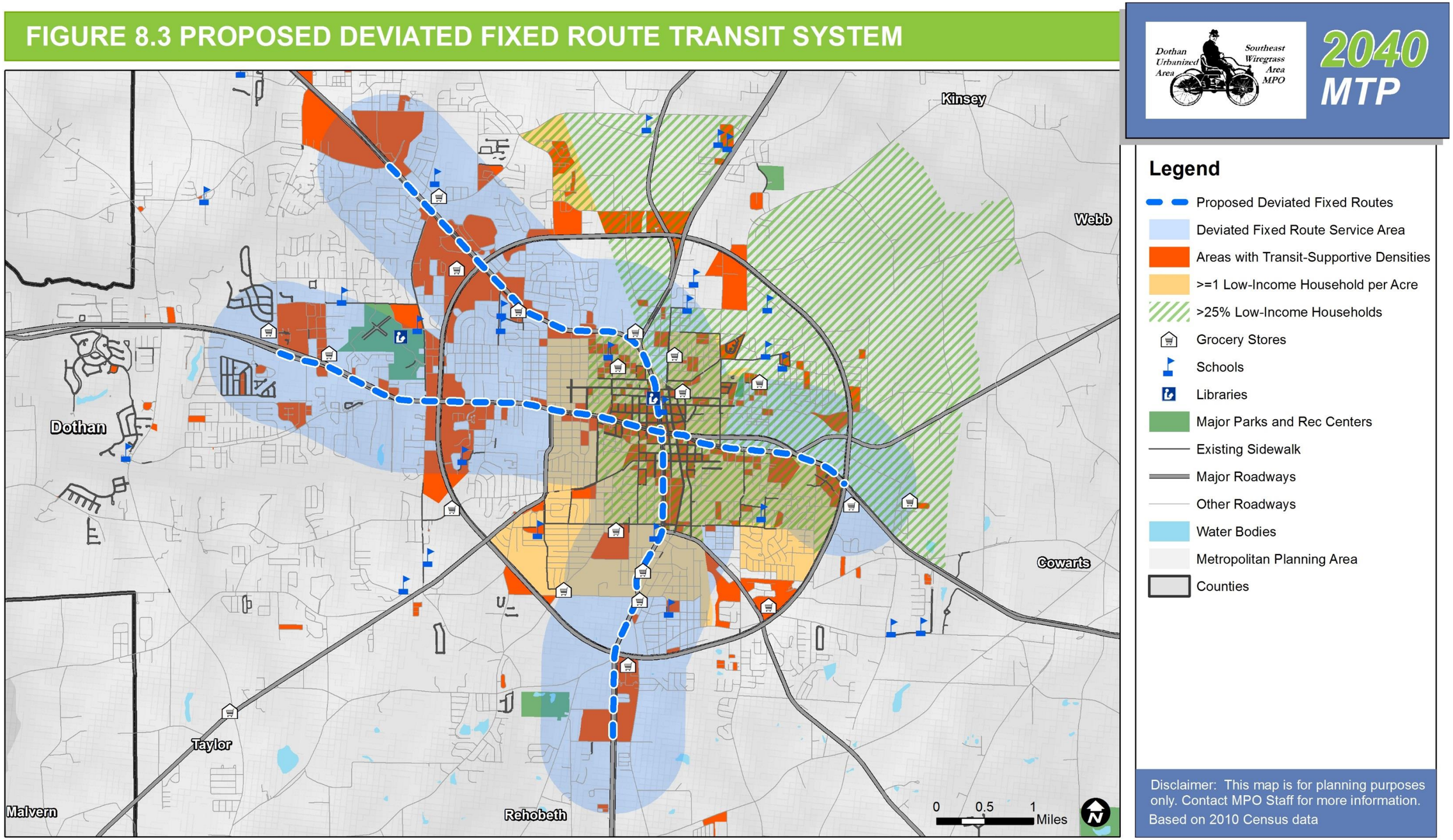
Outside of Dothan, the HSCTP recommends a deviated fixed route system that connects the surrounding counties with Dothan. This should be explored further. The HSCTP identified the following corridors, which terminate at the Dixie Depot:

- US 431 N between Dothan and Eufaula (would also serve Headland and Abbeville)
- US 231 N between Dothan and Ozark (potentially extend as far north as Brundidge)
- US 84 W between Dothan and Enterprise (possibly extend as far west as New Brockton)
- US 52 W between Dothan and Geneva (CATS could interface in Geneva with passengers from Covington County)

Beyond deviated fixed routes, public transit is still needed in Dale, Geneva, and Henry counties. While this has been partially accomplished through the Job Access Reverse Commute (JARC) service initiative, more comprehensive transit service should be considered.

A longer-term solution to the many public transit needs of the Metropolitan Planning Area may be, as recommended by the HSCTP, a regional transit authority for all MPO counties. The MPO should coordinate with the Southeast Alabama Regional Planning and Development Commission to conduct a regionalization study.

FIGURE 8.3 PROPOSED DEVIATED FIXED ROUTE TRANSIT SYSTEM



Map Source: Neel-Schaffer, Inc.

Data Sources: MPO Fixed Route Feasibility Study; Neel-Schaffer, Inc.

8.4 FREIGHT NEED

The MTP takes a very high level look at the needs of the freight system in the Metropolitan Area. From this analysis the following needs emerge:

1. Freight trucks would benefit the most from improvements. The areas with greatest potential delay to freight trucks include the following locations:
    a. The northwestern quadrant of Ross Clark Circle, from Denton Rd to US 84;
    b. US 231 from Ross Clark Circle to Flynn Rd;
    c. Ross Clark Circle and US 84 (W. Main Street);
    d. Ross Clark Circle and US 84 (E. Main Street); and
    e. Oates Street and US 84 entering and exiting Downtown Dothan.
2. While the number of derailments was small, rail accident data indicates that there may be a need for increased rail infrastructure maintenance, especially near at-grade crossings.

A more detailed study would be needed to identify the most pressing needs facing freight movement in the Metropolitan Planning Area. While the existing freight conditions analysis in Chapter 6 provides a good understanding of demand for freight and existing location of freight resources, no readily available or reliable data exists on actual freight volumes or travel times in the MPA. The National Performance Measures Research Dataset (NPMRDS) provides freight travel times on most principal arterials but spatial and temporal coverage for this dataset is still lacking in small urban areas.

This lack of actual freight volumes and freight truck travel time data limits the ability to quantify need for freight improvements. The MPO will consider conducting a regional freight study in the future which would involve acquiring proprietary data on actual freight volumes and other freight-related data, as well as significant stakeholder consultation. MAP-21 requires freight plans for MPOs with urbanized area populations above 200,000 but does not require them for small MPOs like the SWAMPO.

The MPO will continually coordinate with ALDOT to identify rail safety hotspots and fund improvements.

8.5 AVIATION NEED

Both the Dothan Regional Airport and Headland Municipal Airport have identified future capital needs.

The Airport Layout Plan (ALP) for the Dothan Regional Airport calls for two new corporate hangars, an aircraft parking apron, additional automotive parking, an air traffic control tower, slight modifications to the existing runways, and several other improvements. Additional needs may arise as new corporate tenants expand or locate at the airport.

The ALP for the Headland Municipal Airport was not available at the time of this report. However, the airport has stated that they are in need of a corporate hangar.

MPO should encourage the airport sponsors and ALDOT to utilize Federal Aviation Administration (FAA) and local/state match funds to implement these planned projects.

9.0 FINANCIAL ANALYSIS

Metropolitan Transportation Plans (MTPs) are required to be fiscally constrained. In order to be fiscally constrained, the costs of programmed projects must not exceed the amount of funding that is reasonably expected to be available. This chapter provides an analysis of anticipated funding available for transportation projects and programs in the Metropolitan Planning Area.

While MPOs take different approaches in forecasting how much revenue can be reasonably expected from federal, state, and local sources, ALDOT has provided the MPO with projected federal funding for the MPA based on historical expenditures from Fiscal Year 2002 to 2013. However, capacity project funding is limited by the assumption that there will only be $150 million available per year statewide for capacity projects, regardless of historical funding levels.

Figure 9.1 shows the projected federal funding for the MPA for Fiscal Years 2014 to 2040 by MAP-21 funding program categories. Projected revenue is further divided into capacity and maintenance and operations (MO) in order to ensure that fiscal constraint for these types of projects are considered separately. Capacity projects are those that add capacity to the existing system, such as adding lanes to an existing road or constructing a new road. MO projects are those that address safety, operations, or maintenance needs, such as roadway resurfacing, intersection improvements, and transit operations.

ALDOT did not project funding for the Transportation Alternatives Program (TAP), leaving this at the discretion of the MPO. For the purposes of the 2040 MTP, the amount of TAP funding reasonably expected to available for the SWAMPO is included in Table 9.1. However, this funding was not included in the fiscally-constrained plan, per ALDOT recommendations. Instead, it is used to highlight the number of projects the MPO can reasonably expect to fund with TAP funding and to create a list of high-priority projects to submit to ALDOT to compete for funding. The projects will be provided in Chapter 11: Implementation Plan.

TAP funding was projected based on the following assumptions:

1. Only 50 percent of a state's TAP apportionment (after deducting the set-aside for the Recreational Trails Program (RTP), if applicable) that is sub-allocated to areas based on their relative share of the total state population can be reasonably expected over the life of the MTP. The remaining 50 percent is available for use in any area of the state and the state may also transfer any or all of this remaining 50 percent to other funding sources such as NHPP, STP, HSIP, CMAQ, and/or Metropolitan Planning.
2. TAP funds will remain at least at 2014 funding levels and will not increase with inflation.
3. The MPO will receive an amount of funding that is proportionate to its current share (2.1 percent) of the state population.

Most federally funded transportation projects require a local match. This match varies depending on the project type and funding source. Table 9.2 shows the amount of funding that can be reasonably expected to be available to the MPA, once local match is added to the projected federal funding.

MPOs in Alabama are required to increase project costs by one (1) percent annually in order to account for inflation. Chapter 10: Project Development and Prioritization will talk in greater detail about developing project level costs and Chapter 11: Implementation Plan and Strategies will inflate the cost of projects into the cost in year of expenditure in order to ensure that the MTP is fiscally-constrained.

Table 9.1 Estimated Federal Funding Forecasts, FY-2014 thru FY-2040 (thousands)

MAP-21 Categories	Future Allotments		Historical Expenditures			
	25 Year Funding Projections (Capacity)	25 Year Funding Projections (MO)	Annual Project Funding (Capacity)	Annual Project Funding (MO)	10 Yr Project Funding (Capacity)	10 Yr Project Funding (MO)
National Highway Performance Program (NHPP)	$24,614	$39,246	$1,562	$992	$15,623	$9,921
Surface Transportation Program-Ded. (STPOA)	$12,668	$23,526	$1,338	$480	$13,379	$4,804
Surface Transportation Program-Other[1]	$35,859	$57,178	$1,715	$2,006	$17,154	$20,061
Bridge Funding	$3,386	$5,399	$5	$347	$46	$3,468
Interstate Maintenance	$0	$0	$0	$0	$0	$0
Transit	$0	$32,345	$0	$1,294	$0	$12,938
Congestion Mitigation and Air Quality (CMAQ)	$0	$0	$0	$0	$0	$0
Highway Safety Improvement Program (HSIP)	$0	$15,115	$0	$605	$0	$6,046
Transportation Alternatives Program (TAP)[2]	$0	$4,000	$0	$0	$0	$0
Other Federal Funding and Funding from SAFETEA-LU (unspent funding left over from previous transportation bill)						
Appalachian Highway System	$0	$0	$0	$0	$0	$0
High Priority and Congressional Earmark Funding	$1,580	$2,520	$87	$77	$868	$772
Totals[3]	**$78,107**	**$171,229**	**$4,620**	**$5,724**	**$46,202**	**$57,238**
	$249,336		**$10,344**		**$103,440**	

Notes: $90M available in statewide capacity funding per year
10 year funding based on FY-2002 thru FY-2013
[1]STP (Other) funding does not include ATRIP funds
[2]TAP funding was not projected by ALDOT and is not included in the totals. The projection was done to better understand anticipated funding for the competitive program
[3] Projected funding totals are provided by ALDOT and may not add up to the sum of projected funding by funding categories due to rounding

Table 9.2 Estimated Federal and Local Funding Forecasts, FY-2014 thru FY-2040 (thousands)

MAP-21 Categories	Future Allotments		Historical Expenditures			
	25 Year Funding Projections (Capacity)	25 Year Funding Projections (MO)	Annual Project Funding (Capacity)	Annual Project Funding (MO)	10 Yr Project Funding (Capacity)	10 Yr Project Funding (MO)
National Highway Performance Program (NHPP)	$30,768	$49,058	$1,953	$1,240	$19,529	$12,401
Surface Transportation Program-Ded. (STPOA)	$15,835	$29,408	$1,673	$600	$16,724	$6,005
Surface Transportation Program-Other[1]	$44,824	$71,473	$2,144	$2,508	$21,443	$25,076
Bridge Funding	$4,233	$6,749	$6	$434	$58	$4,335
Interstate Maintenance	$0	$0	$0	$0	$0	$0
Transit	$0	$50,943	$0	$2,038	$0	$20,377
Congestion Mitigation and Air Quality (CMAQ)	$0	$0	$0	$0	$0	$0
Highway Safety Improvement Program (HSIP)	$0	$18,894	$0	$756	$0	$7,558
Transportation Alternatives Program (TAP)[2]	$0	$5,000	$200	$0	$2,000	$0
Other Federal Funding and Funding from SAFETEA-LU (unspent funding left over from previous transportation bill)						
Appalachian Highway System	$0	$0	$0	$0	$0	$0
High Priority and Congressional Earmark Funding	$1,975	$3,150	$109	$96	$1,085	$965
Totals[3]	**$97,635**	**$229,675**	**$5,885**	**$7,672**	**$58,839**	**$76,717**
	$327,310		**$13,557**		**$135,556**	

Notes: Local match is the only difference in this table and Table 9.1. Local match is estimated at 20% for all MAP-21 categories except for transit, where local match is estimated at 37%, based on FY2013-16 local match splits in transit operations (50%) and capital local matches (20%)
$90M available in statewide capacity funding per year
10 year funding based on FY-2002 thru FY-2013
[1]STP (Other) funding does not include ATRIP funds
[2]TAP funding was not projected by ALDOT and is not included in the totals. The projection was done to better understand anticipated funding for the competitive program
[3] Projected funding totals are provided by ALDOT and may not add up to the sum of projected funding by funding categories due to rounding

10.0 PROJECT DEVELOPMENT AND PRIORITIZATION

This chapter summarizes how transportation projects were developed and evaluated in the 2040 MTP.

10.1 PROJECT DEVELOPMENT

Projects were identified in the following ways:

- Roadway capacity projects were identified from the public visioning exercise, stakeholder input, and previous plans;
- Bicycle and Pedestrian capacity projects were identified from the City of Dothan's Bicycle and Pedestrian Plan;
- No capacity projects were identified for transit, based on consultation with Wiregrass Transit Authority;
- No capacity projects were identified for rail transportation;
- Aviation capacity projects were identified based on consultation with local airports.
- Maintenance and Operations projects were identified through an analysis of existing conditions and consultation with local transportation providers.

Roadway capacity project costs were developed based on typical improvement costs per mile. Where local data was available, this information supplemented typical cost estimates.

Bicycle and Pedestrian project costs were developed based on the project-specific costs provided in the Dothan Bicycle and Pedestrian Plan. Cost for bicycle and pedestrian projects in this plan are only for construction. Pedestrian project costs assume construction of sidewalk on both sides of the roadway and intersection improvements at major roads. In order to account for areas where sidewalk already exists, pedestrian project costs were reduced to account for existing sidewalk.

10.2 PROJECT PRIORITIZATION

In order to maximize limited funding, transportation capacity projects were prioritized. High-priority Maintenance and Operations (MO) projects were identified in Chapter 8: Future Transportation Need and will be funded through the federal programs highlighted in Chapter 9: Financial Analysis. More detailed analysis would be necessary to prioritize MO projects against each other.

Roadway Capacity Project Prioritization

For prioritization purposes, some capacity projects were combined. This was done for projects that would logically be done in succession, such as widening roadway corridors.

Two projects were not evaluated for inclusion in the MTP: The I-10 Connector and a second *loop* roadway beyond Ross Clark Circle. Both of these projects, even if segmented, would exceed the anticipated funding for capacity projects. Furthermore, these projects have not been sufficiently studied or scoped for prioritization. The scope of the I-10 Connector project in particular extends beyond the MPA and more detailed information on these impacts would be necessary before the project could be evaluated for prioritization.

Table 10.1 shows the criteria and weights that were used to prioritize identified roadway capacity projects. Table 10.2 then shows how these criteria were measured. The results of this prioritization exercise are show in Table 9.3 and illustrated in Figure 10.1

Table 10.1 Roadway Capacity Project Prioritization Criteria

Criteria	Rationale	Maximum Points
Cost Benefit	Make most efficient use of limited funding.	50
Connectivity/Continuity	Connectivity benefits exceed quantifiable model outputs, especially as it relates to the provision of alternative routes and street connectivity for bicyclists and pedestrians.	20
Intermodal/Multimodal Benefits	Encourage projects that benefit both the movement of people and goods and/or have the potential to improve bicycle and pedestrian conditions.	10
Plan Consistency	Encourage projects that have been vetted through locally-adopted plans.	10
Potential Impact to Minority and Low-Income Population*	Environmental Justice.	5
Potential Impact to Community or Natural resources	Avoid negative and costly environmental impacts.	5

**If support for a project was supported by Environmental Justice groups, a project was not penalized for potential impacts to minority and low-income populations.*

Table 10.2 Roadway Capacity Project Prioritization Criteria Measures

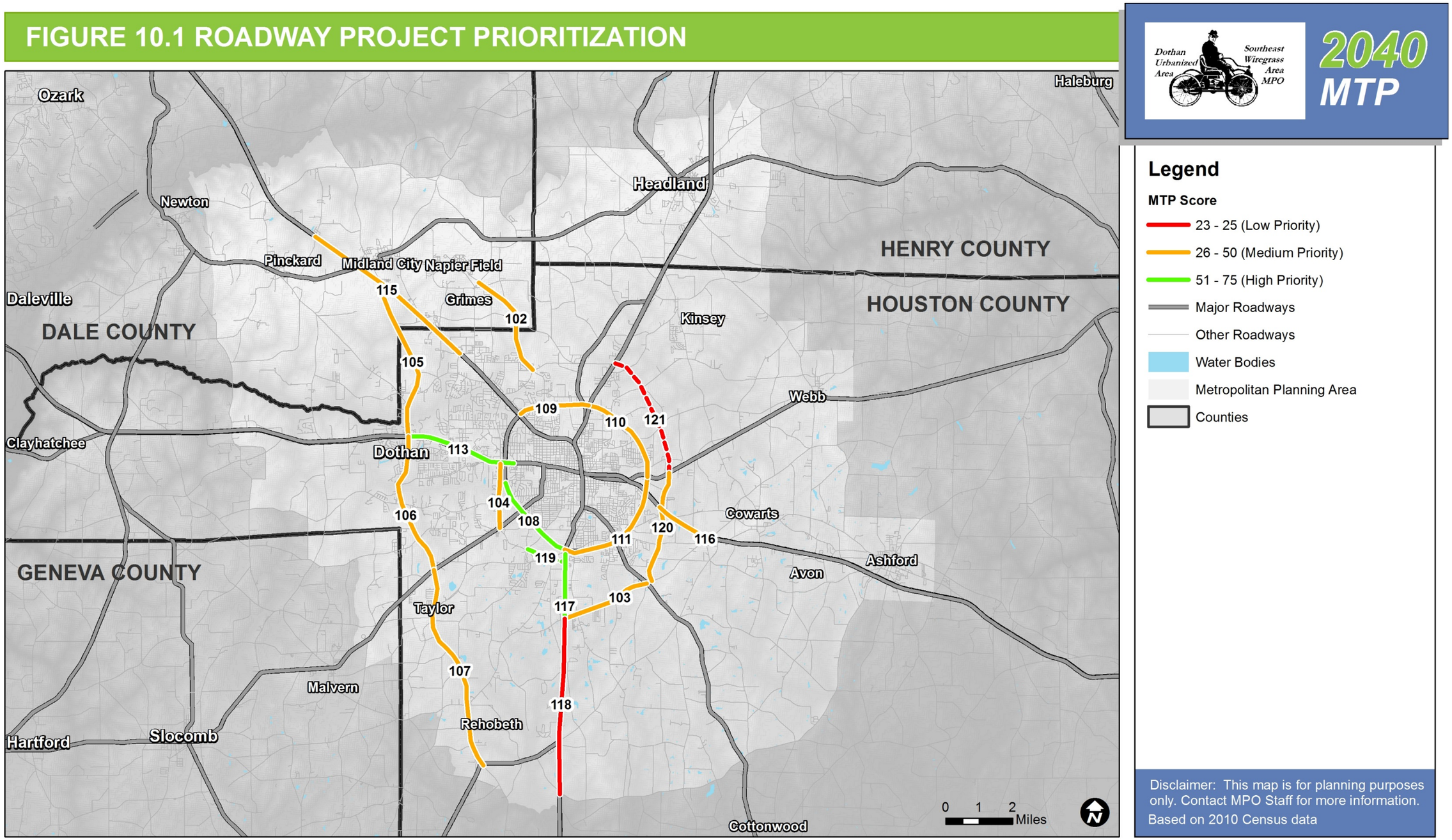
Criteria	Measure	Scoring Scale (Points Possible)					
		0	5	10	15	20	50
Cost Benefit	Benefit/Cost Ratio. Annual dollars saved from reduced delay divided by project cost.	Points awarded in increments of 10 based on the following breaks: 1.0. 0.5, 0.2, and 0.1.					
Connectivity/ Continuity	*For new roadways/extensions*: arterials intersected per mile (Principal arterials count as 2). *For roadway widenings:* Number of connections or intersections with existing widened facilities.	no arterial intersections/ does not connect or intersect with roadway with higher number of lanes	>= 0.5 intersection per mile/ connects or intersects 1 roadway with higher number lanes	>= 1 intersection per mile/ connects or intersects 2 roadways with higher number of lanes	>=1.33 intersections per mile/ connects or intersects 3+ roadways with high number of lanes	2+ intersections per mile/no points possible for widenings	
Intermodal/ Multimodal Benefits	Type of roadway and estimated truck traffic. For new roadways, assume similar truck traffic as similar or parallel facility.	Not a major freight route/freeway with no bike or ped access	>= 500 estimated average daily trucks	more than 1,000 estimated average daily trucks or part of ALDOT primary freight network			
Plan Consistency	In previous locally-adopted plan.	Not in previous plan	In previous MTP	In local comprehens-ve plan			
Potential Impact to Minority and Low-Income Population	Percentage of population in Environmental Justice group along project route.	Above planning area average	Below planning area average				
Potential Impact to Community or Natural Resources	Proximity to community or natural resources like historic sites, recreational areas, churches, cemeteries, preserves, etc.	scaled 1-5, depending on nearby resources					

Table 10.3 Project Prioritization Results

Rank	Project No.	Route	Location	Improvement	Length	Construction Cost[1]	Add-ons[1]	Total Project Cost[1]	B/C Score	Connectivity/ Continuity	Intermodal/ Multimodal	Plan Consistency	EJ Score	Env't Score	Total Score
1	119	Honeysuckle Rd	S Park Ave to US 231 South	New 2 Lane Roadway	1.20	$3,672,360	$1,468,944	$5,141,304	50	20	5	10	5	2	92
2	117	US 231 South	Ross Clark Cir to E Saunders Rd	Widen to 6 Lanes	2.00	$10,813,060	$3,784,571	$14,597,631	40	0	10	0	0	4	54
3	113	US 84	Pinetree Dr to Brannon Stand Rd	Widen to 6 Lanes	3.22	$22,911,446	$8,727,364	$31,638,810	30	0	10	5	5	4	54
4	108	Ross Clark Cir	Baumann Dr to US 231 South	Widen to 6 Lanes	2.75	$39,273,850	$13,745,848	$53,019,698	30	0	10	5	5	3	53
5	104	Honeysuckle Rd	US 84 to Hartford Hwy	Widen to 4 Lanes	1.90	$10,272,407	$3,595,342	$13,867,749	10	15	5	10	5	3	48
6	109	Ross Clark Cir	US 231 North to Reeves St	Widen to 6 Lanes	2.10	$29,990,940	$10,496,829	$40,487,769	20	10	10	0	5	3	48
7	120	N Beverly Rd	Forrester Rd to Columbia Hwy	Widen to 4 Lanes	3.40	$18,382,202	$6,433,771	$24,815,973	10	5	5	10	5	3	38
8	121	Eastern Bypass	Columbia Hwy to Reeves St	New 4 Lane Roadway	3.90	$35,795,991	$12,528,597	$48,324,588	10	10	5	10	0	1	36
9	116	E Main St	N Beverly Rd to Forrester Rd	Widen to 6 Lanes	1.75	$9,461,428	$3,311,500	$12,772,927	10	5	10	0	5	4	34
10	105	Brannon Stand	US 231 North to US 84	Widen to 4 Lanes	4.70	$25,410,691	$8,893,742	$34,304,433	10	10	5	0	5	4	34
11	103	E Saunders Rd	US 231 South to E Cottonwood R	Widen to 4 Lanes	2.70	$14,597,631	$5,109,171	$19,706,802	10	5	5	10	0	3	33
12	106	Brannon Stand	US 84 to SR 52	Widen to 4 Lanes	4.35	$23,518,406	$8,231,442	$31,749,847	10	10	5	0	5	3	33
13	115	US 231 North	John D Odom Rd to Lees Bridge	Widen to 6 Lanes	5.55	$30,006,242	$10,502,185	$40,508,426	10	5	10	0	0	4	29
14	107	Brannon Stand	SR 52 to SR 109	Widen to 4 Lanes	6.30	$34,061,139	$11,921,399	$45,982,538	10	5	5	0	5	4	29
15	102	Denton Rd	Mance Newton Rd to Paramore Rd	Widen to 4 Lanes	3.30	$17,841,549	$6,244,542	$24,087,463	10	10	5	0	0	3	28
16	110	Ross Clark Cir	Reeves St to Columbia Hwy	Widen to 6 Lanes	3.00	$42,848,354	$14,996,924	$57,845,277	10	5	10	0	0	3	28
17	111	Ross Clark Cir	Columbia Hwy to US 231 South	Widen to 6 Lanes	3.85	$54,983,390	$19,244,187	$74,227,577	10	5	10	0	0	3	28
18	118	US 231 South	E Saunders Rd to E Smithville	Widen to 6 Lanes	5.30	$28,654,609	$10,029,113	$38,683,722	10	0	10	0	0	3	23

Note 1: Costs are shown in current year 2015 dollars.

FIGURE 10.1 ROADWAY PROJECT PRIORITIZATION



Map Source: Neel-Schaffer, Inc.

Data Sources: Neel-Schaffer, Inc.

Bicycle and Pedestrian Project Prioritization

Only projects from Dothan's Bicycle and Pedestrian Plan were prioritized. Projects that were identified in the visioning process but not in the City's Plan are included in the MTP as visionary projects but were not prioritized. For prioritization purposes, some bicycle and pedestrian projects from the City's Plan were combined. This was done for projects that would logically be done concurrently or for small projects that would not merit federal funding as a stand-alone project.

Table 10.4 shows the criteria, measures, and weights that were used to assign a preliminary prioritization score for Dothan's bicycle and pedestrian projects. After a project was given a preliminary score, its cost effectiveness was then calculated by dividing the cost of the project per mile by the project's preliminary score. Projects were then prioritized based on their cost-effectiveness at addressing the specified prioritization criteria.

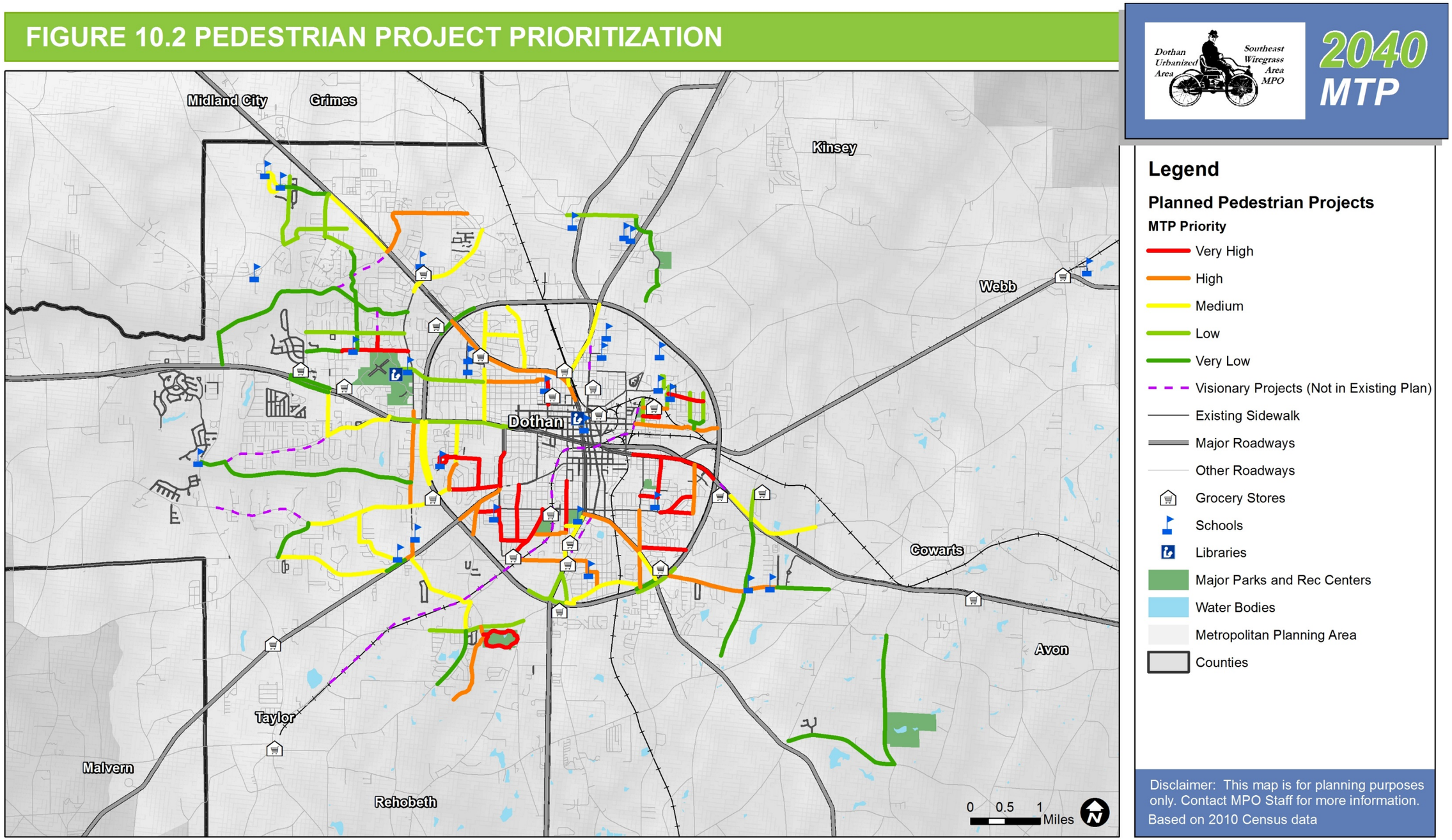
The results of this prioritization exercise are illustrated in Figures 10.2 and 10.3.

Table 10.4 Pedestrian and Bicycle Prioritization Criteria

Category	Criteria	Measure	Pedestrian	Bike
Land Use	Activity Density	Population and Jobs per Acre	30	35
	Popular Destination	Distance to Popular Destination(s)[1]	20	25
Demographic	Income	Households receiving food stamps per acre	20	25
	Disability	Disabled Population per acre	10	0
	Age	Elderly (65+) and Youth (<15) Population per acre[2]	10	15
Travel Environment	Speed Score	Within quarter mile of multi-lane roadway with speed limit 40 mph+	10	0
		Total Points Possible	100	100

[1]Popular destinations are major parks and recreation centers, schools, libraries, hospitals, grocery stores, pharmacies, convenience stores, cafes, and restaurants/bars. Distance is half mile for pedestrian, 1.5 mile for bicycle.
[2]Age includes elderly and youth for pedestrian, but only youth for bicycle.

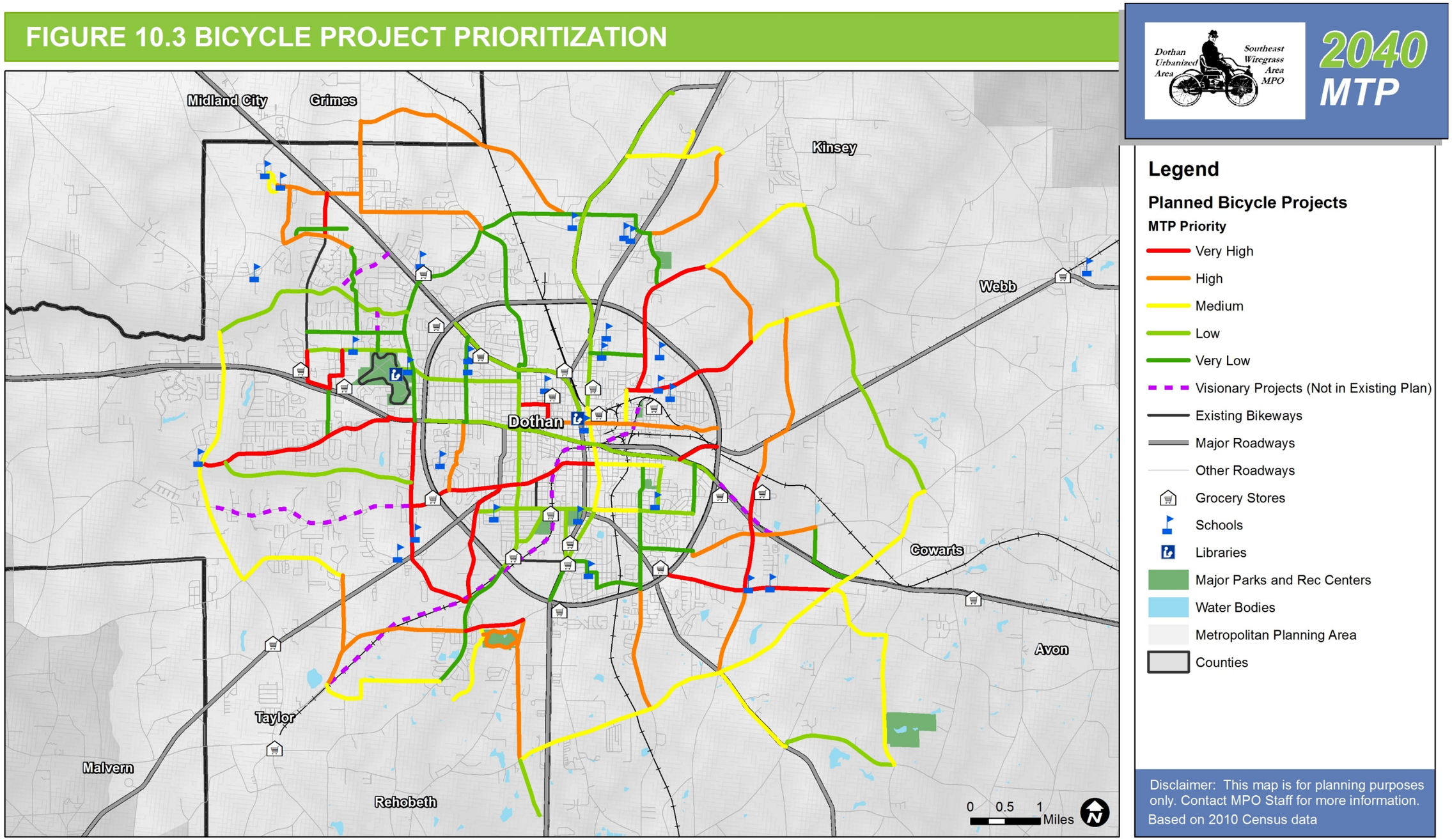
FIGURE 10.2 PEDESTRIAN PROJECT PRIORITIZATION



Map Source: Neel-Schaffer, Inc.

Data Sources: Dothan Bicycle and Pedestrian Plan; Neel-Schaffer, Inc.

FIGURE 10.3 BICYCLE PROJECT PRIORITIZATION



Map Source: Neel-Schaffer, Inc.

Data Sources: Dothan Bicycle and Pedestrian Plan; Neel-Schaffer, Inc.

11.0 IMPLEMENTATION PLAN

11.1 APPLYING FISCAL CONSTRAINT

Tables 11.3 and 11.4 in this chapter include fiscally-constrained capacity and maintenance and operations (MO) projects. All project costs were adjusted upward one (1) percent every year in order to account for inflation. The amount of transit funding necessary to continue current funding levels was calculated by extrapolating the FY 2016 federal, state, and local funding amounts through 2040 and applying the one (1) percent inflation factor. The amount of total estimated transit revenue provided in Chapter 9 exceeds the amount needed to continue funding transit operations at current funding levels. This is illustrated in Table 11.1 below.

Table 11.1 Transit Operations and Maintenance Costs

Transit Funding Program	Cost Projections		Estimated Funding Available FY 2016-40
	FY 2016	FY 2016-40	
Section 5307	$1,086,886	$30,697,138	n/a
Section 5311	$449,522	$12,695,940	n/a
Total	$1,536,408	$43,393,078	$50,943,000

Note: Estimated transit revenue provided by ALDOT was not split into different transit programs.

All maintenance and operations projects from FY 2020 to 2040 are included as line items, based on the amount of remaining funding after revenue dedicated to maintenance and operations projects in FY 2016 to 2019 is subtracted. While specific maintenance and operations projects were not spelled out in the fiscally constrained project tables, many potential projects were identified in Chapter 8: Future Transportation Need. These include roadway maintenance projects and bridge projects. As funding becomes available, projects from these lists should be added to the TIP as prioritized by the MPO process.

Capacity projects exceeding the federal funding projected by ALDOT are listed in two separate tables, Table 11.5 for roadway projects and Table 11.6 for bicycle and pedestrian projects. Unfunded roadway projects are referred to as visionary/unfunded capacity projects. Unfunded bicycle and pedestrian projects are referred to as potential Transportation Alternatives Program (TAP) projects.

Unfunded bicycle and pedestrian projects listed in Table 11.6 are the highest priority bicycle and pedestrian projects from Dothan's Bicycle and Pedestrian Plan, according to the prioritization process described in Chapter 9. Only projects that were eligible for ALDOT's TAP funds were considered. These high-priority projects should be submitted to ALDOT as part of the annual request for TAP projects. This program is competitive, so funds are not guaranteed. Some bicycle and pedestrian projects may appear incomplete. To address this issue, the city may amend the scope of the project before submitting for TAP funding. Alternatively, before submitting the project, the city should attempt to construct the *missing links* without federal funding.

If an unfunded roadway or bicycle/pedestrian project is funded, the MTP should be updated to reflect this. The local match for roadway projects is assumed to be 20 percent of the total project cost. For transit, the local match amount depends on the project type. Local match for operations assistance is typically 50 percent while local match for capital projects are typically 20 percent.

11.2 EFFECTIVENESS OF FISCALLY CONSTRAINED PROJECTS

Table 11.2 shows the travel impacts of implementing the capacity projects in the fiscally-constrained project lists. Because there are no additional projects beyond the existing and committed projects are funded in the MTP, there is no difference between the 2040 existing and committed network and 2040 fiscally constrained MTP network.

Table 11.2 Travel Impacts of Fiscally Constrained 2040 MTP

Measure	2040 Existing and Committed	2040 Fiscally Constrained MTP	Absolute Difference	Percent Difference
Daily Vehicle Miles Traveled	4,165,285	4,165,285	0	0%
Daily Vehicle Hours Traveled	109,654	109,654	0	0%
Daily Hours of Delay	6,395	6,395	0	0%

11.3 FISCALLY CONSTRAINED PROJECTS

Table 11.3 Fiscally Constrained Capacity Projects

Sponsor	ALDOT Project Number	FA Project Number	Map ID Number	Funding Program	Capacity or Maintenance and Operations	Project Description	ALDOT Work Code	Project Length (miles)	Program Year	Project Cost in Year of Expenditure (YOE)		
										Federal	Local/State	Total
City of Dothan	100052103	STPOA 9450	1	STPOA	Capacity	CR-25 (Denton Rd) Add Lanes from SR-210 (Ross Clark Circle) to Westgate Parkway (See Note 1 below for bike/ped accommodations)	Additional Roadway Lanes (UT)	1.20	2017	$644,343	$161,086	$805,429
City of Dothan	100008618	STPOA 9450	1	STPOA	Capacity	CR-25 (Denton Rd) Add Lanes from SR-210 (Ross Clark Circle) to Westgate Parkway (See Note 1 below for bike/ped accommodations)	Additional Roadway Lanes (CN)	1.20	2019	$4,330,534	$2,230,881	$6,561,414
ALDOT	100038193	NH 0210	2	NH	Capacity	Adding Lanes on SR-210 (Ross Clark Circle) from Bauman Drive to US-231 and SR-12 (US-84) from Belaire Dr. to Pinetree Dr. (See Note 2 below for bike/ped accommodations)	Additional Roadway Lanes (RW)	2.20	2019	$6,866,319	$1,716,580 (State)	$8,582,899
ALDOT	100038194	NH 0210	2	NH	Capacity	Adding Lanes on SR-210 (Ross Clark Circle) from Bauman Drive to US-231 and SR-12 (US-84) from Belaire Dr. to Pinetree Dr. (See Note 2 below for bike/ped accommodations)	Additional Roadway Lanes (UT)	2.20	2019	$3,546,378	$886,595 (State)	$4,432,973

Note 1: There are currently no sidewalks or bicycle facilities. Sidewalks will be constructed on both sides of the roadway. Costs for construction of sidewalks are estimated at $222,939. Bicycle facilities were not included because of exceptional circumstances, consistent with FHWA guidance on when pedestrian and bicycle accommodations may not be required.
Note 2: Final plans are currently being prepared. There are currently no sidewalks or bicycle facilities. As part of the design process, bicycle and pedestrian improvements will be considered consistent with FHWA guidance. It is anticipated that sidewalks will be constructed per the City of Dothan Bicycle and Pedestrian Plan. Costs for sidewalk construction have yet to be developed.
Note 3: Year of Expenditure costs assume a 1% annual inflation rate.

Table 11.4 Fiscally Constrained Maintenance and Operations Projects

Sponsor	ALDOT Project Number	FA Project Number	Funding Program	Capacity or Maintenance and Operations	Project Description	ALDOT Work Code	Project Length (miles)	Program Year	Project Cost in Year of Expenditure (YOE)		
									Federal	Local/State	Total
Dale County	100060799	STPOA 2314	STPOA	Maintenance and Operations	Resurface CR-87 (Paramore Road) from CR-112 to SR-134	Resurfacing (PE)	1.60	2016	$8,739	$2,185	$10,924
Dale County	100058568	STPOA 2314	STPOA	Maintenance and Operations	Resurface CR-87 (Paramore Road) from CR-112 to SR-134	Resurfacing (CN)	1.60	2016	$201,677	$50,419	$252,096
Dale County	100062462	STPOA 2314	STPOA	Maintenance and Operations	Resurfacing CR-10 from SR-53 (US-231) to the Houston County Line	Resurfacing (CN)	3.45	2017	$458,945	$114,736	$573,681
Dale County	100062463	STPOA 2314	STPOA	Maintenance and Operations	Resurfacing CR-47 from SR-134 to the Houston County Line	Resurfacing (CN)	1.02	2017	$701,165	$175,291	$876,457
ALDOT	100063626	STPOA 0173	STPOA	Maintenance and Operations	Resurfacing on SR-173 from just north of SR-134 to Newville South Town Limits	Resurfacing (FM)	4.59	2016	$1,589,922	$397,480 (State)	$1,987,402
ALDOT	100044189	STPAA 0605	STPAA	Maintenance and Operations	Intersection Improvements to SR-605 (Brannon Stand Road) at CR-40 (Fortner Street) Turn Lanes	Intersection Improvements (CN)	0.67	2017	$1,795,376	$448,844 (State)	$2,244,220
City of Dothan	100061073	ACOA61073 ATRP (016)	ATRP	Maintenance and Operations	Resurface Bracewell Avenue from Stonebridge Road to SR-12 (US-84) City of Dothan	Resurfacing (CN)	0.62	2016	$295,596	$73,899	$369,495
City of Dothan	100061070	ACBRZ61070 ATRP (008)	ATRP	Maintenance and Operations	Bridge on Brookside Driver over Quail Creek BIN # 10324 City of Dothan	Bridge (CN)	0.00	2017	$458,255	$114,564	$572,819
ALDOT	100063407	NA	NA	Maintenance and Operations	Culvert Extension and Slope Repair on SR-53 (US-231) Southbound at MP 27.1 North of Dothan	Slide Correction (CN)	0.30	2016	$0.00	$500,000 (State)	$500,000
ALDOT	100063408	NA	NA	Maintenance and Operations	Culvert Extension and Slope Repair on SR-53 (US-231) Southbound at MP 27.1 North of Dothan	Slide Correction (UT)	0.30	2016	$0.00	$50,000 (State)	$50,000
Houston County	100063771	RHCH RR16 (907)	RHCH-RR16	Maintenance and Operations	Railroad Crossing Improvements at Lake Street in Houston County, REF NO. 1291 (Phase XIII-R) DOT NO. 637-956X	RR Crossing Improvements (CN)	0.00	2016	$180,000	$20,000 (State)	$200,000

Table 11.4 Fiscally Constrained Maintenance and Operations Projects (continued)

Sponsor	ALDOT Project Number	FA Project Number	Funding Program	Capacity or Maintenance and Operations	Project Description	ALDOT Work Code	Project Length (miles)	Program Year	Project Cost in Year of Expenditure (YOE)		
									Federal	Local/State	Total
Dale County	100063801	RHCH RR16 (908)	RHCH-RR16	Maintenance and Operations	Railroad Improvements on Forest Drive at CSXT RR Crossing in Dale County, REF 1286, Phase XIV-R DOT NO. 637925Y	RR Crossing Improvements (CN)	0.00	2016	$180,000	$20,000 (State)	$200,000
Houston County	100063803	RHCH RR16 (906)	RHCH-RR16	Maintenance and Operations	Railroad Improvements at CSXT RR Crossing on Furnie Jackson Road in Houston County, REF 1285, Phase XIV-R, DOT NO. 637867F	RR Crossing Improvements (CN)	0.00	2016	$180,000	$20,000 (State)	$200,000
Town of Headland	100063182	TAPAA TA14 (941)	TAPAA	Maintenance and Operations	Sidewalk Connectors and Downtown ADA Improvements on E. Main Street, E. Church Street, W. Church Street, and Sidewalks near the Downtown Square in Downtown Headland	Sidewalk (CN)	0.00	2016	$145,199	$36,300	$181,499
City of Ashford	100064545	TAPAA TA15 (930)	TAPAA	Maintenance and Operations	Downtown Streetscape Improvements in the City of Ashford along North Broadway Street	Streetscape (CN)	0.00	2017	$225,228	$56,307	$281,534
City of Dothan	100064537	TAPAA TA15 (922)	TAPAA	Maintenance and Operations	Sidewalk located along the south side of Westgate Parkway, starting at Morris Slingluff El. School and ending at Northview High School in Dothan.	Sidewalk (CN)	0.00	2017	$383,074	$95,769	$478,843
Town of Cowarts	100064546	TAPAA TA15 (931)	TAPAA	Maintenance and Operations	Downtown Streetscape Improvements along Jordan Street in the Town of Cowarts	Streetscape (CN)	0.00	2017	$322,966	$80,742	$403,708
SEARPDC	100063795	FTA9 TR16	FTA9 - TR16	Maintenance and Operations	Section 5307 Transit Dothan Operating FY 2016	Unclassified (TR)	0.00	2016	$363,443	$363,443	$726,886
SEARPDC	100063809	FTA9 TR16	FTA9 - TR16	Maintenance and Operations	Section 5307 Transit Dothan Preventive Maintenance FY 2016	Unclassified (TR)	0.00	2016	$120,000	$30,000	$150,000
SEARPDC	100063817	FTA9C TR16	FTA9C - TR16	Maintenance and Operations	Section 5307 Transit Dothan Capital Rolling Stock FY 2016	Unclassified (TR)	0.00	2016	$128,000	$32,000	$160,000
SEARPDC	100063824	FTA9C TR16	FTA9C - TR16	Maintenance and Operations	Section 5307 Transit Dothan Capital Support Equip/Facilities FY 2016	Unclassified (TR)	0.00	2016	$40,000	$10,000	$50,000
SEARPDC	100063931	FTA9 TR17	FTA9 - TR17	Maintenance and Operations	Section 5307 Transit Dothan Operating FY 2017	Unclassified (TR)	0.00	2017	$365,000	$365,000	$730,000
SEARPDC	100063932	FTA9 TR18	FTA9 - TR18	Maintenance and Operations	Section 5307 Transit Dothan Operating FY 2018	Unclassified (TR)	0.00	2018	$365,000	$365,000	$730,000

Table 11.4 Fiscally Constrained Maintenance and Operations Projects (continued)

Sponsor	ALDOT Project Number	FA Project Number	Funding Program	Capacity or Maintenance and Operations	Project Description	ALDOT Work Code	Project Length (miles)	Program Year	Project Cost in Year of Expenditure (YOE)		
									Federal	Local/State	Total
SEARPDC	100063934	FTA9 TR19	FTA9 - TR19	Maintenance and Operations	Section 5307 Transit Dothan Operation FY 2019	Unclassified (TR)	0.00	2019	$365,000	$365,000	$730,000
SEARPDC	100063935	FTA9 TR17	FTA9 - TR17	Maintenance and Operations	Section 5307 Transit Dothan Preventive Maintenance FY 2017	Unclassified (TR)	0.00	2017	$120,000	$30,000	$150,000
SEARPDC	100063936	FTA9 TR18	FTA9 - TR18	Maintenance and Operations	Section 5307 Transit Dothan Preventive Maintenance FY 2018	Unclassified (TR)	0.00	2018	$120,000	$30,000	$150,000
SEARPDC	100063937	FTA9 TR19	FTA9 - TR19	Maintenance and Operations	Section 5307 Transit Dothan Preventive Maintenance FY 2019	Unclassified (TR)	0.00	2019	$104,000	$26,000	$130,000
SEARPDC	100063938	FTA9C TR17	FTA9C - TR17	Maintenance and Operations	Section 5307 Transit Dothan Capital Buses Rolling Stock FY 2017	Unclassified (TR)	0.00	2017	$128,000	$32,000	$160,000
SEARPDC	100063939	FTA9C TR18	FTA9C - TR18	Maintenance and Operations	Section 5307 Transit Dothan Capital Buses Rolling Stock FY 2018	Unclassified (TR)	0.00	2018	$128,000	$32,000	$160,000
SEARPDC	100063940	FTA9C TR19	FTA9C - TR19	Maintenance and Operations	Section 5307 Transit Dothan Capital Buses Rolling Stock FY 2019	Unclassified (TR)	0.00	2019	$120,000	$30,000	$150,000
SEARPDC	100063941	FTA9C TR17	FTA9C - TR17	Maintenance and Operations	Section 5307 Transit Dothan Capital Support Equip/FAC FY 2017	Unclassified (TR)	0.00	2017	$4,000	$1,000	$5,000
SEARPDC	100063942	FTA9C TR18	FTA9C - TR18	Maintenance and Operations	Section 5307 Transit Dothan Capital Support Equip/FAC FY 2018	Unclassified (TR)	0.00	2018	$4,000	$1,000	$5,000
SEARPDC	100063943	FTA9C TR19	FTA9C - TR19	Maintenance and Operations	Section 5307 Transit Dothan Capital Support Equip/FAC FY 2019	Unclassified (TR)	0.00	2019	$4,000	$1,000	$5,000
SEARPDC	100063840	RPTO TR16	RPTO - TR16	Maintenance and Operations	Section 5311 Transit SE ALA REG PLAN DEV COMM Operating FY 2016	Unclassified (TR)	0.00	2016	$81,445	$81,445	$162,889
SEARPDC	100063841	RPTO TR16	RPTO - TR16	Maintenance and Operations	Section 5311 Transit SE ALA REG PLAN DEV COMM Administration FY 2016	Unclassified (TR)	0.00	2016	$85,306	$21,327	$106,633
SEARPDC	100063842	RPTOC TR16	RPTOC - TR16	Maintenance and Operations	Section 5311 Transit SE ALA PLAN DEV COMM CAPITAL ROLLING STOCK FY 2016	Unclassified (TR)	0.00	2016	$104,000	$26,000	$130,000
SEARPDC	100063843	RPTOC TR16	RPTOC - TR16	Maintenance and Operations	Section 5311 Transit SE ALA REG PLAN DEV COMMM CAPITAL SUPP EQUIP/FAC FY 2016	Unclassified (TR)	0.00	2016	$40,000	$10,000	$50,000

Table 11.4 Fiscally Constrained Maintenance and Operations Projects (continued)

Sponsor	ALDOT Project Number	FA Project Number	Funding Program	Capacity or Maintenance and Operations	Project Description	ALDOT Work Code	Project Length (miles)	Program Year	Project Cost in Year of Expenditure (YOE)		
									Federal	Local/State	Total
SEARPDC	100064056	RPTO TR17	RPTO - TR17	Maintenance and Operations	Section 5311 Transit SE ALA REG PLAN DEV COMM OPERATING FY 2017	Unclassified (TR)	0.00	2017	$81,500	$81,500	$163,000
SEARPDC	100064057	RPTO TR18	RPTO - TR18	Maintenance and Operations	Section 5311 Transit SE ALA REG PLAN DEV COMM OPERATING FY 2019	Unclassified (TR)	0.00	2018	$81,500	$81,500	$163,000
SEARPDC	100064058	RPTO TR19	RPTO - TR19	Maintenance and Operations	Section 5311 Transit SE ALA REG PLAN DEV COMM OPERATING 2019	Unclassified (TR)	0.00	2019	$81,500	$81,500	$163,000
SEARPDC	100064059	RPTO TR17	RPTO - TR17	Maintenance and Operations	Section 5311 Transit SE ALA REG PLAN DEV COMM ADMINISTRATION FY 2017	Unclassified (TR)	0.00	2017	$85,600	$21,400	$107,000
SEARPDC	100064060	RPTO TR18	RPTO - TR18	Maintenance and Operations	Section 5311 Transit SE ALA REG PLAN DEV COMM ADMINISTRATION FY 2018	Unclassified (TR)	0.00	2018	$85,600	$21,400	$107,000
SEARPDC	100064061	RPTO TR19	RPTO - TR19	Maintenance and Operations	Section 5311 Transit SE ALA REG PLAN DEV COMM ADMINISTRATION FY 2019	Unclassified (TR)	0.00	2019	$85,600	$21,400	$107,000
SEARPDC	100064062	RPTOC TR17	RPTOC - TR17	Maintenance and Operations	Section 5311 Transit SE ALA REG PLAN DEV COMM CAPITAL ROLLING STOCK FY 2017	Unclassified (TR)	0.00	2017	$104,000	$26,000	$130,000
SEARPDC	100064063	RPTOC TR18	RPTOC - TR18	Maintenance and Operations	Section 5311 Transit SE ALA REG PLAN DEV COMM CAPITAL ROLLING STOCK FY 2018	Unclassified (TR)	0.00	2018	$104,000	$26,000	$130,000
SEARPDC	100064064	RPTOC TR19	RPTOC - TR19	Maintenance and Operations	Section 5311 Transit SE ALA REG PLAN DEV COMM CAPITAL ROLLING STOCK FY 2019	Unclassified (TR)	0.00	2019	$104,000	$26,000	$130,000
SEARPDC	100064065	RPTOC TR17	RPTOC - TR17	Maintenance and Operations	Section 5311 Transit SE ALA REG PLAN DEV COMM CAPITAL SUPPORT EQUIP/FAC FY 2017	Unclassified (TR)	0.00	2017	$8,000	$2,000	$10,000
SEARPDC	100064066	RPTOC TR18	RPTOC - TR18	Maintenance and Operations	Section 5311 Transit SE ALA REG PLAN DEV COMM CAPITAL SUPPORT EQUIP/FAC FY 2018	Unclassified (TR)	0.00	2018	$8,000	$2,000	$10,000
SEARPDC	100064067	RPTOC TR19	RPTOC - TR19	Maintenance and Operations	Section 5311 Transit SE ALA REG PLAN DEV COMM CAPITAL SUPPORT EQUIP/FAC FY 2019	Unclassified (TR)	0.00	2019	$8,000	$2,000	$10,000

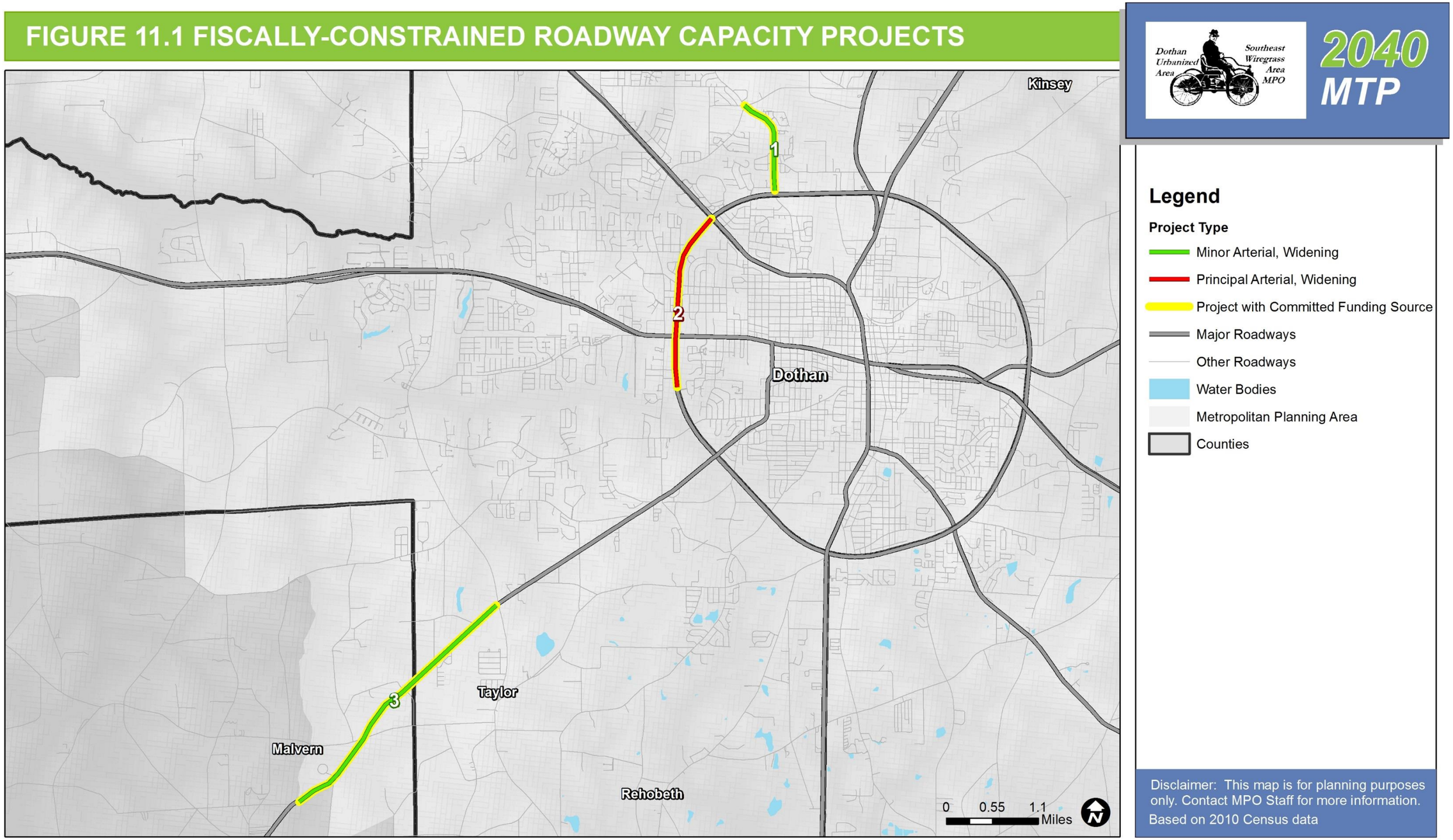
Note 1: Year of Expenditure costs assume a 1% annual inflation rate.
Note 2: Bicycle and pedestrian improvements must be part of the overall design phase and include the necessary funding unless restrictions apply consistent with FHWA guidance.

Table 11.5 Financial Plan Summary - Federal Funds Only (in thousands $)

	Capacity Projects			Operations and Maintenance Projects		
	Projected 25-year Funding	Cost of MTP Projects in Year of Expenditure (YOE)	Remaining Funding through 2040	Projected 25-year Funding	Cost of MTP Projects in Year of Expenditure (YOE)	Remaining Funding through 2040
National Highway Performance Program (NHPP)	$24,614	$10,413	$14,201	$39,246	$0	$39,246
Surface Transportation Program-Ded. (STPOA)	$12,668	$4,975	$7,693	$23,526	$1,371	$22,155
Surface Transportation Program-Other[1]	$35,859	$0	$35,859	$57,178	$3,385	$53,793
Bridge Funding	$3,386	$0	$3,386	$5,399	$0	$5,399
Interstate Maintenance	$0	$0	$0	$0	$0	$0
Transit	$0	$0	$0	$32,345	$3,626	$28,719
Congestion Mitigation & Air Quality (CMAQ)	$0	$0	$0	$0	$0	$0
Highway Safety Improvement Program (HSIP)	$0	$0	$0	$15,115	$540	$14,575
Transportation Alternatives Program (TAP)[2]	$0	$0	$0	$4,000	$1,076	$2,924
Other Federal Funding and Funding from SAFETEA-LU (unspent funding left over from previous transportation bill)						
Appalachian Highway System	$0	$0	$0	$0	$0	$0
High Priority and Congressional Earmark Funding	$1,580	$0	$1,580	$2,520	$0	$2,520
Totals[3]	**$78,107**	**$15,388**	**$62,719**	**$171,229**	**$8,922**	**$162,307**

[1]STP (Other) funding does not include ATRIP funds
[2]TAP funding was not projected by ALDOT and is not included in the totals. The projection was done to better understand anticipated funding for the competitive program.
[3] Projected federal funding totals are provided by ALDOT and may not add up to the sum of projected funding by funding categories due to rounding.

FIGURE 11.1 FISCALLY-CONSTRAINED ROADWAY CAPACITY PROJECTS



Map Source: Neel-Schaffer, Inc.

Data Sources: Neel-Schaffer, Inc.; ALDOT

11.4 VISIONARY PROJECTS

For the 2040 MTP, as is typically the case in metropolitan transportation planning, the costs of identified projects exceed the amount of funding anticipated to be available to the MPO. Therefore, many projects are not able to be included in the fiscally-constrained project lists. This section presents all identified projects that are not included in the fiscally-constrained project lists. There are two types of visionary projects: roadway capacity projects and bicycle/pedestrian projects.

Visionary roadway capacity projects are listed in Table 11.5 and illustrated in Figure 11.2. These projects did not rank high enough under the MTP's prioritization process or were too expensive to be included. These visionary projects are included in the MTP in order to provide the MPO a list of pre-prioritized yet unfunded projects in case additional funding becomes available. If selected for funding, these projects would move to the fiscally-constrained project list.

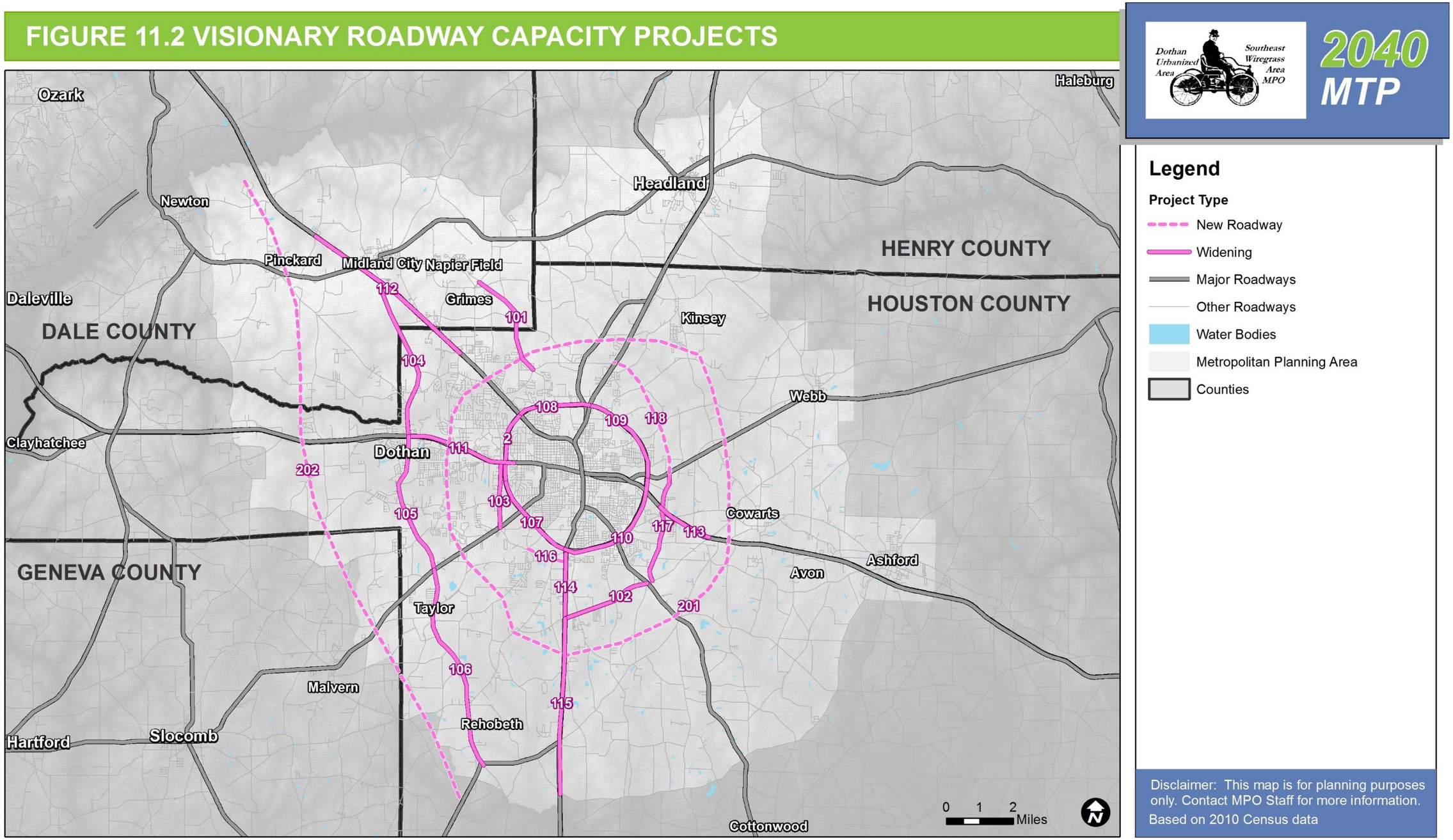
Visionary bicycle/pedestrian projects are listed in Table 11.6 and illustrated in Figure 11.3. These bicycle/pedestrian projects were identified as high-priority candidates for the ALDOT TAP program, which is a competitive grant program administered by ALDOT. The City of Dothan should submit these projects for consideration. If selected for funding, these projects would move to the fiscally-constrained project list.

Table 11.6 Visionary/Unfunded Roadway Capacity Projects

Sponsor	ALDOT Project Number	Map ID Number	Funding Program	Capacity or Maintenance and Operations	Project Description	ALDOT Work Code	Project Length (miles)	Program Year	Financially Constrained Priority Ranking	Project Cost in Current Year 2015 Dollars		
										Federal	Local	Total
ALDOT	100038195	2	NH	Capacity	Adding Lanes on SR-210 (Ross Clark Circle) from Bauman Drive to US-231 and SR-12 (US-84) from Belaire Dr. to Pinetree Dr. Widen Ross Clark Circle to 6 lanes. (See Note 1 below for bike/ped accommodations)	Additional Roadway Lanes (CN)	2.20	2020	Not ranked. Committed project.	$31,547,958	$7,886,990	$39,434,948
n/a	n/a	119	none	Capacity	Honeysuckle Rd, S Park Ave to US 231 South, New 2 Lane Roadway.	n/a	1.20	n/a	1	$3,672,360	$1,468,944	$5,141,304
n/a	n/a	117	none	Capacity	US 231 South, Ross Clark Cir to E Saunders Rd, Widen to 6 Lanes.	n/a	2.00	n/a	2	$10,813,060	$3,784,571	$14,597,631
n/a	n/a	113	none	Capacity	US 84, Pinetree Dr to Brannon Stand Rd, Widen to 6 Lanes.	n/a	3.22	n/a	3	$22,911,446	$8,727,364	$31,638,810
n/a	n/a	108	none	Capacity	Ross Clark Cir, Baumann Dr to US 231 South, Widen to 6 Lanes.	n/a	2.75	n/a	4	$39,273,850	$13,745,848	$53,019,698
n/a	n/a	104	none	Capacity	Honeysuckle Rd, US 84 to Hartford Hwy, Widen to 4 Lanes.	n/a	1.90	n/a	5	$10,272,407	$3,595,342	$13,867,749
n/a	n/a	109	none	Capacity	Ross Clark Cir, US 231 North to Reeves St, Widen to 6 Lanes.	n/a	2.10	n/a	6	$32,390,215	$8,097,554	$40,487,769
n/a	n/a	120	none	Capacity	N Beverly Rd, Forrester Rd to Columbia Hwy, Widen to 4 Lanes.	n/a	3.40	n/a	7	$19,852,778	$4,963,195	$24,815,973
n/a	n/a	121	none	Capacity	Eastern Bypass, Columbia Hwy to Reeves St, New 4 Lane Roadway.	n/a	3.90	n/a	8	$38,659,670	$9,664,918	$48,324,588
n/a	n/a	116	none	Capacity	E Main St, N Beverly Rd to Forrester Rd, Widen to 6 Lanes.	n/a	1.75	n/a	9	$10,218,342	$2,554,585	$12,772,927
n/a	n/a	105	none	Capacity	Brannon Stand, US 231 North to US 84, Widen to 4 Lanes.	n/a	4.70	n/a	10	$27,443,546	$6,860,887	$34,304,433
n/a	n/a	103	none	Capacity	E Saunders Rd, US 231 South to E Cottonwood R, Widen to 4 Lanes.	n/a	2.70	n/a	11	$15,765,441	$3,941,360	$19,706,802
n/a	n/a	106	none	Capacity	Brannon Stand, US 84 to SR 52, Widen to 4 Lanes.	n/a	4.35	n/a	12	$25,399,878	$6,349,969	$31,749,847
n/a	n/a	115	none	Capacity	US 231 North, John D Odom Rd to Lees Bridge, Widen to 6 Lanes.	n/a	5.55	n/a	13	$32,406,741	$8,101,685	$40,508,426
n/a	n/a	107	none	Capacity	Brannon Stand, SR 52 to SR 109, Widen to 4 Lanes.	n/a	6.30	n/a	14	$36,786,030	$9,196,508	$45,982,538
n/a	n/a	102	none	Capacity	Denton Rd, Mance Newton Rd to Paramore Rd, Widen to 4 Lanes.	n/a	3.30	n/a	15	$19,269,971	$4,817,493	$24,087,463
n/a	n/a	110	none	Capacity	Ross Clark Cir, Reeves St to Columbia Hwy, Widen to 6 Lanes.	n/a	3.00	n/a	16	$46,276,222	$11,569,055	$57,845,277
n/a	n/a	111	none	Capacity	Ross Clark Cir, Columbia Hwy to US 231 South, Widen to 6 Lanes.	n/a	3.85	n/a	17	$59,382,061	$14,845,515	$74,227,577
n/a	n/a	118	none	Capacity	US 231 South, E Saunders Rd to E Smithville, Widen to 6 Lanes.	n/a	5.30	n/a	18	$30,946,978	$7,736,744	$38,683,722

Note 1: Final plans are currently being prepared. There are currently no sidewalks or bicycle facilities. As part of the design process, bicycle and pedestrian improvements will be considered consistent with FHWA guidance. It is anticipated that sidewalks will be constructed per the City of Dothan Bicycle and Pedestrian Plan. Costs for sidewalk construction have yet to be developed.

FIGURE 11.2 VISIONARY ROADWAY CAPACITY PROJECTS



Map Source: Neel-Schaffer, Inc.

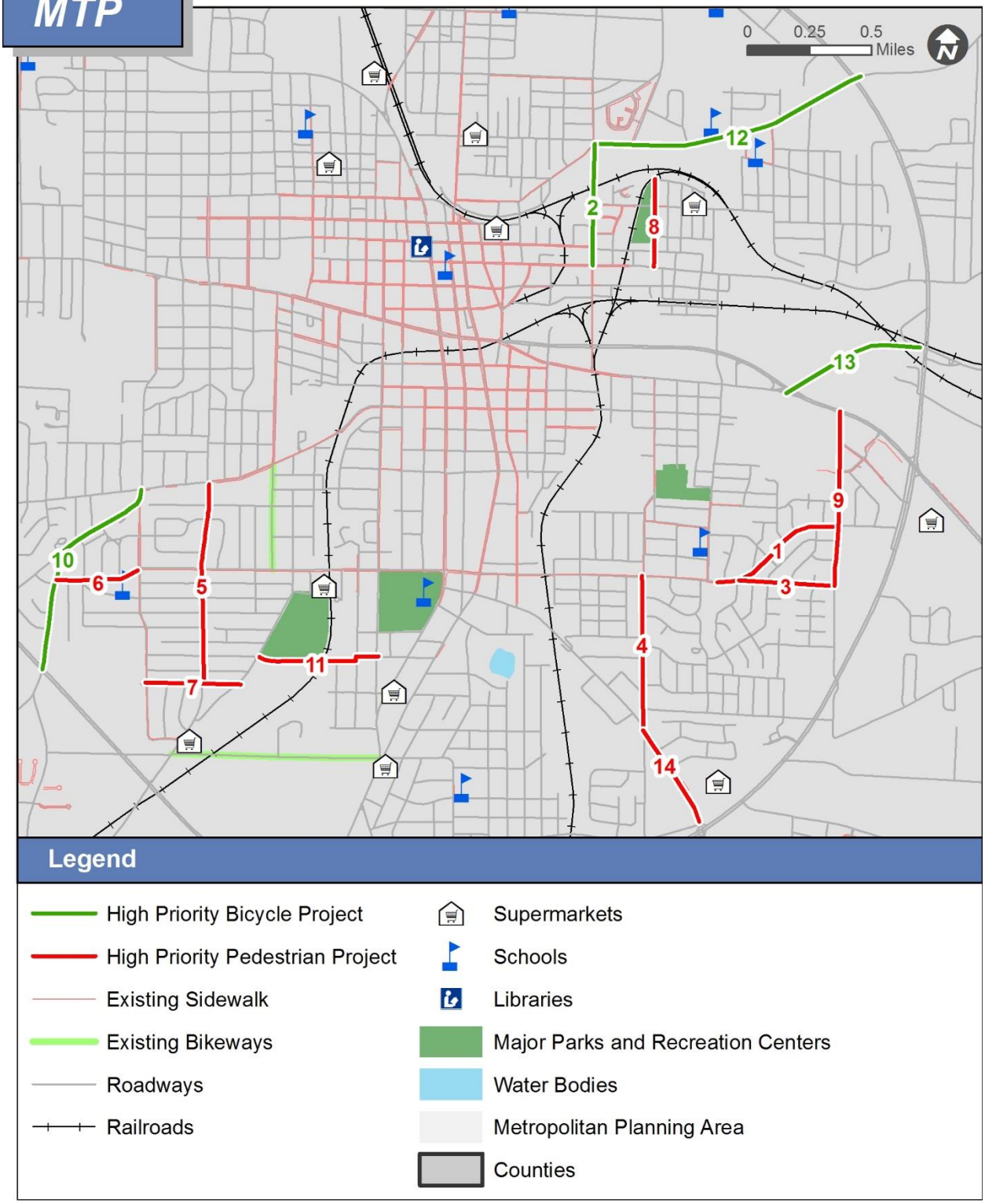
Data Sources: Neel-Schaffer, Inc.; ALDOT

Table 11.7 Potential Transportation Alternatives Program (TAP) Projects (Unfunded)

Rank	Dothan Plan Priority	Project Type	Facility	Begin	End	Miles	MTP Score	Estimated Construction Cost (2011$)
1	Immediate	Walkway	Alexander Dr.	Haven Dr.	Mercury Dr.	0.5	2.23	$146,150
2	Immediate	On-Road Bike Route	N. Range St.	E. Burdeshaw St.	Webb Rd.	0.5	2.23	$337,500
3	Immediate	Walkway	E Selma St.	Galaxie Dr.	Haven Dr.	0.7	2.15	$374,610
4	Immediate	Walkway	3rd Ave.	E Selma St.	E. Cottonwood Rd.	0.5	2.13	$296,150
5	Immediate	Walkway	S. Park St.	Fortner St.	Mendheim Dr.	0.8	2.13	$331,072
6	Immediate	Walkway	W. Selma St.	Woodland Dr.	Timbers Dr.	0.4	2.07	$206,920
7	Immediate	Walkway	Mendheim Dr.	Woodland Dr.	Stadium St.	0.4	2.01	$206,920
8	Immediate	Walkway	Bayshore Ave.	E. Burdeshaw St.	Carver Dr.	0.4	1.88	$306,920
9	Immediate	Walkway	Haven Dr.	E. Selma St.	Alexander Dr.	0.7	1.86	$374,610
10	Short Range	On-Road Bike Route	Hartford Hwy/Timbers Dr.	Woodland Dr.	Ross Clark Circle	0.8	2	$240,000
11	Mid to Long Range	Walkway	Tate Dr./Helen St.	S. Alice St.	Stadium St.	0.5	2.15	$346,150
12	Mid to Long Range	On-Road Bike Route	Webb Rd.	Ross Clark Circle	N. Range St.	1.1	1.93	$330,000
13	Mid to Long Range	On-Road Bike Route	Columbia Hwy.	E. Main St.	Ross Clark Circle	0.6	1.9	$180,000
14	Mid to Long Range	Walkway	E. Cottonwood Rd.	Third Ave.	Ross Clark Circle	0.5	1.85	$346,150

2040 MTP

FIGURE 11.3 POTENTIAL BIKE/PED TAP PROJECTS



Disclaimer: This map is for planning purposes only.

Based on US 2010 Census data

Map Source: Neel-Schaffer, Inc.

Data Sources: Neel-Schaffer, Inc; Dothan Bicycle and Pedestrian Plan

12.0 Appendices

12.1 ACRONYM GUIDE

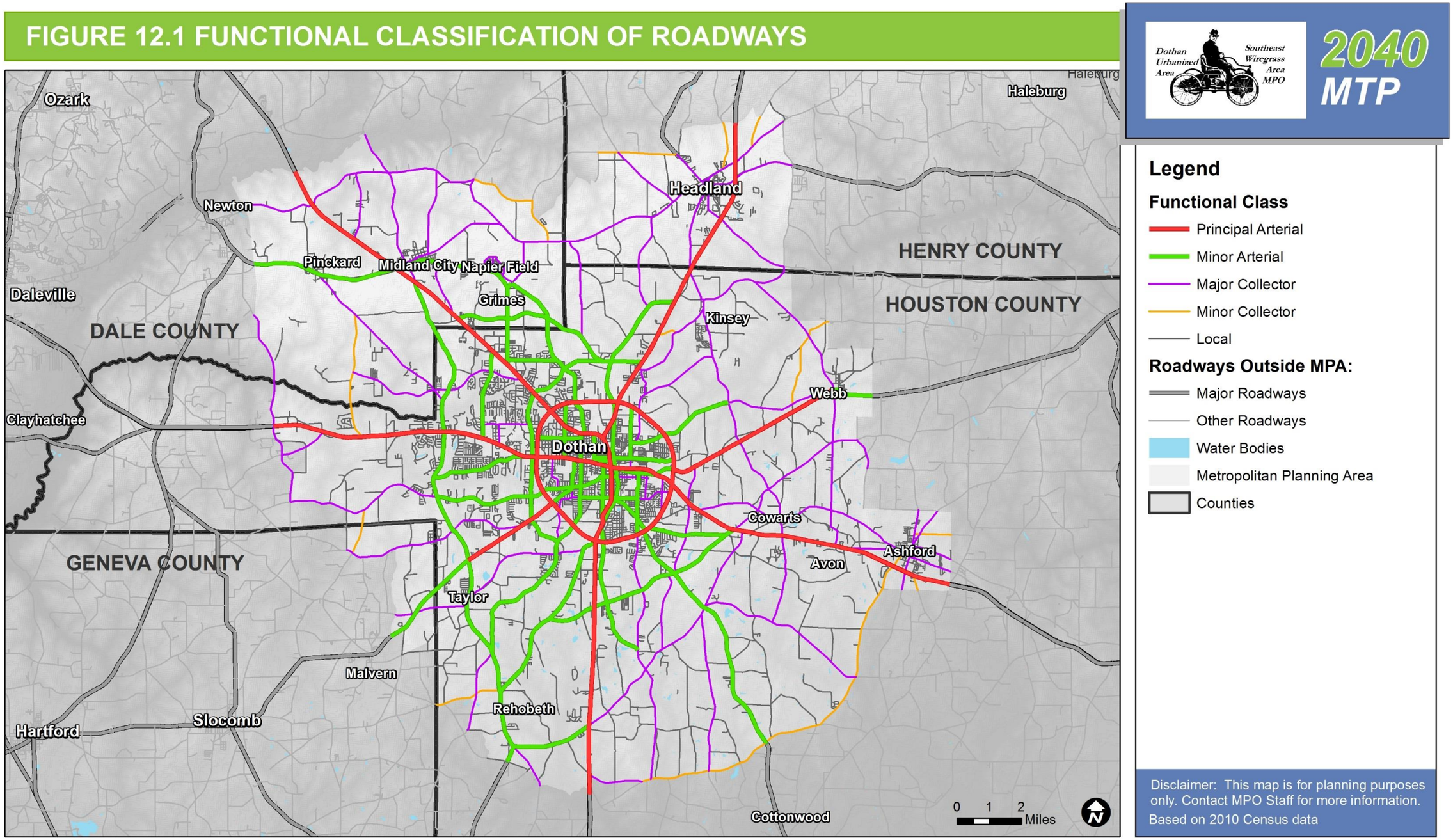
Table 12.1 Acronyms and Descriptions

Acronym	Description
ADA	Americans with Disabilities Act
ALDOT	Alabama Department of Transportation
APDV	Appalachian Development
ARRA	American Recovery and Reinvestment Act of 2009
ATRIP	Alabama Transportation Rehabilitation and Improvement Program
CAC	Citizens Advisory Committee
CFR	Code of Federal Regulations
CMAQ	Congestion Mitigation Air Quality
CN	Construction
DBE	Disadvantaged Business Enterprise
DOT	Department of Transportation
ESRI	Environmental Scientific Research Institute
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
FY	Fiscal Year
GARVEE	Grant Anticipated Revenue Vehicle
GHG	Greenhouse Gas
GIS	Geographic Information Systems
HPPP	High Priority Project Program
HSIP	Highway Safety Improvement Program
HPP	High Priority Projects
HTF	Highway Trust Fund
IM	Interstate Maintenance
ITS	Intelligent Transportation Systems
JARC	Job Access and Reverse Commute
LEP	Limited English Proficiency
LPA	Lead Planning Agency
LRTP	Long Range Transportation Plan
MAP-21	Moving Ahead for Progress in the 21st Century
MO	Maintenance and Operations
MPA	Metropolitan Planning Area
MPO	Metropolitan Planning Organization
MTP	Metropolitan Transportation Plan
NAAQS	National Ambient Air Quality Standards

Table 12.1 Acronyms and Descriptions (continued)

Acronym	Description
NEPA	National Environmental Policy Act of 1969
NHF	National Highway Fund
NHS	National Highway System
P	Planned Projects
PBPP	Performance-based Planning and Programming
PE	Preliminary Engineering
PL	Planning Funds
PPP	Public Participation Plan
RW	Right of Way
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act; A Legacy for Users
SEARPDC	Southeast Alabama Regional Planning and Development Commission
SHSP	Statewide Highway Safety Plan
SPR	State Planning and Research
STIP	State Transportation Improvement Program
STP	Surface Transportation Program
STPAA	(Any Area)
STPTE/STTE	(Enhancement)
STPRH/STPHS	(Safety)
ST/STPPA	(State)
STPOA/STOA	(Urban Area < 200,000)
SWAMPO	Southeast Wiregrass Area Metropolitan Planning Organization
TAC	Technical Advisory Committee
TAP	Transportation Alternatives Program
TAZ	Traffic Analysis Zone
TD	Transportation Disadvantaged
TDP	Transit Development Plan
TDM	Travel Demand Management
TEA-21	Transportation Equity Act for the 21st Century
TSM	Traffic Safety Management
TR	Transit
TIP	Transportation Improvement Program
TE	Transportation Enhancement
UPWP	Unified Planning Work Program
U.S.C. or USC	United States Code
USDOT	United State Department of Transportation
UT	Utility Construction
WTA	Wiregrass Transit Authority

FIGURE 12.1 FUNCTIONAL CLASSIFICATION OF ROADWAYS



Map Source: Neel-Schaffer, Inc.

Data Sources: ALDOT; MPO Staff

12.3 LIVABILITY PRINCIPLES AND INDICATORS

Livability principles and indicators are discussed in greater detail in Chapter 1 and Chapter 2. This section summarizes the current state of the livability indicators, which also serve as performance measures for the 2040 Metropolitan Transportation Plan, as mentioned in Chapter 3. They may be continued in the future or superseded by the federally required performance measures and any additional performance measures desired to be tracked by the MPO.

Livability Indicator 1: The percent of jobs and housing located within one-half (1/2) mile of transit service.

Target: Increase

Current Performance: 93%

Definition: The percentage of MPA population and employment within a half mile of the City of Dothan or Houston County, the service areas for Wiregrass Transit Authority (WTA). Since WTA provides curb-to-curb demand response transit service, the entire service area has transit service. All population in census blocks with centroids within a half mile buffer of the WTA service are were used to calculate the population. Employment points that fell within this buffer were used to calculate employment. The results are shown below:

	Dothan and Houston County	Metropolitan Planning Area	Percent
Population	90,575	98,934	91.6%
Employment	49,031	51,186	95.8%
Population & Employment	139,606	15,0120	93.0%

Data sources: 2010 Census and InfoUSA employment data

Livability Indicator 2: The percent of household income spent on housing and transportation.

Target: Decrease

Current Performance: 60%

Definition: The average percentage of household income spent on housing and transportation in MPO.

Data Source: Housing and Transportation Index, created by the Center for Neighborhood Technology. A caveat for this data is that the information uses the MPO boundary before the 2010 update.

Livability Indicator 3: The percent of workforce living within a thirty (30) minute or less commute from primary job centers.

Target: Increase

Current Performance: 100%

Definition: The percentage of the MPA workforce that resides in a TAZ within a thirty minute or less commute from primary job centers, defined as Downtown Dothan, Southeast Alabama Medical Center, Flowers Hospital, and the commercial corridor between Wiregrass Commons Mall and Dothan Pavilion. Due to the size of the Southeast Wiregrass Area MPO and low congestion, the entire MPA is within a 30 minute commute of these areas.

Data Source: Dothan Regional Travel Demand Model

Livability Indicator 4: The percent of transportation investment dedicated to enhancing accessibility of existing transportation systems.

Target: Increase

Current Performance: 31.3%

Definition: The percentage of the MTP estimated federal funding dedicated to capacity projects, regardless of mode, as provided by ALDOT.

Data Source: ALDOT

Livability Indicator 5: The percent of transportation projects where more than one federal funding source is utilized.

Target: Increase

Current Performance: 0%

Definition: The number of projects already programmed in the TIP that utilized at least two federal funding sources.

Data Source: ALDOT

Livability Indicator 6: The percent of housing located in walkable neighborhoods with mixed use destinations located nearby.

Target: Increase

Current Performance: 8.6%

Definition: The percentage of housing units in TAZs with at least 1 housing units per acre and a jobs (only Retail and Services) to housing ratio of at least 0.75 in the base year (2010).

Housing Units in Walkable Areas with Mixed Use Nearby	Total Housing Units in MPA	Percent in Walkable Areas with Mixed Use Nearby
3,760	43,787	8.6%

Data Sources: 2010 Census and InfoUSA employment data

12.4 MODEL DOCUMENTATION

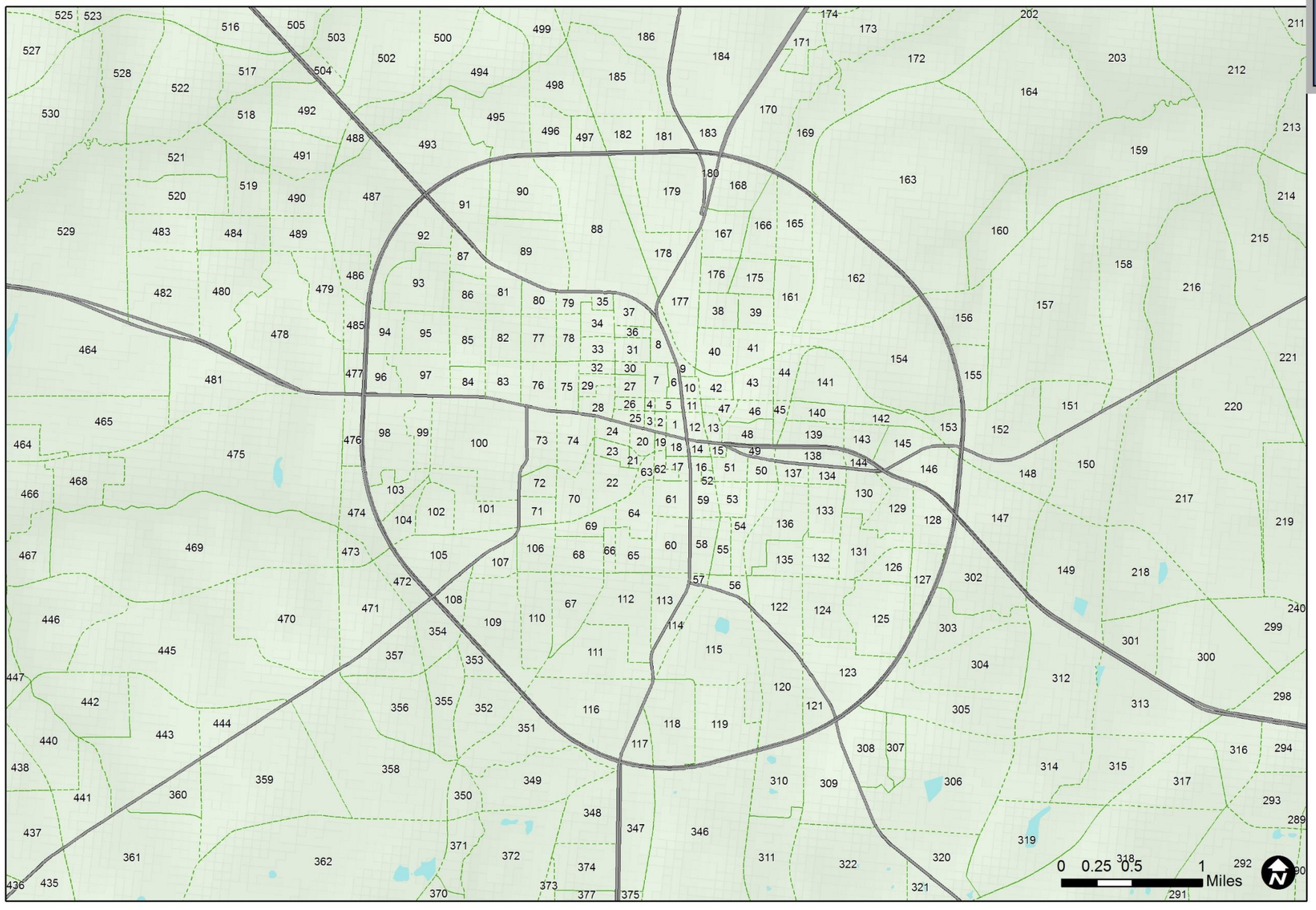
The following sections describe the model development, calibration, and validation of the Metropolitan Transportation Plan (MTP) for the Dothan Urbanized Area. The plan update is sponsored by the Southeast Wiregrass MPO and coordinated with the Alabama Department of Transportation (ALDOT). Neel-Schaffer, Inc. (NSI) updated the Dothan area travel demand model to a 2010 base year. The selected horizon year for the travel demand model is 2040.

The travel demand model is used to forecast future trips in the Dothan Urbanized Area and identify areas of deficiency within the local roadway network. The Dothan area travel demand model runs on the CUBE-Voyager software program and is compatible with Alabama Department of Transportation model development practice.

Traffic Analysis Zones (TAZ)

The traffic analysis zones from the 2035 transportation plan were used as the basis for developing the 2040 plan's TAZs. The previous TAZ structure included 207 internal TAZs and 38 external stations for a total of 245 zones. The updated TAZ structure includes 677 internal TAZs and 40 external TAZs for a total of 717 zones. Figure 12.2 shows the study area boundary and the internal TAZ geography for the 2040 plan.

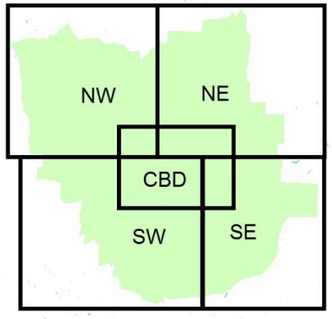
FIGURE 12.2 TRAFFIC ANALYSIS ZONES (CBD)



Dothan Urbanized Area
Southeast Wiregrass Area MPO
2040 MTP

Legend

- Major Roadways
- Water
- Traffic Analysis Zones
- Counties

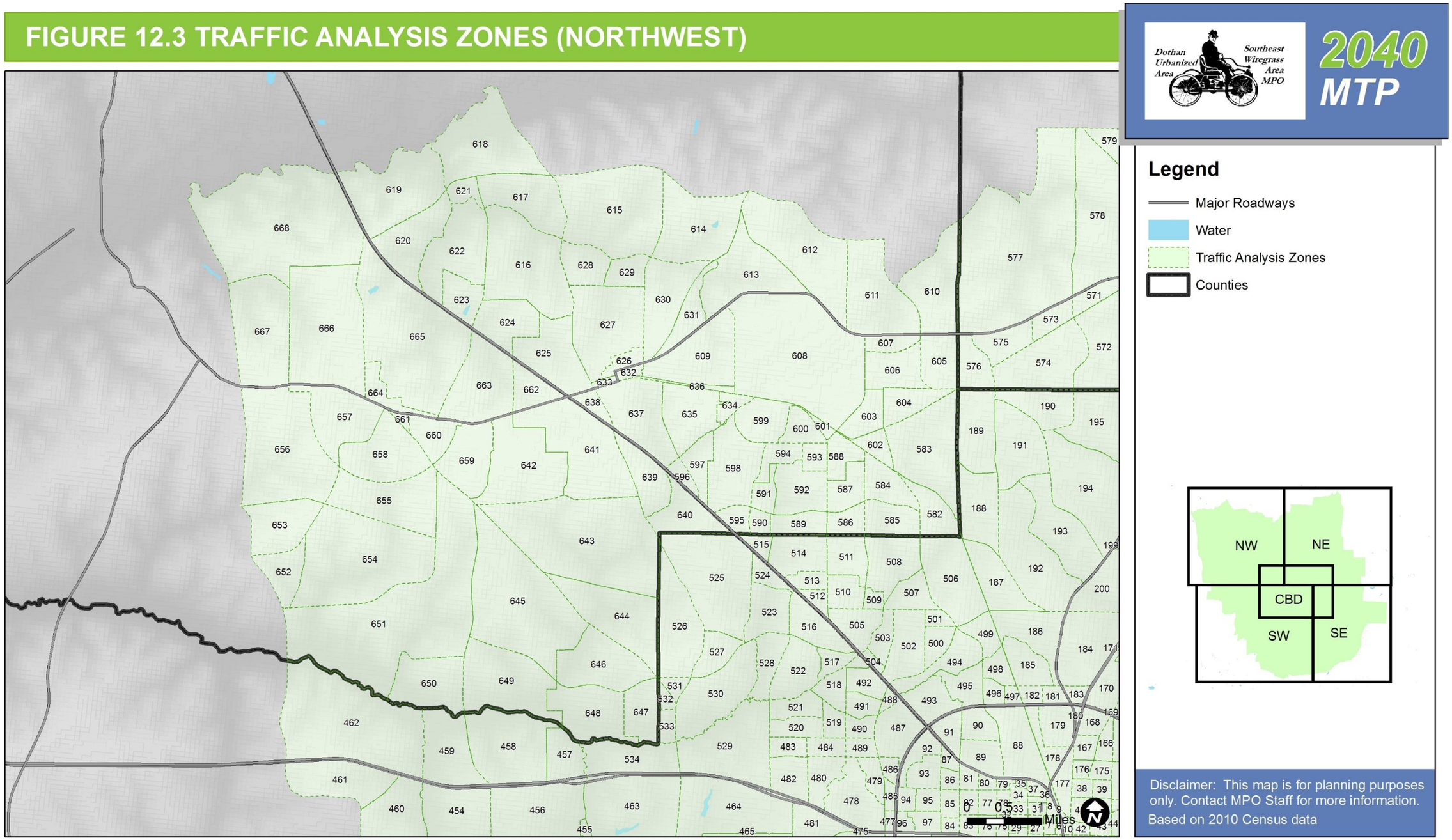


Disclaimer: This map is for planning purposes only. Contact MPO Staff for more information.
Based on 2010 Census data

Map Source: Neel-Schaffer, Inc.

Data Sources: Dothan Travel Demand Model

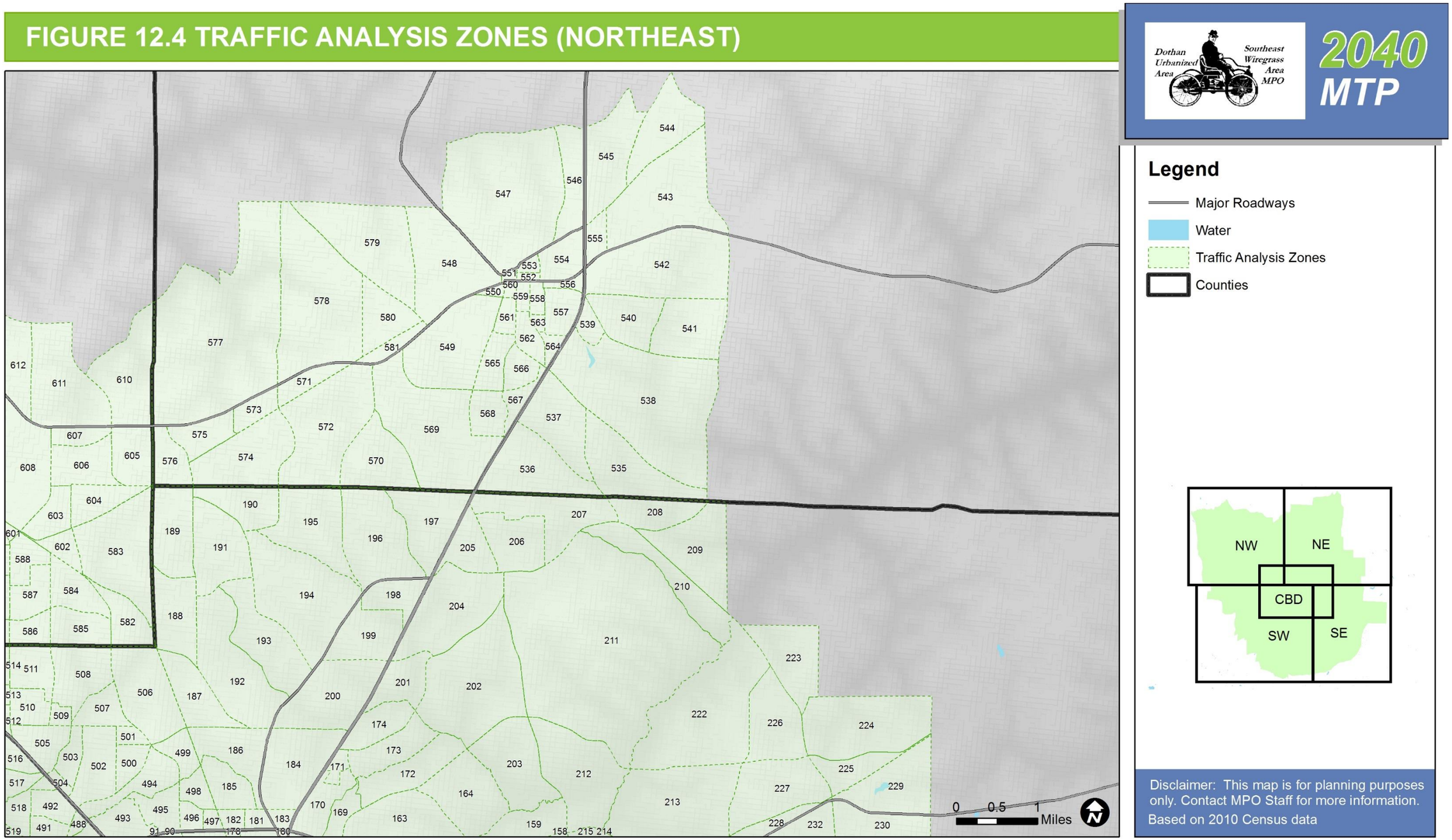
FIGURE 12.3 TRAFFIC ANALYSIS ZONES (NORTHWEST)



Map Source: Neel-Schaffer, Inc.

Data Sources: Dothan Travel Demand Model

FIGURE 12.4 TRAFFIC ANALYSIS ZONES (NORTHEAST)



Map Source: Neel-Schaffer, Inc.

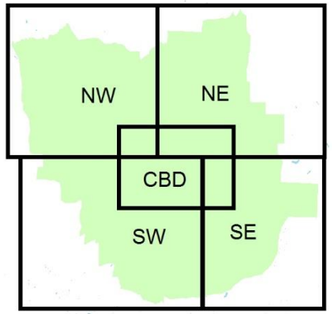
Data Sources: Dothan Travel Demand Model

FIGURE 12.5 TRAFFIC ANALYSIS ZONES (SOUTHEAST)

Dothan Urbanized Area
Southeast Wiregrass Area MPO
2040 MTP

Legend

- Major Roadways
- Water
- Traffic Analysis Zones
- Counties

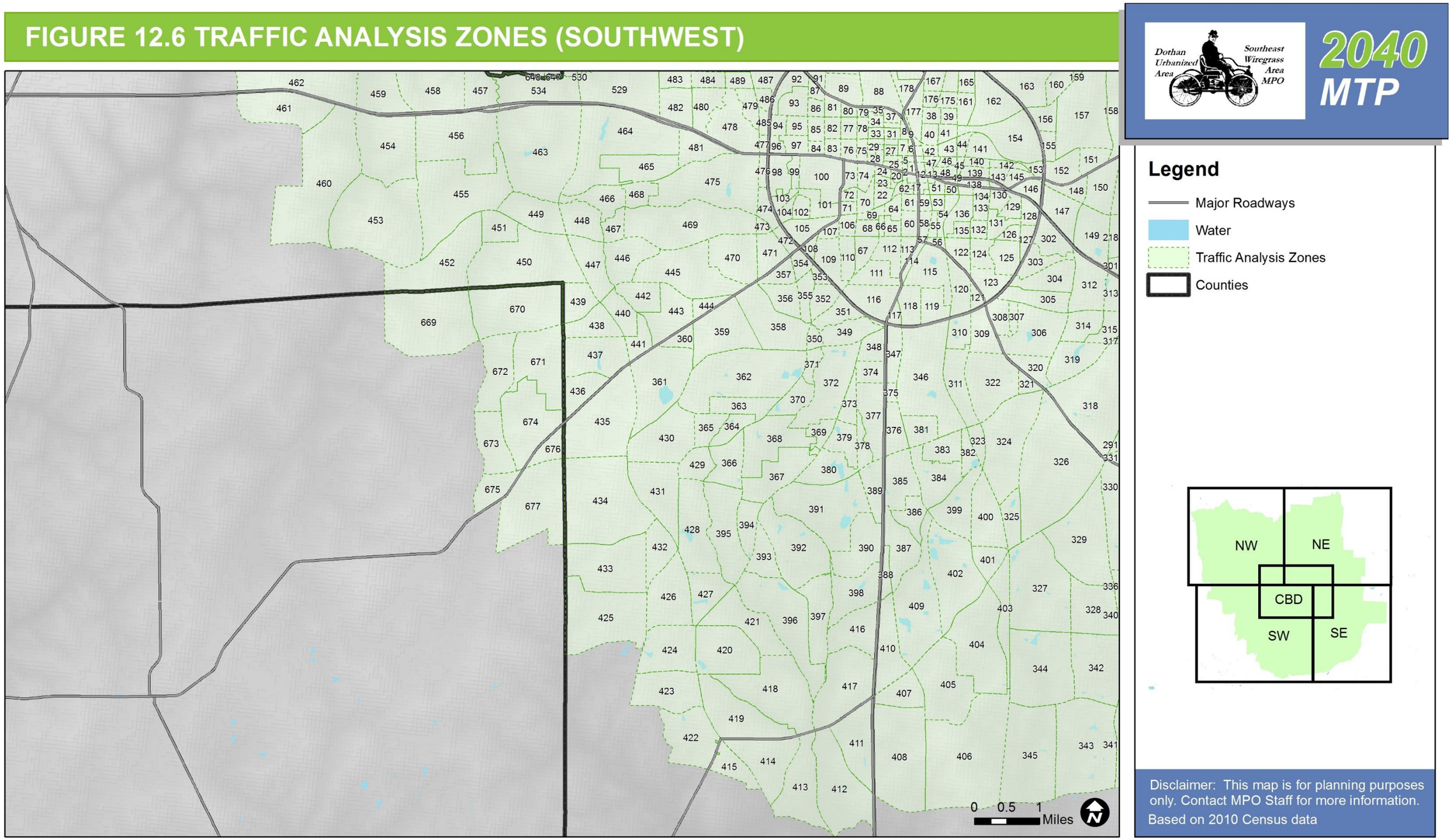


Disclaimer: This map is for planning purposes only. Contact MPO Staff for more information.
Based on 2010 Census data

Map Source: Neel-Schaffer, Inc.

Data Sources: Dothan Travel Demand Model

FIGURE 12.6 TRAFFIC ANALYSIS ZONES (SOUTHWEST)



Map Source: Neel-Schaffer, Inc.

Data Sources: Dothan Travel Demand Model

Socioeconomic Data

In order for the Dothan Travel Demand Model to be used, socioeconomic data must be input into the model at the TAZ level. Six categories of socioeconomic data are used for the Trip Generation procedure within the model:

- Number of Households
- Median Income
- Non-Retail Employment
- Retail Employment
- School Enrollment
- Dormitories

Population, employment, and school enrollment information for the base year data was compiled for all TAZs using the following sources:

- The 2010 Census provided population and housing information,
- Proprietary employment point data obtained by the MPO staff from InfoUSA provided detailed information on existing establishments in the Metropolitan Planning Area, including the number of employees.
- School enrollment data provided by the MPO staff, which was compiled from U.S. Department of Education National Center for Education Statistics.

As part of the 2040 MTP development process, population and employment forecasts were developed at the county level by the University of Alabama Center for Business and Economic Research (CBER) for the four counties in the Southeast Wiregrass Area MPO. These forecasts were heavily influenced by population growth from 2000 to 2010.

Using the CBER county forecasts, the generalized process described below was utilized to develop TAZ level population, employment, and school enrollment forecasts:

1. County forecasts were used to develop population and employment control totals for the Metropolitan Planning Area based on the assumption that the MPO's share of all population and employment in the four counties will remain similar or increase through 2040.
2. Wetlands, recreational areas, and existing developed areas were not allocated additional housing units or employment unless there was a known planned redevelopment or high development pressures. Areas in floodplains were assumed to be less likely to develop.
3. Most population and employment growth was assumed to occur near areas where growth occurred from 2000 to 2010.
4. Growth areas identified in the visioning exercises received priority for development.
5. Residential, commercial, industrial, and institutional development known to have occurred since 2010 and recently approved development was added before any other growth. For new subdivisions, it was assumed that most lots would be developed by 2020 and virtually all lots would be developed by 2030.
6. Land use regulations were considered so that housing units and employment were not added in excess of what is legally permissible. If no land use regulations were available, the context of the immediate area was considered for average lot size.
7. Population forecasts were then developed from the TAZ-specific change in housing units, using a cohort-component approach. This approach also created school-age information.
8. Future school enrollment was projected based on the forecasted change in school-age population.

Base Year Network

The base year roadway network was updated from the 2005 plan's roadway network. Where necessary, changes were made to the roadway link characteristics such as functional classification, speed, number of lanes, and more. Table 12.2 shows the coded network characteristics used in the Travel Demand Model.

Table 12.2 Network Characteristics

Link Field	Value
A	Link node A
B	Link node B
Distance	Link distance in miles
Name	Street Name
Posted_Speed	Roadway Posted Speed in mph
Speed	Adjusted roadway speed used in the model run, in mph
Time1	Free flow link travel time in minutes
Time2	Unused
Capacity	Link daily capacity (vehicles per day)
Linkgrp1	Functional classification code for roadway capacity
Linkgrp2	Urban (code=4) or Rural (code=8)
Linkgrp3	Number of lanes
Asgngrp	Functional classification:
	1= Interstate
	2= Other Freeways/Expressways Urban
	3= Principal Arterial
	4 = Minor Arterial
	5 = Collector Urban
	6 = Major Collector Rural
	7 = Minor Collector Rural
	8 = Ramp
	9 = Centroid Connector
CUser	Unused
Cost	Unused
Twoway	Directional flow:
	0 = Two way
	1 = One way
AADT_10	2010 Traffic Count (only on links with count station location)
Dircode	Unused

Model Calibration and Validation

Model validation is the process of demonstrating that the model output reasonably replicates observed travel behavior. ALDOT has developed and adopted software, the ALDOT Trip Generation Program (TRIPGEN), for use in MPO transportation plans in the state. In this study, the TRIPGEN program was used for zonal trip generation and attraction estimation. The parameters used in this program were calibrated to match the amount of trips estimated from an area of size of Dothan MPO area. Following the calibration of trip generation component, the base year model validation was implemented on the trip distribution and network assignment steps in the modeling process. The calibration and validation criteria adopted for this study came from the publication: *"Model Calibration and Reasonableness Checking Manual"* published by the Federal Highway Administration (FHWA), and "Minimum Travel Demand Model Calibration and Validation Guidelines for State of Tennessee" By Dr. Fred Wegmann and Jerry Everett, The University of Tennessee, Center for Transportation Research, Knoxville, Tennessee.

Trip Generation

Trip generation calculates the number of trip production and attractions at the TAZ level. Trips are categorized according to trip purpose and their trip ends. As stated earlier, the ALDOT TRIPGEN program was used to estimate zonal trip productions and attractions. The mathematical equations employed in the TRIGEN program were revised for this study during the model calibration process.

The TRIPGEN program calculates zonal trip production and attraction estimates for six trip purposes as follows:

- Home Base Work (HBW) – Work related trips within the study area with at least one trip end at home.
- Home Base Other (HBO) – Non-work trips within the study area with at least one trip end at home.
- Non-Home Base (NHB) – Trips for any purpose within the study area with no trip end at home.
- Truck-Taxi (T-T) – Trips by commercial truck or taxi with both trip ends in the study area.
- Internal – External (I-E) – Trips for any purpose with only one trip end in the study area and the other trip end outside of it.
- External – External (E-E) – Trips for any purpose which pass through the study area but has both trip ends outside of the study area.

The TRIPGEN program uses the six socioeconomic data variables discussed in Section 1.3 to calculate the zonal trip productions and attractions for TAZ. Additionally, the TRIPGEN program also requires:

- A file of cross classification rates to convert households into subclasses by vehicle ownership and range of income.

- A file of household trip generation rates that are a function of automobile ownership and income range.
- A file that provides the breakdown of total trip generation values into six trip purposes.
- A file of trip attraction rates for each trip purpose based on the socioeconomic variables.
- A file containing the proportion of external-external trips to total trips for various roadway functional classifications.
- A file containing the external TAZ numbers, traffic volumes, and functional classification of the station.

Trip Distribution

The next step in travel demand modeling is the trip distribution process. This function determines the destinations of trips produced in the trip generation model, and conversely, where the attracted trips originated. The origin is the TAZ in which a trip begins while the destination is the TAZ in which the trip ends. The standard CUBE-Voyager gravity model was used for the trip distribution process. The trip distribution step begins with calculation of a travel time matrix for all the zones. The gravity model uses the production – attraction totals from the trip generation step, the travel time matrix, and a friction factor table to generate a single trip table. The trip table displays the vehicle trips that travel between each pair of TAZs.

Network Assignment

Network assignment is the process where the inter-zonal trips calculated in the trip distribution step are loaded on the model network according to the routes the trips take. The Equilibrium Highway Load module in CUBE-Voyager was used for the network assignment. Under equilibrium assignment procedures an iterative process is used to minimize the overall travel time for all trips in the network. The network is said to be in equilibrium when no trip can take an alternate path without increasing the total travel time. Some measures recommended by FHWA for model validation related to network assignment are discussed below for the Dothan area model.

Model Validation

The purpose of model validation is to make the adjustments necessary to replicate base-year traffic conditions as closely as possible. In practice, this means making link assignment volumes approximate traffic estimates, based on actual counts, within acceptable limits of deviation. Generally speaking, the lower the volume, the greater the relative deviation that is acceptable. Conversely, the greater the amount of traffic, the greater the degree of accuracy required. This is because the ultimate purpose of the model is to determine whether additional vehicular capacity will be needed on any given roadway at a designated future date. Where existing volumes are low, the model assignment may deviate from actual conditions by 40 or 50 percent without affecting the projected need for additional capacity. On the other hand, in the case of a heavily traveled interstate route, a deviation of 20 percent may be significant (i.e., alter the projection of required capacity). The validation process is intended to ensure that the model is performing within the limits that define acceptable ranges of deviation from observed *real-world* values.

Validation of the Dothan Urbanized Area Travel Demand Model proceeded from consideration of its area wide performance to the relative distribution of traffic by roadway functional classification and ADT range. In the final stage of the validation process, the accuracy of the model with respect to specific routes and roadway groups was analyzed. At each level, an appropriate degree of accuracy was defined in terms of the maximum tolerable deviation from base-year vehicular volumes (i.e., estimated annual average daily traffic) and Root Mean Square Error (RMSE).

RMSE was chosen because when comparing model flows versus counts, sometimes a straight aggregate sum by link group can be misleading. The sum of all traffic counts for a particular link group may be close to the sum of the corresponding traffic flows, but individual link flows may still be very different than their corresponding link count. However, the RMSE statistic does not convey information about the magnitude of the error relative to that of the counts. Therefore the Percent Root Mean Square Error (Percent RMSE or % RMSE) is often computed. This measure expresses the RMSE as a percentage of the average count value. The FHWA general guidelines state that an RMSE value between 30 percent and 50 percent is acceptable with a recommendation of below 40 percent. The Percent RMSE is defined as below:

$$\%RMSE = \frac{\sqrt{\sum_j (Model_j - Count_j)^2 / (Numberofcounts)}}{\left(\sum_j Count_j \Big/ Numberofcounts \right)} * 100$$

Validation results by ADT group and functional class are shown in Table C-2 and Table C-3 respectively.

Table 12.3 2010 Base-Year Model Assignment Volumes Compared to Estimated Average Daily Traffic by ADT Groups

ADT GROUP (Vehicles/day)	AADT 2010	ASSIGNED VOLUME	DIFFERENCE	PERCENT DIFFERENCE	DESIRABLE DEVIATION
< 1,000	44,524	47,670	3,146	7.1%	+/- 60%
1,000 - 2,500	109,320	117,572	8,252	7.5%	+/- 47%
2,500 - 5,000	155,586	158,069	2,483	1.6%	+/- 36%
5,000 - 10,000	544,866	638,977	94,111	17.3%	+/- 29%
10,000 - 25,000	686,300	649,439	-36,861	-5.4%	+/- 25%
ALL CLASSES	1,540,596	1,611,727	71,131	4.6%	+/- 5%

Source: "Model Calibration and Reasonableness Checking Manual" published by the Federal Highway Administration (FHWA) and "Minimum Travel Demand Model Calibration and Validation Guidelines for State of Tennessee" By Dr. Fred Wegmann and Jerry Everett, The University of Tennessee, Center for Transportation Research, Knoxville, Tennessee.

Table 12.4 2010 Base-Year Model Assignment Volumes Compared to Estimated Average Daily Traffic by Functional Classification

FUNCTIONAL CLASS	AADT 2010	ASSIGNED VOLUME	DIFFERENCE	PERCENT DIFFERENCE	DESIRABLE DEVIATION	% RMSE* ERROR
PRINCIPAL ARTERIAL	1,237,766	1,298,916	61,150	4.9%	+/- 7%	21.90
MINOR ARTERIAL	204,974	211,034	6,060	3.0%	+/- 10%	25.79
COLLECTOR	97,856	101,777	3,921	4.0%	+/- 20%	64.53
ALL CLASSES	1,540,596	1,611,727	71,131	4.6%	+/- 5%	29.79

Source: "Model Calibration and Reasonableness Checking Manual" published by the Federal Highway Administration (FHWA) and "Minimum Travel Demand Model Calibration and Validation Guidelines for State of Tennessee" By Dr. Fred Wegmann and Jerry Everett, The University of Tennessee, Center for Transportation Research, Knoxville, Tennessee.

Table 12.5 2010 Base-Year Model Assignment Volumes Compared to Estimated Average Daily Traffic by Percent RMSE by Link Volume

ADT GROUP (Vehicles/day)	AADT 2010	ASSIGNED VOLUME	% RMSE ERROR	DESIRABLE %RMSE ERROR
< 5,000	309,430	323,311	38.52	115.757
5,000 - 10,000	544,866	638,977	26.79	43.141
10,000 - 20,000	686,300	649,439	17.83	28.272
ALL CLASSES	1,540,596	1,611,727	29.79	40.00

Source: "Model Calibration and Reasonableness Checking Manual" published by the Federal Highway Administration (FHWA) and "Minimum Travel Demand Model Calibration and Validation Guidelines for State of Tennessee" By Dr. Fred Wegmann and Jerry Everett, The University of Tennessee, Center for Transportation Research, Knoxville, Tennessee.

Model Application

The validated base year model becomes the basis for forecast year model runs, including the existing + committed network and test projects for the plan process. The E+C network represents existing and future transportation infrastructure for which construction of a project has begun or funding has been allocated.

The volume to capacity (V/C) ratio measures the relationship between traffic volumes and the available roadway capacity. It measures operational conditions of the roadway and defines them by a level of service (LOS). LOS designation range from A through F. LOS A represents a condition of light traffic moving at free flow speed, while LOS F represents a condition of heavy traffic demand that far exceeds the roadway capacity, resulting in operational failure or traffic jam.

For evaluating the performance of plan projects and the condition of the transportation network, LOS D was established as the threshold for acceptable roadway performance. This was in keeping with ALDOT practice. However, V/C ratio thresholds for LOS designation varies by speed, functional classification, and area type.

To simplify the analysis, the following composite LOS thresholds for all facilities and area types in the model network was adopted:

LOS	V\C Ratio
A	=< 0.25
B	> 0.25 – 0.50
C	> 0.50 – 0.75
D	>0.75–1.0
E	> 1.0 – 1.2
F	> 1.2

1.1 CONCLUSION

Overall, the cumulative model volume for all network links associated with the ALDOT traffic count locations (1,611,727 vehicles) differed from total model estimated ADT (1,540,596 vehicles) by 4.6 percent compared to an allowable error limit of five percent. Hence, the validation effort concluded that the Dothan MPO study area travel demand forecasting model performs well within the established limits of acceptable deviation from base-year estimated volumes and can be used for the future demographic forecast and/or transportation network improvement scenario analysis.

12.5 PUBLIC PARTICIPATION PLAN

This document is reproduced on the following pages.

Dothan Urbanized Area

Southeast Wiregrass Area MPO

2013 Public Participation Plan

Final

Prepared by the Southeast Wiregrass Metropolitan Planning Organization for
Member Local Governments in Cooperation with the Alabama Department of Transportation
September 2013

Southeast Wiregrass Area Metropolitan Planning Organization

2013
Public Participation Plan for the Dothan Urbanized Area

This document is posted on the internet at
www.dothan.org

For additional information regarding this document, please contact:
Todd L. McDonald AICP, City of Dothan Planning Director
Southeast Wiregrass Area Metropolitan Planning Organization (MPO)
City of Dothan
Department of Planning and Development
P. O. Box 128, Dothan, Alabama 36302
334-615-4410 (tel)
334-615-4419 (fax)
Email: tmcdonald@dothan.org

Date adopted:

Date amended:

This Public Participation Plan was prepared as a cooperative effort of the U.S. Department of Transportation (USDOT), Federal Highway Administration (FHWA), Alabama Department of Transportation (ALDOT), and the City of Dothan Department of Planning and Development as a requirement of Title 23 USC 134 and 135 (amended by MAP-21, Sections 1201 and 1202, July 2012). The contents of this document do not necessarily reflect the official views or policies of the U. S. Department of Transportation.

Southeast Wiregrass Area Metropolitan Planning Organization
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City of Dothan Commission

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Houston County Commission

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Seventh Division Engineer
Alabama Department of Transportation

Non-voting Members

Mr. David Harris
Federal Highway Administration

Mr. Robert J. Jilla
Bureau Chief
Transportation Planning and Modal Programs, ALDOT

Mr. Thomas Solomon
Executive Director
Southeast Alabama Regional Planning &
Development Commission

Mr. Andres Ramirez
Community Planner
Federal Transit Administration

MPO Staff

Mr. Todd McDonald, AICP
Director of Planning and Development
MPO Secretary
City of Dothan

Mr. Reginald Franklin
Transportation Planner
City of Dothan

Southeast Wiregrass Area Metropolitan Planning Organization
Technical Advisory Committee

Jerry Corbin, P.E.
Public Works Director
City of Dothan

Charles Metzger, P.E.
Assistant Public Works Director
City of Dothan

Ernest Stokes, P.E.
Chief Civil Engineer
City of Dothan

Allan Kramer, P.E.
Civil Engineer
City of Dothan

Robert Cox
Assistant Traffic Engineer
City of Dothan

Todd McDonald, AICP
Planning Director
City of Dothan

Barkley Kirkland
County Engineer
Houston County Road and Bridge Department

Myer Holloway
Assistant County Engineer
Houston County Road and Bridge Department

Derek Brewer
County Engineer
Dale County Road & Bridge Department

Joshua Knight
Engineer-In-Training
Dale County Road & Bridge Department

Chris Champion
County Engineer
Henry County Road Department

Justin Barfield
County Engineer
Geneva County Road & Bridge Department

Jason Singletary
City of Headland

Bryan Alloway
Town of Midland City

Scott Farmer, Planner
Southeast Alabama Regional
Planning & Development Commission

John Sorrell
Manager
Wiregrass Transit Authority

G. C. Harris
Chairman
Dothan Planning Commission

Powell Brewton
Dothan Area Chamber of Commerce

Scott Trott
CDG Engineering

Art Morris
Dothan-Houston County
Airport Authority, Inc.

Charles Owens
Chairman
Surface Transportation Committee

David Bush
District 1 Manager
Alabama Department of Transportation
7th Division

Matt Leverette
Pre-Construction Engineer
Alabama Department of Transportation
7th Division

Wiley Brooks
Transit Development Manager
Alabama Department of Transportation
Multimodal Transportation Bureau

Emmanuel C. Oranika, PhD.,
Assistant Bureau Chief
Alabama Department of Transportation
Metropolitan Planning Division

Will Adams
State Design Engineer
Alabama Department of Transportation

Cornell Tatum
Title VI Compliance
Alabama Department of Transportation

Stephanie James
Title VI Compliance
Alabama Department of Transportation

Tony W. Harris
Governmental Relations Manager
Alabama Department of Transportation

Southeast Wiregrass Area Metropolitan Planning Organization
Citizens Advisory Committee

To Be Determined

SOUTHEAST WIREGRASS AREA
METROPOLITAN PLANNING ORGANIZATION

RESOLUTION NO. 06-26-13-2

Adopting the 2013 Public Participation Plan
for the Dothan Urbanized Area

WHEREAS, Southeast Wiregrass Area Metropolitan Planning Organization (MPO) is the organization designated by the Governor of the State of Alabama as being responsible, together with the State of Alabama, for implementing the applicable provisions of 23 USC 134 and 135 (amended MAP-21, sections 1201 and 1202, July 2012); 42 USC 2000d-1, 42 USC 7401; 49 CFR 27; 23 CFR 450 and 500; 40 CFR 51 and 93; and

WHEREAS, 23 Code of Federal Regulations (CFR) 450.316(a) et al, provides that the MPO must prepare a participation plan to describe the process to ensure all citizens have reasonable opportunities to be involved in transportation planning, and further describes the means, methods, and formats used in providing those opportunities; and

WHEREAS, consistent with the declaration of the above provisions, the Southeast Wiregrass Area MPO, in consultation with the Alabama Department of Transportation, has prepared a Draft 2013 Public Participation Plan (PPP); and'

WHEREAS, in accordance with 23 CFR 450.316(a)(3), the MPO has provided a public comment period of forty-five (45) days to review the Draft PPP prior to final approval; and

WHEREAS, 23 CFR, Part 450, Subpart C, Section 316 (a)(1)(ix) requires, and the MPO agrees, to periodically review the effectiveness of procedures and strategies providing full and open access to all; now

THEREFORE, BE IT RESOLVED that the Southeast Wiregrass Area MPO has reviewed its public participation procedures, hereafter referred to as the Public Participation Plan (PPP), to assure that full and open access to the MPO decision making process is provided for all citizens, to maintain consistency with federal and state requirements, and to improve and streamline the public participation process and hereby endorses and adopts the Draft 2013 Public Participation Plan.

_____
Mike Schmitz, Chairperson, MPO

_____
ATTEST: Todd McDonald, Secretary

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1.0 Introduction

A Metropolitan Planning Organization (MPO) is an organization created to carry out the transportation planning activities of a Metropolitan Planning Area (MPA). Each Urbanized Area in the United States with a population of 50,000 or more is required by the Federal Highway Act of 1962 to establish a Metropolitan Planning Organization [renewed by MAP-21, July 2012]. MPOs are responsible for the continuing, cooperative and comprehensive (3-C) transportation planning process for their particular Urbanized Area. The agreement to implement the 3-C process to comply with regulations combining the planning requirements of the Federal Highway Administration and the Federal Transit Administration, and change of MPO membership, was most recently updated in 2009.

Urbanized Areas are designated decennially by the United States Census Bureau and are a reflection of urban growth based on population density, not political boundaries. For this reason, MPOs are responsible for the transportation planning process in Urbanized Areas, not single political entities. The goal of the Federal Highway Act of 1962 is to ensure that the transportation planning process and resulting transportation network are cohesive and functional for urban areas that have grown together. In other words, transportation planning needs to be regional in scope, because transportation systems cut across governmental boundaries.

1.1. Study Area

In addition to the Urbanized Area, MPOs also have Study or Planning Areas. The Study Area is made of areas surrounding the urbanized area that are expected to urbanize within the next 20 years and represents extent of the geographic area in which MPO monies can be spent. These areas are created by each individual MPO, but require the approval of the Governor. The Southeast Wiregrass Area MPO Study Area includes Houston, Dale, Henry, and Geneva Counties. [See Appendix 6.2]

1.2. Purpose

The following procedures are part of the Southeast Wiregrass Area Metropolitan Planning Organization (MPO) Public Participation Plan (PPP), required as part of the passage of Public Law 112-141, the Moving Ahead for Progress in the 21st Century Act (MAP-21), on July 6, 2012. The purpose of this Public Participation Plan is to be consistent with the intent of the MAP-21 final rules to provide for an open process with free exchange of information and opportunity for public input at all stages of the transportation planning process, as well as all scheduled MPO meetings.

1.3. Federal Requirements

The following is a brief summary of the relevant federal laws, regulations, and executive orders that direct state departments of transportation regarding public participation matters. This text was prepared by the Bureau of Transportation Planning at the Alabama Department of Transportation and modified by the MPO staff to address MPO functions.

Title 23 United States Code (USC) 134 and 135 – is codification of the law establishing planning policy, defining MPO organizational structure, and delineating MPO and State responsibilities in the transportation planning process.

Moving Ahead for Progress in the 21st Century Act (MAP-21) – This is the most recent transportation legislation, signed into law by President Obama in July of 2012. This law amends, modifies, and adds to existing 23 USC 134 and 135. The language specific to the participation process is found in 134(i)(6), Participation by Interested Parties.

23 Code of Federal Regulations (CFR) 450 – is FHWA/FTA interpretation of 23 USC 134 and 135, providing specific requirements and actions for MPOs and the state implementing agency, the DOT. The applicable language for both is found, respectively, in 450.210(1)(i and others) ("..the state shall..") and 450.316(1)(vii and others) ("..the MPO shall..").

Title VI Civil Rights Act of 1964, 42 USC 2000d, et seq. - 42 USC 2000d prohibits exclusion from participation in any federal program on the basis of race, color, or national origin. This is the seminal or shaping expression of the law.

23 USC 324 – This is the law prohibiting discrimination on the basis of sexual orientation, adding to the landmark significance of 2000d. This requirement is found in 23 CFR 450.334(1).

29 USC 794 (Rehabilitation Act of 1973.) - This is the law prohibiting discrimination on the basis of a disability, and in terms of access to the transportation planning process.

Clean Air Act (23 USC 7401 et al)- A series of acts aimed at reducing smog and air pollution, the most recent of which is the Clean Air Act Extension of 1970, with amendments in 1977 and 1990. The 1990 amendment established the State Implementation Plan (SIP), under which the states are obligated to notify the public of plans for pollutant control and allow opportunities for input into the process.

Executive Order 12898 – Executive Orders by the President as the head of the Executive Branch typically carry the weight of law. This is not actually true unless the order has been given discretionary power through an Act of Congress, or a later act gives congressional weight to the order. Significant orders by Presidents in the past affect the ability segments of the population to gain access, and in this case, access to the planning process. Order 12898, often simply called "Environmental Justice," requires federal agencies to identify "disproportionately high and adverse human and health environmental effects of its programs on minority populations and low-income populations…" and prohibits actions that would adversely affect a disproportionately high number among these populations. Section 5-5 addresses the public involvement part of the order.

2.0 Metropolitan Planning Organization Structure

The Southeast Wiregrass Area Transportation Planning Process is staffed by members of the City of Dothan Department of Planning & Development. They are responsible for administrative support and carrying out the Transportation Planning Process within the Metropolitan Planning Area (MPA). The MPO business and physical address is:

Southeast Wiregrass Area Metropolitan Planning Organization (MPO)
Roy Driggers Municipal Building, Room 305
126 North St. Andrews
Dothan, AL 36303

The Southeast Wiregrass Area MPO is composed of three (3) distinctive committees; Policy Committee, Technical Advisory Committee and Citizens Advisory Committee.

2.1. Policy Committee

The Policy Committee is the policy and decision-making board, which includes voting and non-voting MPO members. Policy Committee members are elected officials (Mayors, Dothan City Commissioners and County Commission Chairmen and a Houston County Commission member) of the local government jurisdictions. The Policy Committee discusses, adopts and submits projects to the Alabama Department of Transportation (ALDOT).

2.2. Technical Advisory Committee

The Technical Advisory Committee (TAC) provides technical support to the Policy Committee. TAC members are non-elected officials, who based on their affiliation, have a hand in developing transportation infrastructure and/or operating transportation dependent businesses.

2.3. Citizens Advisory Committee

The Citizen Advisory Committee (CAC) was established to provide input into the public involvement process. Each MPO member is charged with appointing one representative (Houston County and the City of Dothan have two). The chair of the CAC is a non-voting member of the TAC.

3.0 Regulations and Requirements

3.1. Scope of the Planning Process

While the amended 23 USC 134 and 135 and existing 23 CFR 450 are the primary resources for MPO planning activities, in MAP-21 the Scope of the Planning Process (introduced in SAFETEA-LU as the Planning Factors) provides guiding principles within which the planning process takes place. The eight Factors themselves remain unchanged and are listed below:

1. Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency;
2. Increase the safety of the transportation system for motorized and non-motorized users;
3. Increase the security of the transportation system for motorized and non-motorized users;
4. Increase the accessibility and mobility of people and freight;
5. Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and state and local planned growth and economic development patterns;
6. Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight;
7. Promote efficient system management and operation; and

8. Emphasize the preservation of the existing transportation system.

3.2. MAP-21 PPP Provision

Title 23 USC 134, as amended, emphasizes not only the need for involvement by the general public and all interested parties, it requires fundamental procedures be carried out for insuring direct public access to information and the opportunity for input into the process.

A. 23 USC 134(i)(6)(B) calls for a Public Participation Plan (PPP) in development of an overall Transportation Plan or Long Range Transportation Plan and provides for the following, in part:

    1. Shall be developed in consultation with interested parties.
    2. Shall provide interested parties with reasonable opportunity to comment.
    3. Methods must include public meetings at convenient and accessible times and locations.
    4. Visualization techniques to assist in interpreting plans and actions.
    5. Public information should be provided electronically, using available devices and applications and the Internet to aid in dissemination.
    6. A plan must be published by the MPO for public review (ALDOT requires that the Plan be made available both in hard copy and electronic versions).

B. 23 Code of Federal Regulations (CFR) 450 interprets the amended provisions of 23 USC 134 and provides for the following, in part:

    1. Adequate public notice of activities and time for public review and comment.
    2. Timely notice and access to information.
    3. Employment of visualization techniques to describe plans and programs.
    4. Make information available electronically and on the internet.
    5. Hold meetings at convenient times and easily accessible venues.
    6. Consider and respond to public input in a timely fashion.
    7. Seek out and consider the needs of the traditionally underserved in the community, such as low-income and minority populations.

8. Provide additional opportunity for public comment on all plans, and changes to plans, following initial agency and public reviews during development, especially the Long Range Transportation Plan and Transportation Improvement Program.
9. Coordination with statewide public involvement and consultation processes.
10. Periodically review procedures and effectiveness of Plan strategies.
11. Provide a summary of public comments on the draft for the Long Range Transportation Plan and the Transportation Improvement Program and include those in the final documents.
12. Provide a minimum of a forty-five (45) day public comment period before finalization of a PPP Plan or an update of an existing PPP Plan.

3.3. Americans with Disabilities Act (ADA), Title VI, and Environmental Justice

ADA:
The ADA is a civil rights law that prohibits discrimination based solely on disability. It provides protections against discrimination similar to the Civil Rights Act of 1964 which is based on race, religion, sex, national origin and other characteristics. ADA essentially defines disability as a physical or mental impairment that limits life activity.

The Rehabilitation Act of 1973, including Section 504, and the Americans with Disabilities Act of 1990 encourages the participation of people with disabilities in the development of transportation and paratransit plans and services. In accordance with ADA guidelines, all meetings conducted by the MPO will take place in locations which are accessible by persons with mobility limitations or other impairments. Further, each state is required to be compliant with both Acts.

Title VI [Environmental Justice]:
Title VI of the Civil Rights Act of 1964 ensures that no person is excluded from participation in, denied the benefit of, or subjected to discrimination under any program or activity receiving federal financial assistance on the basis of race, color, national origin, age, sex, disability, or religion. Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations, was signed by President Clinton in 1994. It required that programs, policies and activities affecting human health or the environment will identify and avoid disproportionately high and adverse effects on minority or low-income

populations. The intent was to ensure that no racial, ethnic, or socioeconomic group bears a disproportionate share of negative environmental consequences resulting from government programs and policies.

3.3.1 Language Assistance Plan

As required by Title VI of the Civil Rights Act of 1964, Executive Order 13166, and FTA Circular C 4702.1B, October 2012, the Southeast Wiregrass Area MPO has completed a Four Factor Analysis of the Dothan Metropolitan Planning Area to determine requirements for compliance with the Limited English Proficiency (LEP) provisions. Based on analysis, the MPO has identified a population within the MPA that may require MPO assistance in participating in the planning process. A Language Assistance Plan is being developed as due to the following criteria:

- 4.42% of the total study area populations are not of the White or Black/African American Race
- 3.09% of the total population are of Hispanic or Latino ethnicity
- Census estimates that 3.91% of the total study area population speaks English and another language
- Of that 3.91%, 1.45% speak English less than "Very Well"
- Notice of the availability of language assistance to LEP persons is provided by the Southeast Wiregrass Area MPO.
- The MPO monitors, evaluates and updates the Plan annually through the update of the PPP and the Unified Planning Work Program (UPWP).
- Training on MPO staff to provide language assistance is done by the Alabama Department of Transportation.

The MPO periodically reviews the above steps to ensure that inadvertent discrimination on the basis of national origin is not occurring. In addition to the above actions, the MPO will provide the following:

- Notice of MPO meetings and hearings in the secondary language Spanish
- Translation services for meetings or hearing on request, subject to a notice of 48 hours.
- Translation services, verbal only, of planning documents subject to notice of 48 hours.
- Title VI Complaint Forms in the secondary language Spanish.

3.4. MPO PPP Goals

As a continuing effort by the MPO to provide public access and the means by which to engage in the planning process, the MPO observes the following goals:

1. Offer opportunities for groups and individuals to participate in the decision-making process for the development of the Long Range Transportation Plan (LRTP), the Transportation Improvement Program (TIP), and other formal planning documents.
2. Provide open and continuous communication to inform citizens of transportation planning activities.
3. Provide timely and adequate public notice of hearings, meetings, events, and draft planning document availability.
4. Offer a timely response to public comments and concerns with the aim of educating citizens about transportation planning programs and issues.
5. Consult with and encourage comments from groups and individuals belonging to minority populations, low-income populations, and others with special needs.
6. Review the Public Participation Plan (PPP) annually and update policies as needed or required by FHWA or ALDOT. Full update of the PPP will be required with publication of new CFRs.

3.5. Public Participation Procedures for Transportation Planning Documents

This section discusses the public participation process and procedures for preparation and dissemination of the following planning documents:

3.5.1. Unified Planning Work Program (UPWP):

The UPWP is the primary document in the required planning document hierarchy through which funding for the principal work activities of the MPO are programmed. These work products include: the Long Range Transportation Plan, the Transportation Improvement Program, and the Public Participation Plan (amendment). Funds allocated to each of the tasks are referred to a PL (planning) funds which are provided to each MPO planning agency for the purpose of supporting the mission and goals of the MPO.

The UPWP outlines the task activities for the transportation planning program for the upcoming fiscal year. Tasks include: administration, data collection and management, UPWP, public involvement, environmental mitigation, transportation systems, (LRTP, TIP, Bicycle and Pedestrian), transportation safety, education and training,

special projects, corridor development and development of Regional Impact. The activities under the Public Involvement task include building or preparing the PPP, doing community outreach, educating the public on the involvement process, and interacting with the public for the MPO. Other procedural steps include:

- Public Involvement for the UPWP document itself includes a thirty (30) day review period prior to MPO policy Board approval for agency and public comment on the draft and similar timeframe for changes that may be made to the draft before ALDOT approval and publication of the final document.
- Notices and agendas for all meetings are U.S. mailed or emailed to stakeholders and interested parties fourteen (14) days prior to the meeting date.
- All meetings are open to the public because public input is encouraged and valued as codified in the Alabama Open Meetings Act 2005-40, p. 55, Art. 1.
- All meetings are subject to the provisions of Alabama Code 36-25A-1 and requirements for public access and involvement.
- All meetings will be advertised by legal notice in a newspaper with city/countywide coverage.
- Amendment to the UPWP requires FHWA and ALDOT approval and may require public participation. The MPO should consult with ALDOT to determine the extent of that participation.
- Copies of documents may be obtained on the web at www.dothan.org or by contacting Mr. Todd McDonald, AICP or Reginald Franklin at the City of Dothan Department of Planning & Development, 126 N. Saint Andrews Street Room 305, P. O. Box 128, Dothan, Alabama 36302, calling (334) 615-4410, Fax (334)615-4419, or emailing tmcdonald@dothan.org or rbfranklin@dothan.org

3.5.2. Long Range Transportation Plan (LRTP):

The Long Range Transportation Plan (LRTP) identifies potential projects in the MPA/Study Area to a twenty-year horizon. The LRTP is updated every five years (four years if in non-conformity for Air Quality) and serves as a conduit for public input on a broad range of transportation issues. The LRTP considers all modes of transportation from a regional perspective and must be fiscally constrained (balanced).

- The LRTP will be open to public review and comment for thirty (30) days, and again for thirty (30) days after ALDOT and FHWA review and changes have been made prior to approval of the final draft.
- The MPO will maintain stakeholder and interested party telephone, email, and address listings for the purpose of outreach and generating comment. These will include CAC members, school and church organization members, community organizations and groups, housing authority members, chambers of commerce, and state, federal, and local government agencies and staffs.
- Special outreach within the Metropolitan Planning Area that will include complete listings of churches, businesses, and community leaders in areas with low and moderate income populations.
- Notices will be advertised in a newspaper with city and countywide coverage, mailed or emailed out fourteen (14) days prior to the scheduled meeting.
- Hold at least one (1) open public meeting to receive public comments on the Draft LRTP. An additional public meeting may be held at a different location if needed pending approval from the Policy Board
- When written or oral comments are received, an analysis, summary, and report on the disposition of the comments are included in the appendices of the Final Long Range Transportation Plan. Changes will be incorporated into the LRTP as appropriate and at the discretion of the Policy Board.
- Members of the MPO staff will be available to answer questions and hear comments from interested citizens' at all scheduled LRTP meetings and during regular Public Forum periods of the Policy Board and Committee meetings.
- Copies of documents may be obtained on the web at www.dothan.org or by contacting Mr. Todd McDonald, AICP or Reginald Franklin at the City of Dothan Department of Planning & Development, 126 N. Saint Andrews Street Room 305, P. O. Box 128, Dothan, Alabama 36302, calling (334) 615-4410, Fax (334)615-4419, or emailing tmcdonald@dothan.org or rbfranklin@dothan.org

3.5.3. Transportation Improvement Program (TIP):

The Transportation Improvement Program (TIP) is the short-range budget document that allocates funding to specific transportation projects advanced by a member government/sponsor. Projects may be programmed for funding under numerous categories and covers a four-year period. Other state and federal funding sources and programs may contribute to development of the transportation system in the Southeast Wiregrass Area and must be included in the TIP project listings. The TIP is also a fiscally constrained document.

- Amendment to the TIP may require public participation. The MPO should consult with ALDOT to determine the extent of that participation.
- In preparation of the TIP, the MPO will consult with all local governments, federal and state agencies, and other officials responsible for other planning
- The TIP will be open to public review and comment for thirty (30) days, and again for thirty (30) days after ALDOT and FHWA review and changes have been made prior to approval of the final draft.
- The MPO will maintain stakeholder and interested party telephone, email, and address listings for the purpose of outreach and generating comment. These will include CAC members, school and church organization members, community organizations and groups, housing authority members, chambers of commerce, and state, federal, and local government agencies and staffs.
- Special outreach within the Metropolitan Planning Area that will include complete listings of churches, businesses, and community leaders in areas with low and moderate income populations.
- Notices will be advertised in a newspaper with city and countywide coverage, mailed or emailed out fourteen (14) days prior to the scheduled meeting.
- Hold at least one (1) open public meeting to receive public comments on the Draft TIP. An additional public meeting may be held at a different location if needed pending approval from the Policy Board
- When written or oral comments are received, an analysis, summary, and report on the disposition of the comments are included in the appendices of the Final TIP. Changes will be incorporated into the TIP as appropriate and at the discretion of the Policy Board.

- Members of the MPO staff will be available to answer questions and hear comments from interested citizens' at all scheduled TIP meetings and during regular Public Forum periods of the Policy Board and Committee meetings.
- Copies of documents may be obtained on the web at www.dothan.org or by contacting Mr. Todd McDonald, AICP or Reginald Franklin at the City of Dothan Department of Planning & Development, 126 N. Saint Andrews Street Room 305, P. O. Box 128, Dothan, Alabama 36302, calling (334) 615-4410, Fax (334)615-4419, or emailing tmcdonald@dothan.org or rbfranklin@dothan.org

3.5.4. Public Participation Plan (PPP):

Under Section 3.1 the PPP is required under 23 USC 134 (amended by MAP-21 Section 1201 and 1202, July 2012); 42 USC 2000d-1, 7401; 23 CFR 450 and 500; 40 CFR 51 and 93, and then as interpreted in the regulations of 23 CFR 450. Within 450.316 are the specifics for the Plan and they include some or all of the following items that are necessary to ensuring full compliance of the law and participation of the citizens of the Southeast Wiregrass Area MPO in the process.

The Plan outlines activities for informing the public and providing opportunities for public review and comment on the transportation planning process and or proposed transportation improvement projects. Additionally, for Transportation Management Areas (TMA's) (over 200,000 in population), the Congestion Management Process and the Air Quality Conformity Report for TMA's in non-attainment for air quality are required. The Southeast Wiregrass Area MPO is in attainment for air quality and is concerned with maintaining and or updating the UPWP, LRTP, TIP, the Bicycle/Ped Plan and the PPP. Accordingly, the following actions will take place in preparation of the PPP update:

- The Public Participation Plan (PPP) will be updated at least every four (4) years, unless directed otherwise by the Alabama Department of Transportation (ALDOT). The MPO may adjust or amend the PPP as needed, with copies submitted for review to ALDOT, who will make further distribution to FHWA, FTA, and other agencies.
- The PPP will be prepared by the MPO with input from the citizens of the MPA, individuals who work in the MPA, local governments, state and federal agencies, and interested parties as provided in 23 CFR 450.316(a).

- Dissemination of written information to public and stakeholder groups is a requisite part of 316(a). Draft versions and the Final PPP will be available for public review and comment for a minimum of forty-five (45) days prior to MPO Policy Board approval, unless otherwise specified by ALDOT.
- Draft versions and the Final PPP document must be approved by ALDOT, FHWA, and FTA.
- Hold at least one (1) open public meeting to receive public comments on the Draft TIP. An additional public meeting may be held at a different location if needed pending approval from the Policy Board
- Special outreach will be undertaken within the Metropolitan Planning Area that will include complete listings of churches, businesses, and community leaders in areas with low and moderate income populations.
- Notices will be advertised in a newspaper with city and countywide coverage, mailed or emailed out fourteen (14) days prior to the scheduled meeting.
- Members of the MPO staff will be available to answer questions and hear comments from interested citizens' at all scheduled PPP meetings and during regular Public Forum periods of the Policy Board and Advisory Committee meetings.
- When written and oral comments on the PPP are received, an analysis, summary, and report on the disposition of the comments are included in the appendices of the final Public Participation Plan. Changes will be incorporated into the PPP as appropriate and at the discretion of the Policy Board.
- Amendment to the PPP may require public participation. The MPO should consult with ALDOT to determine the extent of that participation.
- In preparation of the PPP, the MPO will consult with all local governments, federal and state agencies, and other officials responsible for other planning activities affected by the planning process in the Metropolitan Planning Area.
- Copies of documents may be obtained on the web at www.dothan.org or by contacting Mr. Todd McDonald, AICP or Reginald Franklin at the City of Dothan Department of Planning & Development, 126 N. Saint Andrews Street Room 305, P. O. Box 128,

Dothan, Alabama 36302, calling (334) 615-4410, Fax (334)615-4419, or emailing tmcdonald@dothan.org or rbfranklin@dothan.org

3.5.5. Bicycle and Pedestrian Plan:

By FHWA directive, bicycle and pedestrian planning components have been required in the Long Range Transportation Plan and the Transportation Improvement Program documents for some time. Inclusion in Alabama MPO planning documents took place in 2010. ALDOT joined other state DOTs and approved and implemented a Statewide Bicycle and Pedestrian Plan in the same year.

As a result of the 2010 action, ALDOT required that MPOs in the FY 2012 cycle either have Bicycle/Pedestrian Plans in their UPWP or be working on a Plan, with approval for no later than the Summer of 2013. Those MPOs lacking a Plan must include in their Proposed Work section of the FY 2013 UPWP, specific language for the development of a Bicycle and Pedestrian Plan. The Southeast Wiregrass MPO adopted its Bicycle and Pedestrian Plan in 2011. As a formal planning document, draft and final versions of the Plan are subject to ALDOT and FHWA review and approval. The following activities will be done in preparation of the Bicycle and Pedestrian Plan:

- The MPO may adjust or amend the Bicycle and Pedestrian Plan as desired, with copies submitted for review to ALDOT, who will make further distribution to FHWA and other agencies.
- The Bicycle and Pedestrian Plan will be prepared by the MPO with input from the citizens of the MPA, individuals who work in the MPA, local governments, state and federal agencies, and interested parties as provided in this PPP and 23 CFR 450.316. The BPAC will make a recommendation to the Policy Board for action on the Draft and Final documents.
- Dissemination of written information to public and stakeholder groups is a requisite part of 450.316(a). Draft versions of the Plan will be available for public review and comment for a minimum of thirty (30) days prior to Policy Board approval.
- Drafts and Final Bicycle and Pedestrian Plans must be approved by ALDOT and FHWA.

- Notices will be advertised in a newspaper with city and countywide coverage, mailed or emailed out fourteen (14) days prior to the scheduled meeting.
- Hold at least one (1) open public meeting to receive public comments on the Draft TIP. An additional public meeting may be held at a different location if needed pending approval from the Policy Board
- Members of the MPO staff will be available to answer questions and hear comments from interested citizens on the Bicycle and Pedestrian Plan at all scheduled meetings and during regular Public Forum periods of the Policy Board and Advisory Committee meetings.
- When written and oral comments on the Bicycle and Pedestrian Plan are received, an analysis, summary, and report on the disposition of the comments are included in the appendices of the final Bicycle and Pedestrian Plan. Changes will be incorporated into the BPP as appropriate and at the discretion of the Policy Board.
- In preparation of the Bicycle and Pedestrian Plan, the MPO will consult with all local governments, federal and state agencies, and other officials responsible for other planning activities affected by the planning process in the Metropolitan Planning Area.
- Copies of documents may be obtained on the web at www.dothan.org or by contacting Mr. Todd McDonald, AICP or Reginald Franklin at the City of Dothan Department of Planning & Development, 126 N. Saint Andrews Street Room 305, P. O. Box 128, Dothan, Alabama 36302, calling (334) 615-4410, Fax (334)615-4419, or emailing tmcdonald@dothan.org or rbfranklin@dothan.org

3.5.6. Air Quality Public Involvement and Report:

If, after Environmental Protection Agency (EPA) rulemaking, the Dothan urban area is found to be in non-conformity for ground level ozone (O_3), or any other pollutant, the Southeast Wiregrass Area MPO will provide public review and comment opportunities necessary in documenting a process for attaining Air Quality Conformity.

The EPA is scheduled to propose new ground-level ozone attainment levels in July 2013. The National Ambient Air Quality Standards (NAAQS) for ozone are currently .75/.075 (parts per billion/million) depending on reporting method. A new lower threshold range may require the Southeast Wiregrass Area MPO to

develop an Air Quality Conformity Report (ACR) utilizing MOVES2010b software pollution estimates and budgets generated from the Alabama Department of Environmental Management's (ADEM) Statewide Implementation Plan (SIP).

If it becomes necessary to amend the Transportation Improvement Plan (TIP), the Long Range Transportation Plan (LRTP) or to develop an ACR, the following activities will be undertaken to provide opportunities for public review and comment:

- At least one public meeting to solicit public review and comments on the ACR or Draft TIP or LRTP amendments will be announced and held with MPO staff in attendance.
- A block ad announcement of the public meeting, its date, location and time along with information on other opportunities for public review and comment on the ACR or the amended TIP or LRTP amendments will be published in the local newspaper of general circulation at the beginning of the 25 day review period.
- Meeting announcements and details will be posted on the MPO web page
- Copies of the ACR or the amended TIP or LRTP amendments will be available on-line, in the EARPDC lobby, or mailed on request for public review and comment for twenty five (25) days after the MPO adopts the Draft document.
- During this 25 day period the CAC will meet and be solicited for comments after a review of the amended TIP or LRTP amendments.
- Special outreach within the Study Area will include hand delivered announcements of public review and comment opportunities to local barber shops, beauty parlors and churches in low income and minority communities.
- Comment forms will accompany all copies of the ACR or the amended TIP or LRTP amendments and can be submitted at any time during the 25 day review period by mail, dropped off in the EARPDC lobby or via email to the MPO.
- All public comments on the ACR or the amended TIP or LRTP amendments will be summarized in a report and provided to the MPO at its regular meeting for review, consideration and response if necessary. Copies of all comments will be included in the appendices of the Final TIP.

- Copies of documents may be obtained on the web at www.dothan.org or by contacting Mr. Todd McDonald, AICP or Reginald Franklin at the City of Dothan Department of Planning & Development, 126 N. Saint Andrews Street Room 305, P. O. Box 128, Dothan, Alabama 36302, calling (334) 615-4410, Fax (334)615-4419, or emailing tmcdonald@dothan.org or rbfranklin@dothan.org

3.6. Amendment Process – LRTP, TIP, and other Operations Plans

The amendment process involves both a formal approval process and also a system for processing more modest or minor adjustments to TIP projects. The Federal Highway Administration (FHWA) - Alabama Division and the Alabama Department of Transportation (ALDOT) have agreed that a formal TIP amendment is required for a "highway-oriented" project when one or more of the following criteria are met:

- Adds a new project
- Deletes a project
- A project cost increase exceeds 20% or $1,000,000, whichever is less, or an action adversely affecting fiscal constraint
- Change to a project start or completion date
- Changes to the scope or the termini description of the project

A change that does not meet any of these criteria may be processed as an administrative modification (see below), subject to DOT approval of this procedure by the MPO policy board. Once approved, the MPO may proceed, requiring only signature of the chairperson and attestation. Existing 23 CFR 450 regulations retained by MAP-21, include a provision for an administrative modification (23 CFR450.104) which includes the following definition:

> *Administrative modification* means a minor revision to a long-range statewide or metropolitan transportation plan, Transportation Improvement Program (TIP), or Statewide Transportation Improvement Program (STIP) that includes minor changes to project/project phase costs, minor changes to funding sources of previously-included projects, and minor changes to project/project phase initiation dates. An administrative modification is a revision that does not require public review and comment, re-demonstration of fiscal constraint, or a conformity determination (in non-attainment and maintenance areas).

4.0 Southeast Wiregrass Area MPO Staff

The MPO consists of one employee of the City of Dothan Department of Planning and Development. The MPO Transportation planner administers and manages the transportation planning program in an efficient manner by administering all MPO documents in accordance with the 3-C process, maintaining Title VI compliance and Federal drug-free work place requirements, providing administrative support to all MPO proceedings, providing MPO Policy/TAC/Citizens Advisory Committees with appropriate information and maintaining accurate minutes and records of MPO proceedings. The following activities include but are not limited to the public participation activities conducted by the MPO staff:

1. Set quarterly MPO meetings and agendas
2. Organize MPO Projects
3. Manage LRTP, PPP, TIP, and UPWP w/ updates
4. Submit MPO invoices, semi-annual, and cost allocation reports
5. Work with MPO members on project submittal and removals
6. Review/monitor Funding Availability Report
7. Update, monitor road classification functions
8. Work with CUBE/TRANPLAN travel modeling software
9. Involvement with any Transportation related project(s) at the local and state level

4.1. Meeting Contact and Information

All MPO Policy Board and TAC meetings are held at the Dothan Civic Center on a quarterly basis unless otherwise specified. All regular and "special called" meetings are advertised in the paper at least (14) days prior to the meeting date and must conform to the requirements of the Alabama Open Meetings Act 2005-40 and are open to the public. All MPO meetings must also accommodate persons with special needs. Venues should be ADA504 compliant (wheelchair accessible) and meeting notices will provide a call-in number at least 24 hours in advance for citizens requiring assistance. For all inquiries regarding the Southeast Wiregrass MPO can be made to Todd McDonald, AICP, Planning Director or Reginald Franklin, Transportation Planner, as follows:

Southeast Wiregrass Area Metropolitan Planning Organization (MPO)
City of Dothan Department of Planning and Development
P. O. Box 128, Dothan, Alabama 36302
334-615-4410 (tel)
334-615-4419 (fax)
Email:
tmcdonald@dothan.org
rbfranklin@dothan.org

5.0 Performance Measurement Process

5.1. Livability Principles and Indicators

Increasingly, federal and state agencies are using Performance Measures as a way of ensuring greater accountability for the expenditure of public funds in an ever growing number of programs and activities across a variety of disciplines. Within the transportation sector and the planning processes associated with transportation infrastructure development, ALDOT has adopted the Livability Principles and Indicators as a sustainability measurement against future actions.

The Livability Principles and Indicators are described in the narrative and individual task sections of each draft and final version of the Unified Planning Work Program. The Principles shown are established by federal law and cannot be changed by the MPO. However, Alabama MPOs are encouraged to employ or adapt those Indicators they feel best reflect their local conditions and needs and that can be easily tracked over time and presented in tables, charts, or GIS mapping within the following planning documents:

1. Long Range Transportation Plan
2. Transportation Improvement Program
3. Bicycle and Pedestrian Plan
4. Public Participation Plan
5. Congestion Management Process
6. Air Quality Conformity Report (applicable to those MPOs in non-conformity status)

All planning tasks must be measured against these Livability Principles:

1. Provide more transportation choices
2. Promote equitable, affordable housing
3. Enhance economic competitiveness
4. Support existing communities
5. Coordinate policies and leverage investment
6. Value Communities and neighborhoods

As a measure of sustainability of these principles, the MPO will provide the following Livability Indicators:

1. Percent of households utilizing transit service
2. Vehicle miles traveled per household
3. Percent of household income spent on housing and transportation
4. Transportation cost per household
5. Percent of housing units within a .5 miles of primary employment centers
6. Percent of transportation investment from the Long Range Transportation Plan (LRTP) dedicated to enhancing accessibility of existing transportation facilities
7. Percent of transportation projects where more than one federal funding source is utilized
8. Percent of housing located in a walkable distance of retail services and recreational facilities (e.g. community centers, parks)
9. Automobile greenhouse gas emissions per household

5.2. Performance Evaluation

The MPO listed some techniques to evaluate the effectiveness of this plan. These techniques along with their evaluation criteria, performance goals, and methods indicate how the MPO will give all citizens the opportunity to participate in the Southeast Wiregrass Area MPO transportation planning process. The following procedures will be used to evaluate the effectiveness of the methods and goals listed in this document:

Public Participation Techniques	Evaluation Criteria	Performance Goal	Methods to meet Goal(s)
Public Participation	Attendance, calls, and comments	N/A	Update every 3 years to improve strategies and methods
Advisory Committees	Attendance	Maintain an average attendance of 50% or more	Generate consistent meeting dates and send out materials before meetings
MPO Website	Total number of inquiries (calls, letters, emails, etc.)	Number of site visits per month	Provide recent news, upcoming events, and other reference data
Public Hearings	Attendance, calls, and comments	Achieve a minimum attendance of 10 citizens at each public hearing	Schedule meetings at convenient times/locations and increase awareness of meetings
Mailing and Address lists	Attendance, calls, and comments	Ensure all potential stakeholders are included	Continue to update and maintain listings
Data/fact sheets and surveys	Attendance, calls, and comments	N/A	Encourage responses and comments
Surveys	Number of responses	5% response rate of the total sample	Encourage responses and comments
Public Relations	Number of local and regional meetings and events attended	N/A	Represent the MPO at all related Transportation related events and meetings
Display Ads	Attendance, calls, and comments	Compare posted locations versus attendance	Look for better locations to post Ads and notices at population centers

6.0 Appendices

6.1 Abbreviations and Acronyms

Appendix 6.1: Abbreviations and Acronyms

3-C	Comprehensive, Cooperative, and Continuing
ADA	Americans with Disabilities Act
ADEM	Alabama Department of Environmental Management
ALDOT	Alabama Department of Transportation
APA	American Planning Association
ATPA	Alabama Transportation Planning Association
ATS	ALDOT Technical Services
AQ	Air Quality
BPAC	Bicycle and Pedestrian Advisory Committee
CAC	Citizens Advisory Committee
CAD	Computer Aided Design
CFR	Code of Federal Regulations
COOP	Continuity of Operations Plan
DBE	Disadvantaged Business Enterprise
DOT	Department of Transportation
DRI	Developments of Regional Impact
FAS	Federal Aid System
EPA	Environmental Protection Agency
ESRI	Environmental Scientific Research Institute
ETS	Environmental Technical Section
FAS	Federal Aid System
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
FY	Fiscal Year

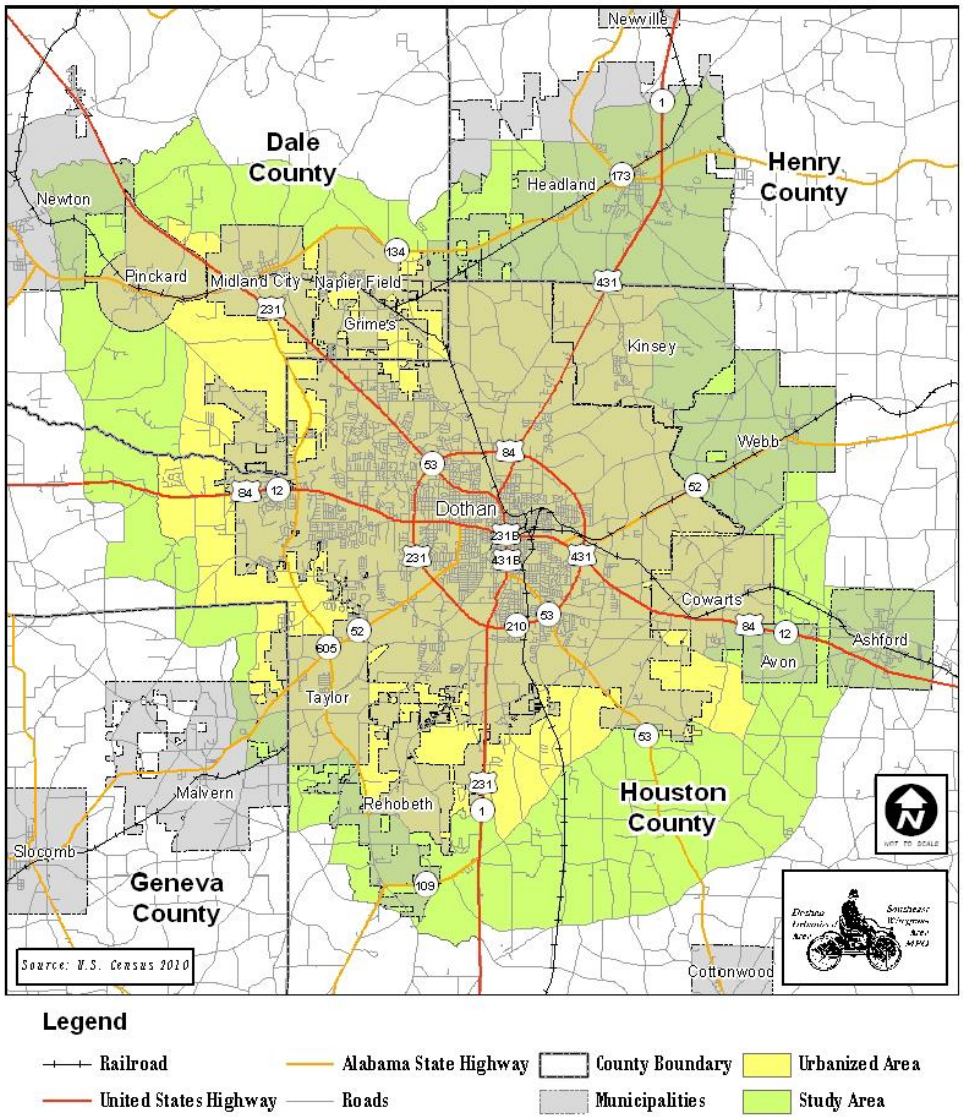
GIS	Geographic Information System
GHG	Greenhouse Gases
ITS	Intelligent Transportation System
LRTP	Long Range Transportation Plan
MAP-21	Moving Ahead for Progress in the 21st Century
MPA	Metropolitan Planning Area
MPO	Metropolitan Planning Organization
MOVES	Motor Vehicle Emission Simulator
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHS	National Highway System
O_3	Ground level ozone is an air pollutant resulting from chemical reactions between nitrogen and certain volatile organic compounds (VOCs) emitted through fossil fuel exhaust and other sources.
PL	Planning Funds
$PM_{2.5}$	Pollution in the form of tiny particles or droplets in the air that are two and one half microns or less in width.
PPP	Public Participation Plan (or Process depending on use)
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy *for* Users
SEARP&DC	Southeast Alabama Regional Planning and Development Commission
SIP	Statewide Implementation Plan
SPR	State Planning and Research
STIP	Statewide Transportation Improvement Program
TAC	Technical Advisory Committee
TAP	Transportation Alternatives Program
TAZ	Traffic Analysis Zone

TEA-21	Transportation Equity Act for the 21st Century
TDP	Transit Development Plan
TIP	Transportation Improvement Program
TSM	Transportation System Management
UPWP	Unified Planning Work Program
USC	United States Code

6.2 Southeast Wiregrass Area MPO Urban and Study Area Map

Appendix 6.2: Southeast Wiregrass Area MPO Urban and Study Area Map

Southeast Wiregrass Metropolitan Planning Organization
Dothan Urbanized Area Map
Dale, Henry, Geneva, & Houston Counties



Legend

Railroad
United States Highway
Alabama State Highway
Roads
County Boundary
Municipalities
Urbanized Area
Study Area

6.3 Southeast Wiregrass Area MPO Livability Principles and Indicators

Appendix 6.3: Southeast Wiregrass Area MPO Livability Principles and Indicators

Livability Principles and Indicators

1. Provide more transportation choices

   Develop safe, reliable and economical transportation choices to decrease household transportation costs, reduce our nation's dependence on foreign oil, improve air quality, reduce greenhouse gas emissions and promote public health.

   Indicator(s)

   - Percentage of workforce using transit service:

Means of Transportation to Work		
Dothan-Enterprise-Ozark, AL CSA		
Mode of Tansportation	Estimate	Percent
Total:	102,591	-
Car, truck, or van:	97,492	95.03%
Drove alone	88,636	86.40%
Carpooled:	8,856	8.63%
Bus or trolley bus	384	0.37%
Taxicab	10	0.01%
Motorcycle	109	0.11%
Bicycle	93	0.09%
Walked	713	0.69%
Other means	1,840	1.79%
Worked at home	1,950	1.90%
Source: U.S. Census 2011 ACS 1-year estimates		

   - Vehicle miles traveled per household:

Vehicle Miles Traveled (VMT) per household		
Southeast Wiregrass Area MPO		
Miles	Population	% of Population
< 16,000 Annual Miles	0	0.00%
16,000 to 18,500 Annual Miles	2,421	2.70%
18,500 to 21,000 Annual Miles	43,350	48.90%
21,000 to 26,000 Annual Miles	39,537	44.60%
26,000 + Annual Miles	3,266	3.70%
Total	88,574	100%
Source: Housing and Transportation Affordability Index 2011		

2. Promote equitable, affordable housing

   Expand location- and energy-efficient housing choices for people of all ages, incomes, races and ethnicities to increase mobility and lower the combined cost of housing and transportation.

   Indicator(s)

   - Percentage of household income spent on housing and transportation:

Percentage of household income spent on housing and transportation		
Southeast Wiregrass Area MPO		
% of Income	Population	% of Population
Less than 40 %	0	0
40 to 45 %	2,421	2.70%
45 to 50 %	4,519	5.10%
50 to 60 %	52,978	59.80%
60 + %	28,656	32.40%
Total	88,574	100%
Source: Housing and Transportation Affordability Index 2011		

   - Transportation costs per household:

Annual Transportation Costs per Household		
Southeast Wiregrass Area MPO		
Costs	Households	% of Households
Less than $12500	0	0%
$12,500 to $13,500	17,342	51.10%
$13,500 to $14,300	6,576	19.40%
$14,300 to $15,400	6,050	17.80%
More than $15400	3,979	11.70%
Total	33,947	100%
Source: Housing and Transportation Affordability Index 2011		

3. Enhance economic competitiveness

   Improve economic competitiveness through reliable and timely access to employment centers, educational opportunities, services and other basic needs by workers as well as expanded business access to markets.

Indicator(s)

- Percent of housing units within a 0.5 miles of primary employment centers:

Travel Time to Work		
Dothan-Enterprise-Ozark, AL CSA		
Travel Time	Estimate	Percent
Total:	100,641	-
Less than 5 minutes	3,557	3.53%
5 to 9 minutes	11,925	11.85%
10 to 14 minutes	18,918	18.80%
15 to 19 minutes	16,990	16.88%
20 to 24 minutes	15,785	15.68%
25 to 29 minutes	6,424	6.38%
30 to 34 minutes	15,420	15.32%
35 to 39 minutes	1,945	1.93%
40 to 44 minutes	1,878	1.87%
45 to 59 minutes	4,907	4.88%
60 to 89 minutes	1,492	1.48%
90 or more minutes	1,400	1.39%
Source: U.S. Census 2011 ACS 1-year estimates		

4. Support existing communities

Target federal funding toward existing communities – through such strategies as transit-oriented, mixed-use development and land recycling – to increase community revitalization, improve the efficiency of public works investments, and safeguard rural landscapes.

Indicator(s)

- Percent of transportation investment from the Long Range Transportation Plan (LRTP) dedicated to enhancing accessibility of existing transportation facilities: Approximately: 98%

5. Coordinate policies and leverage investment

Align federal policies and funding to remove barriers to collaboration, leverage funding and increase the accountability and effectiveness of all levels of government to plan for future growth, including making smart energy choices such as locally generated renewable energy.

Indicator (s)

- Percent of transportation projects where more than one federal funding source is utilized: 0% percent

6. Value communities and neighborhoods

   Enhance the unique characteristics of all communities by investing in healthy, safe and walkable neighborhoods – rural, urban or suburban.

   Indicator(s)

   - Percent of housing located in a walkable distance of retail services and recreational facilities (e.g. community centers, parks):
     Data to be added later

   - Automobile greenhouse gas emissions per household:

Automobile Greenhouse Gas Emissions Per		
Southeast Wiregrass Area MPO		
Tonnes/Year	Households	% of Households
< 3.3 Tonnes/Year	0	0%
3.3 to 5.1 Tonnes/Year	0	0%
5.1 to 6.5 Tonnes/Year	971	2.90%
6.5 to 8.6 Tonnes/Year	8,267	24.40%
8.6 + Tonnes/Year	24,709	72.80%
Total	33,947	100%
Source: Housing and Transportation Affordability Index 2011		

6.4 Southeast Wiregrass Area MPO Sample Sign-in Sheet

Southeast Wiregrass Metropolitan Planning Organization

Public Hearing Sign-in Sheet

[Project]

[Date/Time]

[Location]

[Address]

[City, State, Zip]

Name	Address	City, State, and Zip	Telephone	Email (Optional)

6.5 Southeast Wiregrass Area MPO Sample Comment Form

Appendix 6.5: Southeast Wiregrass Area MPO Sample Comment Form

Comment Form

Southeast Wiregrass Metropolitan Planning Organization

Project: [Project Name]

Comment Period: [Dates]

Date: _____ **Name:** _____

Address: _____

Phone: _____ **Email:** _____

Comments: _____

_____

_____

_____

_____

_____

_____

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_____

_____

_____

_____

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_____

Please Return or mail your comments to:
The City of Dothan
Southeast Wiregrass Area MPO
P.O. Box 2128
126 N. Saint Andrews Street Rm. 305
Dothan, AL 36303
Ph: (334) 615-4410
Fx: (334) 615-4419
Or e-mail your comments to rbfranklin@dothan.org

6.6 Public Review and Comment Documentation

PUBLIC NOTICE

The Southeast Wiregrass Area Metropolitan Planning Organization (MPO) will hold a public hearing on Tuesday, October 22, 2013 at 6:00 p.m. in Meeting Room D located on the first floor of the Dothan Civic Center at 126 North St. Andrews Street.

This meeting is to get public input on the 2013 Southeast Wiregrass Area Metropolitan Planning Organization (MPO) Public Participation Plan. The purpose of this plan is to be consistent with the intent of the MAP-21 final rules to provide for an open process with free exchange of information and opportunity for public input at all stages of the transportation planning process, as well as all scheduled MPO meetings. There will be a 45 day review and comment period beginning on October 8th, 2013 through November 22nd, 2013.

The draft 2013 Public Participation Plan for the Southeast Wiregrass MPO area document and comment form can be downloaded from our website at www.dothan.org. The document and comment forms are also available at the following locations:

- Dothan City Hall, Department of Planning & Development
  126 N. Saint Andrews St. Room 305
- Dothan-Houston County Library
  212 West Burdeshaw Street
- Southeast Alabama Regional Planning & Development Commission
  462 N Oates St
- Wiregrass Transit Authority
  201 Depot St

Additional information about this meeting can be obtained from the City of Dothan Planning and Development Office, Room 305, Dothan Civic Center, from 8:00 a.m. to 5:00 p.m. or by contacting Todd McDonald, (334) 615-4410 or Reginald Franklin, (334) 615-4414. The meeting is open to the public. Comments can be emailed to rfranklin@dothan.org of sent by mail to:

Reginald Franklin
City of Dothan
Southeast Wiregrass Area MPO
P.O. Box 2128
Dothan, AL 36302-2128

mission, and unless such person appears before the commission in person or through his representative to show cause, if any, why his objection should be sustained, it shall be presumed that the person accepts the notice as fact and waives any rights he may have to contest the removal of the weeds. The action of the commission shall be final unless good and sufficient cause can be otherwise shown.
Reference is hereby made to the resolution, on file in the office of the City Clerk, for further particulars.
Dated this 3rd day of September, 2013.
City of Dothan, Alabama
By: Pam McCoy, City Clerk

L197046 PUBLIC NOTICE
The Southeast Wiregrass Area Metropolitan Planning Organization (MPO) will hold a public hearing on Tuesday, October 22, 2013 at 6:00 p.m. in Meeting Room D located on the first floor of the Dothan Civic Center at 126 North St. Andrews Street.
This meeting is to get public input on the 2013 Southeast Wiregrass Area Metropolitan Planning Organization (MPO) Public Participation Plan. The purpose of this plan is to be consistent with the intent of the MAP-21 final rules to provide for an open process with free exchange of information and opportunity for public input at all stages of the transportation planning process, as well as all scheduled MPO meetings. There will be a 45 day review and comment period beginning on October 8th, 2013 through November 22nd, 2013.
The draft 2013 Public Participation Plan for the Southeast Wiregrass MPO area document and comment form can be downloaded from our website at www.dothan.org. The document and comment forms are also available at the following locations:
- Dothan City Hall,
  Department of Planning & Development
  126 N. Saint Andrews St. Room 305
- Dothan-Houston County Library
  212 West Burdeshaw Street
- Southeast Alabama Regional Planning & Development Commission
  462 N Oates St
- Wiregrass Transit Authority
  201 Depot St

Additional information about this meeting can be obtained from the City of Dothan Planning and Development Office, Room 305, Dothan Civic Center, from 8:00 a.m. to 5:00 p.m. or by contacting Todd McDonald, (334) 615-4410 or Reginald Franklin, (334) 615-4414.
The meeting is open to the public. Comments can be emailed to rfranklin@dothan.org or sent by mail to:
Reginald Franklin
City of Dothan
Southeast Wiregrass Area MPO
P.O. Box 2128
Dothan, AL 36302-2128

L197047 NOTICE
Notice is hereby given by the Building Official of the City of Dothan, Alabama that the following properties have been determined to be in an unsafe condition and must be remedied or demolished within 60 days or the City of

Any person or groups desiring additional information concerning the economic effect of this proposal should contact the Dale County Engineer's Office, 202 South Highway 123, Suite A, Ozark, Alabama 36360, or telephone (334) 774-5875 ext. 4. A copy of the Invitation to Bid for the Solid Waste Collection may be obtained at the above mentioned address.
All bid proposals will be opened by the Dale County Commission at the Dale County Government Building, 202 South Highway 123, Suite C, Ozark, Alabama 36360 at 5:30 p.m., Tuesday, October 15, 2013.

L197052
NOTICE OF APPOINTMENT TO BE PUBLISHEDBYPERSONAL REPRESENTATIVE

ESTATE OF WALTER BRUCE LONG, DECEASED

Letters Testamentary of said deceased having been granted to the undersigned on the 16th day of September, 2013, by the Honorable Patrick H. Davenport, Judge of Probate Court of Houston County, notice is hereby given that all persons having claims against said estate are hereby required to present the same within the time allowed by law or the same will be barred.

/s/ Joyce Martin Long,
Personal Representative

L197026 IN THE PROBATE COURT OF HOUSTON COUNTY, ALABAMA In the matter of the Estate of ROY C. HOLLY, deceased
NOTICE OF APPOINTMENT TO BE PUBLISHED BY EXECUTRIX
Letters Testamentary of said deceased having been granted to the undersigned on the 18th day of September, 2013 by the Honorable Patrick Davenport, Judge of Probate Court of Houston County, Alabama, notice is hereby given that all persons having claims against said estate are hereby required to present the same within the time allowed by law or the same will be barred.
/s/ Margaret A. Holly
Peter A. McInish
Attorney for Estate

PUBLIC NOTICE
Notice is hereby given that the Planning Commission of the City of Headland will meet on Monday the 28th at 6pm and will consider the request for rezone of 14 acres on Cleveland Street from open to multi residenial and light industrial.

Sudoku

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COPY

Planning and Development
Date Received
OCT - 9 2013

Account Number
2150038

Alabama Community Newspapers
Advertising Affidavit

P.O Box 280
Dothan, AL 36302
(800) 281-0444

Date
October 06, 2013

CERTIFIED AS CORRECT
AUTHORIZED BY DEPT. HEAD
Todd McDonald

CITY OF DOTHAN
PO BOX 2128
DOTHAN, AL 36302

MPO
80/20

001-27-29-527-30-31
ACCOUNT NUMBER

P.O. # T00724 Proj. # 2304488 $350.00

Date	Category	Description	Ad Size	Total Cost
10/06/2013	_Legal Notices	L197046/MPO Public Notice	1 x 49 L	350.00

L197046 PUBLIC NOTICE
The Southeast Wiregrass Area Metropolitan Planning Organization (MPO) will hold a public hearing on Tuesday, October 22, 2013 at 6:00 p.m. in Meeting Room D located on the first floor of the Dothan Civic Center at 126 North St. Andrews Street.
This meeting is to get public input on the 2013 Southeast Wiregrass Area Metropolitan Planning Organization (MPO) Public Participation Plan. The purpose of this plan is to be consistent with the intent of the MAP-21 final rules to provide for an open process with free exchange of information and opportunity for public input at all stages of the transportation planning process, as well as all scheduled MPO meetings. There will be a 45 day review and comment period beginning on October 8th, 2013 through November 22nd, 2013.
The draft 2013 Public Participation Plan for the Southeast Wiregrass MPO area document and comment form can be downloaded from our website at www.dothan.org. The document and comment forms are also available at the following locations:
- Dothan City Hall, Department of Planning & Development 126 N. Saint Andrews St. Room 305
- Dothan-Houston County Library 212 West Burdeshaw Street
- Southeast Alabama Regional Planning & Development Commission 462 N Oates St
- Wiregrass Transit Authority 201 Depot St

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The meeting is open to the public. Comments can be emailed to rfrankfin@dothan.org or sent by mail to:
Reginald Franklin
City of Dothan
Southeast Wiregrass Area MPO
P.O. Box 2128
Dothan, AL 36302-2128

Affidavit of Publication of Legal Notice

State of Alabama

Houston County

Before me, a notary public in and for the county and state above listed, personally appeared Alice Trawick, who, by me duly sworn, deposes and says that:

"My name is Alice Trawick, I am the Legal Manager of the Dothan Eagle".

The Newspaper published the attached legal notice in the issues of:
10/06/2013
Newspaper reference: 0000670117
The sum charged for publications was $350.00.

The charges by the Newspaper for said publication does not exceed the lowest actual classified rate paid by commercial customers for an advertisement of similar size and frequency in the same newspaper(s) in which the public notice appeared.
There are no agreements between the Newspaper and the officer or attorney charged with the duty of placing the attached legal advertising notices whereby any advantage, gain or profit accrued to said officer or attorney.

Alice Trawick
AFFIANT
Sworn and subscribed this 7th of October, 2013

Deborah Brown
Notary Public State of Alabama

My Commission Expires
March 22, 2017

THIS IS NOT A BILL. PLEASE PAY FROM INVOICE. THANK YOU

Southeast Wiregrass Metropolitan Planning Organization

Public Hearing Sign-in Sheet

2013 Public Participation Plan

Meeting Room D – 1st Floor Dothan Civic Center

Dothan Civic Center

126 North Saint Andrews Street

Dothan, AL 36302

Name	Address	City, State, and Zip	Telephone	Email (Optional)
Charles Metzger	1443 Eddins Rd	Dothan, AL 36301	798-3614	cmetzger@dothan.org
Todd McDonald	1 Walford Place	Dothan AL 36301	798-4029	Tmcdonald@dothan.org.

12.6 2040 MTP PUBLIC PARTICIPATION RECORD

This section will contain all record of the public participation process once the public comment period is complete.