Monroe Urbanized Area MTP 2035

The 2035 Metropolitan Transportation Plan for the Monroe Urbanized Area

Developed for

The Monroe Urbanized Area Metropolitan Planning Organization

and

The Louisiana Department of Transportation and Development

Developed by

ALLIANCE Transportation Group, Inc.

In association with

Neel-Schaffer, Inc.

****DRAFT****

Adopted Date Here

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MONROE TRANSPORTATION PLAN UPDATE

OUACHITA PARISH

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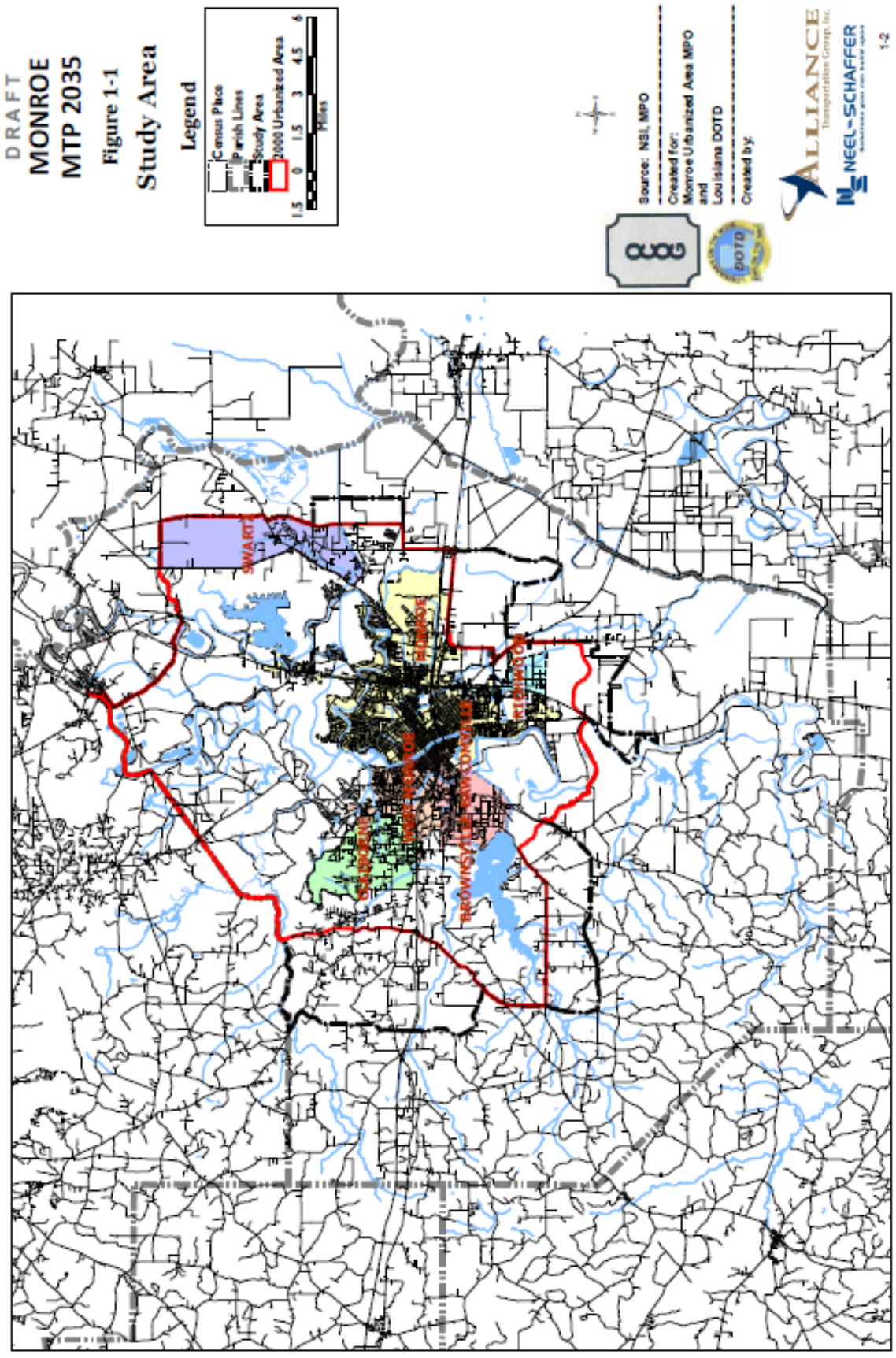
INTRODUCTION

This document is the update of the Monroe Urbanized Area Metropolitan Transportation Plan (MTP) for the years 2010 to 2035. It was adopted on [date] by the Policy Committee of the Monroe Urbanized Area Metropolitan Planning Organization (MPO). The MPO planning functions are housed at the Ouachita Council of Governments (OCOG), which is part of the North Delta Regional Planning & Development District (North Delta) – the regional planning commission for the eleven-parish region in northeast Louisiana. This document constitutes the latest update to the region's long-range transportation plan, and fulfills the federal planning requirements necessary to receive transportation funds from the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), which was signed into law in 2005 to provide guaranteed federal funding for highways, highway safety, public transportation, and nonmotorized modes.

The Monroe Urbanized Area is located wholly within Ouachita Parish and includes the cities of Monroe and West Monroe, and the town of Richwood, as well as the unincorporated area known as Bawcomville, and other portions of Ouachita Parish (see Figure 1-1). The study area encompasses the urbanized area and the portion of the region that is anticipated to be in the urbanized area within the 25-year planning horizon.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MONROE
MTP 2035
Figure 1-1
Study Area
Legend
Census Place
Parish Lines
Study Area
2000 Urbanized Area
Miles
Source: NSL MPO
Created for:
Monroe Urbanized Area MPO
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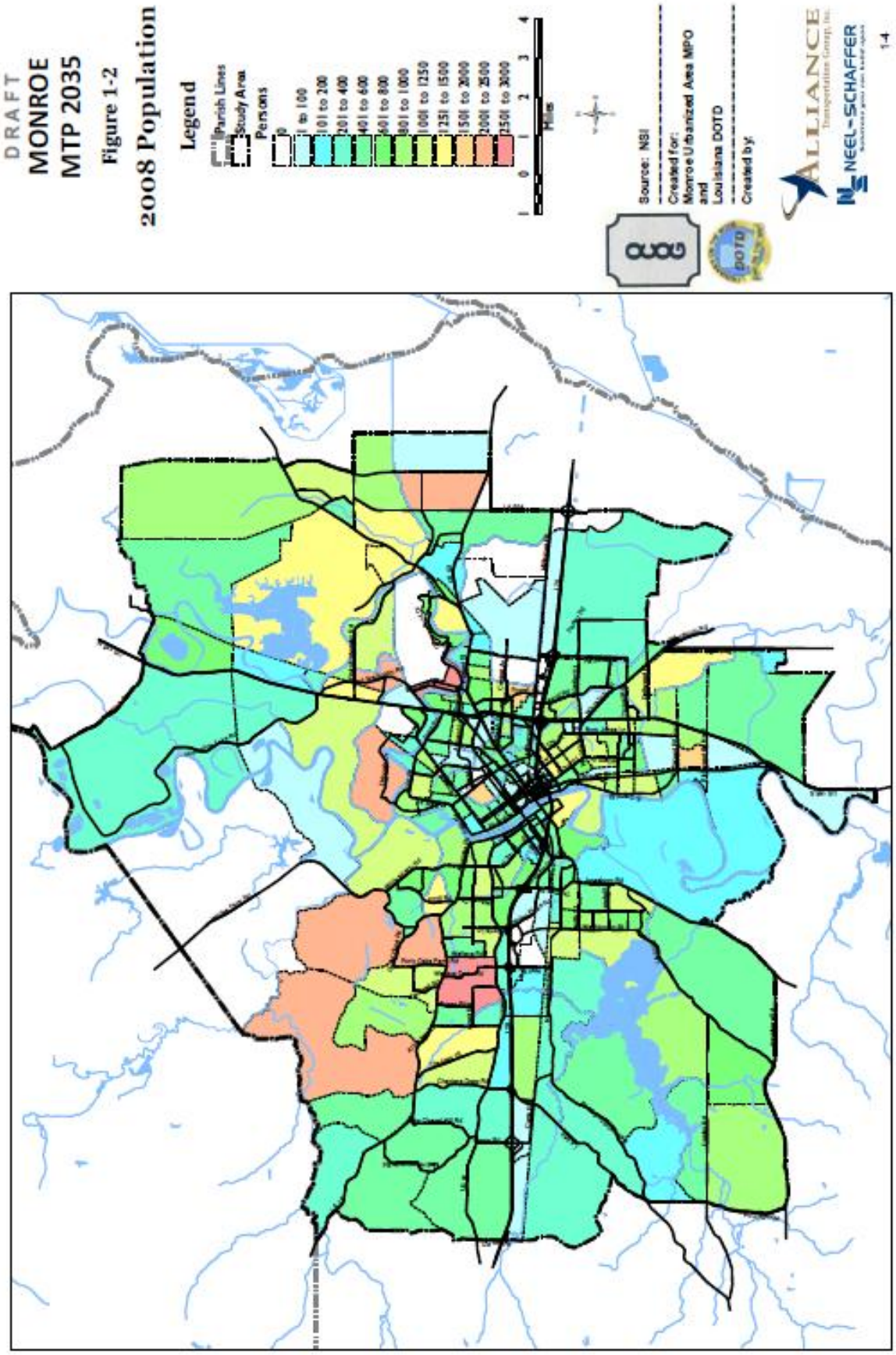
ALLIANCE
NEEL-SCHAFFER
1-2
SWART
RUSTON
WEST MONROE
CALHOUN
BROWNSVILLE-BAWCOMVILLE
RUSTON

Following the 1970 US Census, the Census Bureau determined that the densely populated area in and around the Cities of Monroe and West Monroe met the Bureau's definition of an urbanized area because it had a population exceeding 50,000 people with a population density of over 1,000 people per square mile in a contiguous geographical area. Since that time, the Monroe Urbanized Area has continued to grow, and now has an estimated 2008 population of 140,481, with an expected population of 146,010 by 2035 (See Figures 1-2, 1-3, and 1-4 for the current and predicted population projections by Traffic Analysis Zone (TAZ)).

Review of recent Census data indicates that the residential population in the Monroe and West Monroe city limits has been stable with some growth happening in the unincorporated areas around the metro area. This pattern of population change is anticipated to continue into the future.

There has been relatively little change in the residential distribution in the Monroe Urbanized Area in the last decade and the major centers of employment continue to be located in the same places as in the 2000 census. Downtown Monroe, downtown West Monroe, the university, the east side of the metro area, and the port are the existing and anticipated major employment centers.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MONROE
MTP 2035
Figure 1-2
2008 Population
Legend
Parish Lines
Study Area
Persons
0
1 to 100
101 to 200
201 to 400
401 to 600
601 to 800
801 to 1000
1001 to 1250
1251 to 1500
1501 to 2000
2001 to 2500
2501 to 3000
0 1 2 3 4
Miles
Source: NSI
Created for:
Monroe Urbanized Area MPO
and
Louisiana DOTD
Created by:
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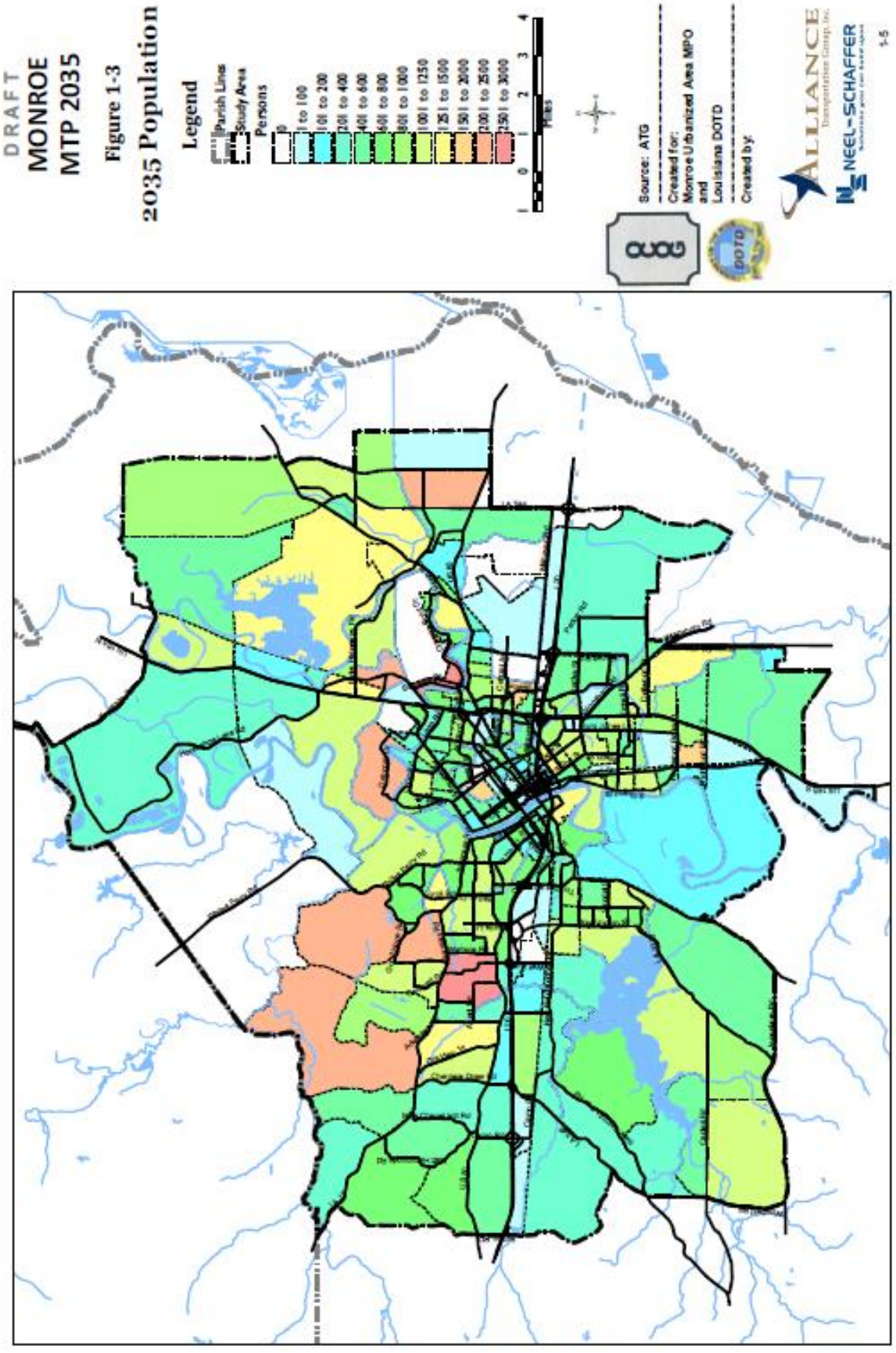
1-4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MONROE
MTP 2035
Figure 1-3
2035 Population
Legend
Parish Lines
Study Area
Persons
0
1 to 100
101 to 200
201 to 400
401 to 600
601 to 800
801 to 1000
1001 to 1250
1251 to 1500
1501 to 2000
2001 to 2500
2501 to 3000
0
1
2
3
4
Miles
Source: ATG
Created for:
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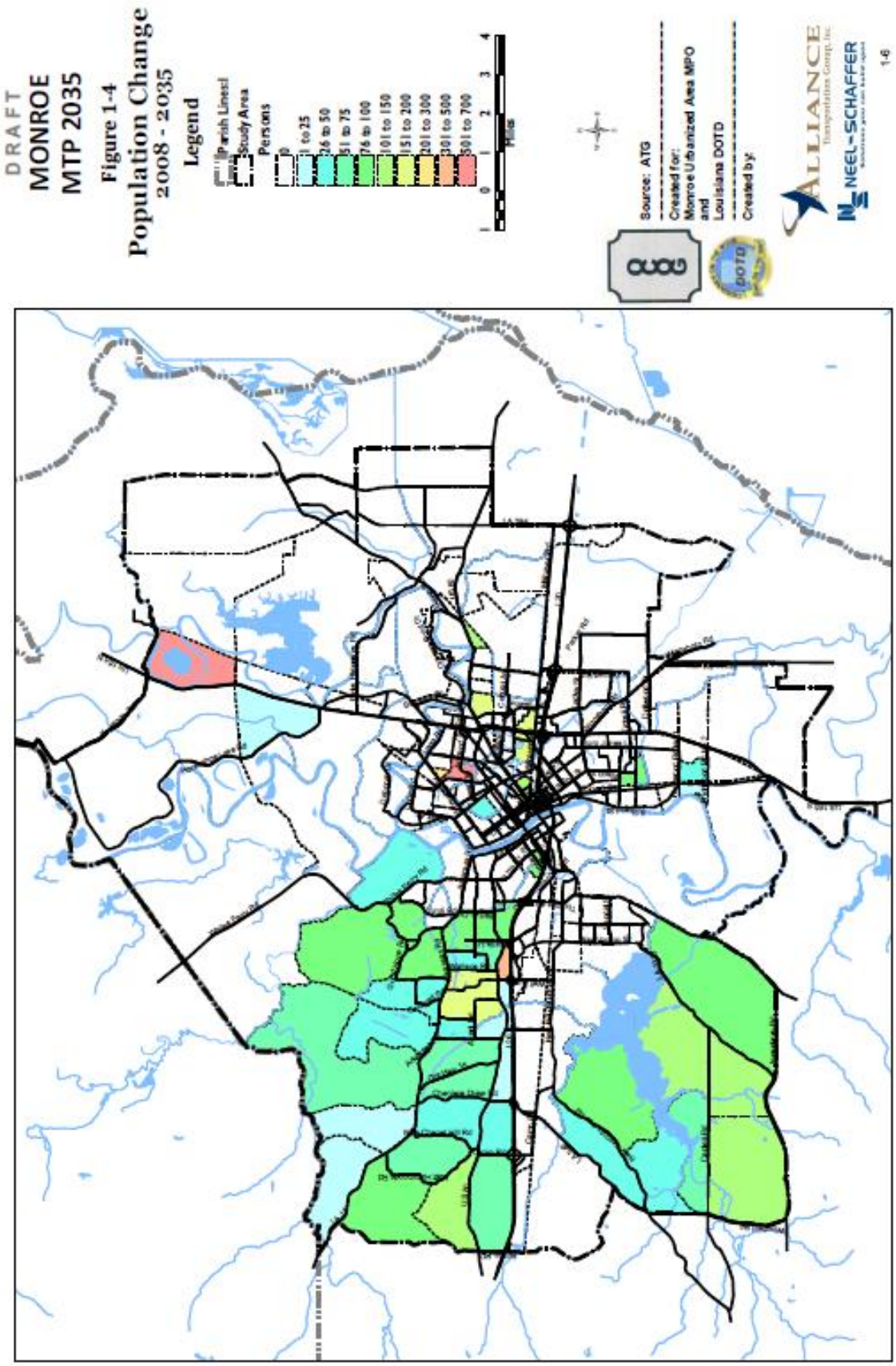
1-5


DRAFT
MONROE
MTP 2035
Figure 1-4
Population Change
2008 - 2035
Legend
Parish Lines
Study Area
Persons
0
1 to 25
26 to 50
51 to 75
76 to 100
101 to 150
151 to 200
201 to 300
301 to 500
501 to 700
Miles
Source: ATG
Created for:
Monroe Urbanized Area MPO
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1-6

This plan is the result of a 12-month process that included consultation with other local, state and federal agencies and governing bodies, as well as an extensive public input process.

This MTP Update is designed to meet the anticipated transportation needs of the Monroe Urbanized Area through the maintenance and enhancement of the portion of its transportation system that is funded by state and federal dollars. While this plan only addresses the financing of federally and state funded projects, it was developed in coordination with other agencies involved in transportation–related activities.

The Monroe Urbanized Area transportation system is the network of transportation related facilities and activities that moves both people and goods through the community by connecting residential and commercial areas within the urbanized area, as well as the region and the nation. The transportation system includes multiple modes of transportation, i.e. streets and highways; public transportation; bicycle and pedestrian facilities; air, rail, and water freight and passenger facilities; and intermodal facilities.

The process to identify future needs takes into account the economic development, land use, security, environmental protection, resource conservation, and historic preservation goals of the community.

This plan is the result of a 12-month process that included consultation with other local, state and federal agencies and governing bodies, as well as an extensive public input process. The plan details a process for addressing the transportation needs of the urbanized area over the next 25 years, taking into account both the priorities of the community and physical and financial constraints under which transportation projects must be selected.

PURPOSE OF THE PLAN

The MTP is one of the planning documents required to obtain federal funds through SAFETEA-LU. It is a general, long-range plan for the area. In addition, the MPO must produce a Transportation Improvement Program (TIP) which is a prioritized set of regionally significant transportation projects for short-term implementation. The TIP is updated every four years. Projects in the TIP must be in the MTP and have a reasonable

expectation for financing. The MTP may also include projects for which specific funding has not yet been identified.

As a long-range planning document, the purpose of the Monroe Urbanized Area Metropolitan Transportation Plan (MTP) is to identify the transportation needs of the community over the next 25 years, establish priorities for funding those improvements, and chart a course for meeting the community's vision. In achieving this purpose, the plan is designed to allow the Monroe Urbanized Area to enhance the economic viability of the community while preserving its quality of life. The study identifies the existing and future land use trends and transportation needs, and develops coordinated strategies to achieve the community's vision.

The MTP is a long range transportation master plan, which is a blueprint to guide the development of programs and transportation projects within the Monroe Urbanized Area.

The MTP is the principal transportation planning document for the region. It is a long range transportation master plan, which is a blueprint to guide the development of programs and transportation projects within the Monroe Urbanized Area. The MTP distributes anticipated funding from federal, state, and local sources to various transportation modes while maintaining flexibility to address dynamic changes in both the needs and the resources of the community.

The transportation system is the structure upon which many of the other aspects of the life of the community rests. It supports the citizen's access to jobs and shopping, to recreation and socialization, to health care and emergency services, to evacuation routes and travel routes, and to people and places near and far. The transportation system also supports the movement of goods and services to, from, and through the community.

As the transportation system grows, so grows the community. The transportation system affects both the physical and social environment of the community. It affects the physical health of the residents and the economic health of the businesses. Transportation systems cost millions of dollars to build and maintain, and changes can take many years to implement. Because of the many and varied impacts of transportation on

the community, as well as the large investment of public resources, it is essential that an inclusive planning process be developed and used to create the vision and goals for the future transportation system.

LEGISLATIVE AUTHORITY FOR THE MTP

With the passing of the Federal Aid Highway Act of 1962, Congress made urban transportation planning a condition for receipt of federal funds for highway projects in urban areas with populations of 50,000 or more. That legislation encouraged a continuing, comprehensive transportation planning process carried on cooperatively by the states and local communities. Metropolitan planning organizations were designated by the governor in each state to carry out this legislative requirement. Following that initial federal legislation, there have been a series of acts by Congress that have continued to set national transportation priorities and fund transportation projects, with the most recent act being the Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU).

In August 2005, SAFETEA-LU was authorized and currently serves as the regulatory and funding framework for transportation planning in metropolitan areas. SAFETEA-LU succeeded a series of transportation legislative acts that drastically changed the process of planning for transportation systems. These legislative acts included the Intermodal Surface Transportation Efficiency Act (ISTEA) in 1991 and the Transportation Equity Act for the 21st Century (TEA-21) in 1998. All have been a direct result of the Clean Air Act Amendments of 1990 (CAAA), which broadened the goals of transportation system planning to include reducing vehicle miles traveled, expanding travel mode options, improving air quality, and integrating land use considerations into the planning process.

The authorization of ISTEA in 1991 created a major shift in metropolitan transportation planning. In coordination with the CAAA, it required transportation agencies to promote the protection of ecological and human environments. ISTEA mandated metropolitan areas within regions in

violation of the National Ambient Air Quality Standards to plan for improvements in emissions, while preserving mobility. These additional considerations required planning for reductions in privately occupied vehicles, and expansion of transit and bicycle and pedestrian options. In addition, ISTEA recognized the growing changes in cultural and economic diversity within urban areas and provided metropolitan planning organizations with greater control of transportation systems in each region.

In 1998 the Transportation Equity Act for the 21st Century was authorized to succeed ISTEA. TEA-21 incorporated many of the same regulatory requirements as the previous legislation. However, various key additions were implemented in TEA-21, including a greater focus on safety and security for motorized and non-motorized users; accessibility and mobility for people and freight; efficient systems management and operation; and integration or connectivity within and across different transportation modes.

In 2005 SAFETEA-LU succeeded ISTEA and TEA-21. This legislation maintains the core considerations of mobility, accessibility, quality of life, safety and security, environmental protection, air quality, economic development and operations management. This legislation continues the metropolitan planning process that is a cooperative, continuous, and comprehensive framework for making transportation decisions in metropolitan areas.

SAFETEA-LU

SAFETEA-LU provides funding for highways, highway safety, transit, bicycle and pedestrian facilities, as well as multi-modal infrastructure for a five year period, 2005 to 2009. As with previous legislation, SAFETEA-LU requires the development of a long range transportation plan, the Metropolitan Transportation Plan (MTP).

The MTP consists of a set of short- and long-range strategies to address transportation needs and guide investment in the regional transportation system in a manner that will address the community's vision for the future. The MTP must also be consistent with the region's land use and economic development objectives in addition to the region's overall social, environmental, system performance, and energy conservation objectives.

Federal regulations require that the planning process for the MTP include:

- Consideration of social, economic, and environmental effects;
- Public participation in the planning process;
- No discrimination based on race, color, sex, national origin, or physical disabilities;
- A special effort to plan for public transportation facilities and services for the elderly, people with disabilities, and people of low-income;
- Consideration of energy conservation;
- Involvement of all appropriate public and private transportation providers; and
- Consultation and coordination with other public agencies.

SAFETEA-LU, Section 5303, also requires that a metropolitan planning area carry out a planning process that provides for consideration and implementation of projects and strategies and services that will:

1. Support the economic vitality of the United States, the States, nonmetropolitan areas, and metropolitan areas, especially by enabling global competitiveness, productivity, and efficiency;

2. Increase the safety of the transportation system for motorized and nonmotorized users;
3. Increase the security of the transportation system for motorized and nonmotorized users;
4. Increase the accessibility and mobility of people and for 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 throughout the State, for people and freight;
7. Promote efficient system management and operation; and
8. Emphasize the preservation of the existing transportation system.

Together, these are known as the eight SAFETEA-LU planning factors. These factors are treated at the systemic level throughout this document.

METROPOLITAN PLANNING ORGANIZATION

Currently, Title 23 of the Code of Federal Regulations (CFR), Part 450 defines a Metropolitan Planning Organization (MPO) as "the forum for cooperative transportation decision making for the metropolitan planning area."[1] An MPO is generally composed of local government representatives, transportation officials, and other stakeholders, who form technical and policy committees. The policy committee in generally made up of elected officials and provides policy direction to the MPO staff, and reviews and authorizes adoption of the MPO-developed plans. The technical committee is made up of a panel of experts (such as planners and engineers) and reviews and recommends changes to the technical aspects of the MPO's

[1] Definition of Metropolitan Planning Organization is described in Title 23, CFR Part 450.102

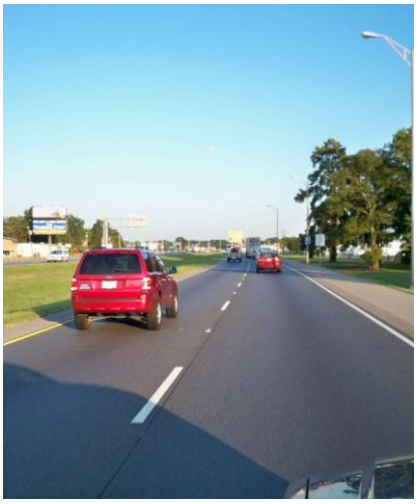
developed plans such as the planning process, forecasting models, and collected data. The current membership roster of both committees can be found in Appendix A.

An MPO has many functions, but there are five core elements that distinctively define its role in transportation planning.

1. The first core function is establishing a fair and unbiased regional planning process.
2. Secondly, MPO's must be inclusive and provide ample opportunities for the public and other key stakeholders to provide feedback. This function is carried out through the Public Participation Plan.
3. Thirdly, MPO's analyze various regional transportation development scenarios and implement the most viable options; this work effort is included in their Unified Planning Work Program (UPWP).
4. Additionally, MPO's are responsible for developing and updating a long-range transportation plan called the Metropolitan Transportation Plan (MTP), with a minimum 20 year planning horizon. During the MTP planning process each MPO must create alternatives for improving the movement of people and goods, preserving the existing transportation system, and enhancing quality of life within their region.
5. Lastly, MPO's must develop a short term plan with a two to four year horizon, known as the Transportation Improvement Program (TIP). The TIP serves as a strategic plan for implementing improvements identified in the MTP.

After the results of the 1970 US Census were made available, the urbanized area around the City of Monroe qualified for an MPO. The Monroe Urbanized Area MPO is administered by the Ouachita Council of Governments which is a program of the North Delta Regional Planning & Development District. The primary mission of the North Delta Regional Planning & Development District is:

to promote and foster economic development through regional partnerships and cooperation, by facilitating cooperation among local governments, educational institutions, and state and federal agencies. We also serve as a liaison with the State and Federal agencies concerned with comprehensive planning & development of the District and assist local governments in planning for common needs and in recognizing regional opportunities.



As the designated MPO for the Monroe urbanized area, OCOG is responsible for facilitating transportation planning in the cities of Monroe and West Monroe and the town of Richwood as well as the unincorporated area of Bawcomville and other unincorporated portions of Ouachita Parish.

The MPO works cooperatively with the Louisiana Department of Transportation and Development (LaDOTD), operators of transit services, and the public to develop the MTP and TIP. The MPO then uses the MTP to create the Unified Planning Work Program. The UPWP describes all federally-funded transportation studies being conducted by the MPO, local transit providers, the Louisiana Department of Transportation and Development, and local governmental units to maintain and/or improve the transportation system within the urbanized area during the current year.

The MPO urban transportation planning process is designed for the MPO Policy Committee to make decisions on transportation policies and programs. The process utilizes the technical analysis of data collected by professional planners that describes the impacts of alternative courses of action relative to possible policy and program decisions. These actions may include new roads, bus routes, intermodal transfer stations, or signalization changes. This planning process includes both technical analysis of collected data, and values of the community, resulting in a plan that meets the federal mandate for a planning process that is cooperative, continuous, and comprehensive. Several of the technical tools used in the planning process are described in the next section.

The planning process for creating the MTP is prescribed by state and federal regulations, but the vision that drives the process is locally developed.

THE MTP PLANNING PROCESS

The planning process for creating the MTP is prescribed by state and federal regulations, but the vision that drives the process is locally developed. The MTP is designed to implement this locally derived vision. In order to create the MTP for the Monroe Urbanized Area, the following planning process was used by the study team, which was comprised of OCOG staff, technical representatives of member jurisdictions acting as a Technical Advisory Committee, the DOTD, and was supported by professional planning consultants. The planning process was conducted under the authority of the Monroe Urbanized Area Metropolitan Planning Organization.

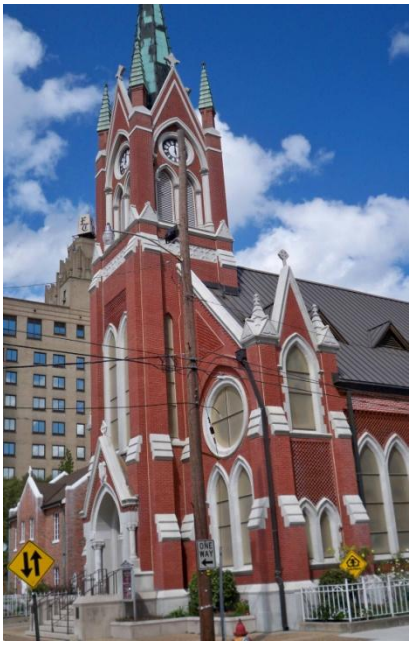
ASSESSING CURRENT CONDITIONS

The first step in the planning process is assessing the current state of the transportation system. In order to develop a plan to reach a goal it is necessary to understand current conditions. These current conditions include an inventory of the existing transportation system, a demographic analysis to ascertain a baseline as well as future demand, an evaluation of existing documents including information from local professionals, and crash data which may highlight locations where safety is a problem.

SYSTEM CHARACTERISTICS – INFRASTRUCTURE INVENTORY

The baseline for assessing the future needs of the community is the existing transportation system. Wherever possible, all of the modes of the existing transportation system were inventoried, including: the urban and rural transportation system by functional class; the national highway system; the fixed route transit system; other public transit systems and their service areas; ports; airports; passenger rail; intercity bus; intermodal terminals; bicycle facilities; pedestrian facilities; and bridges.

The transportation system for the Monroe Urbanized Area includes interstate highway, transit, an airport, a water port, bicycle lanes, and sidewalks.



CURRENT LAND USE/ZONING

The transportation system serves the trips generated by various land uses. Land use is an input to the transportation model for an area. All documents related to land use are gathered to assess the current condition of an area. These documents may be zoning documents, land use documents, or vacant land inventories. For the Monroe Urbanized Area the study team was able to gather a comprehensive plan for Monroe, a community vision for West Monroe/West Ouachita, and a zoning map for West Monroe.

TRAVEL CHARACTERISTICS AND MARKETS

By viewing MTP development from the standpoint of optimizing a transportation system to support various transportation markets interacting with broader community land use, economic and societal influences, and objectives is the kind of holistic look at the transportation system that allows transportation investments to be identified and prioritized using performance measures and criteria based upon a broad spectrum of community values and objectives.

Each community is made up of a unique combination of transportation markets. As the home to the University of Louisiana at Monroe, the transportation needs of university students must be considered. However, with no casinos or international tourist destination sites or events, the needs of these transient populations do not need to be considered.

DEVELOP SOCIODEMOGRAPHIC BASELINE

A demographic analysis was conducted to determine both the baseline and future land use and economic development patterns of the community. The results of this analysis were used by the travel demand model analysis of highway projects, and to a lesser degree by the qualitative analysis used for other modes of travel.

The baseline was developed using building permit data. This provides a more realistic assessment of population and employment when the baseline year does not coincide with the availability of decennial census data.

Crash Data

A safe transportation system is an ongoing objective for a community. Therefore, crash data are gathered and analyzed to identify unsafe conditions that may need to be addressed through the MTP process and project development.

Crash data from 2004-2008 were used for this MTP Update. Analysis by type of crash, location, and other factors provides solid evidence for projects designed to make travel in the Monroe Urbanized Area safer.

Security-Related Data

Citizens are more likely to use modes if they are not afraid of being exposed to crime. Bus stops that are not lit at night or in areas that are not heavily populated can carry the perception of lack of security. Monroe Transit tracks security-related issues on its system. There has been only one incident in the past few years, so the system is considered secure.

Another potential security issue is locating major transportation facilities near federal buildings. Other than post offices, there are no major federal facilities in the study area.

Regional Visioning Process

The next step in the planning process was the identification of the vision that the community wished to implement; the goals and objectives that define that vision; and the criteria by which the community would evaluate whether those goals and objectives are being met. In order to develop these basic elements of the plan, a variety of methodologies were employed in an effort to build a strong foundation for developing the long-range transportation plan that would best meet the needs of the community over the next 25 years. The following is an overall description of those methodologies.

Review Other Plans and Planning Processes

One of the important planning guidelines mandated by SAFETEA-LU is the support of local land use and economic development plans as one factor by which all transportation projects must be evaluated. Therefore, coordination with the ongoing land use and economic development planning processes was conducted as a key element in the visioning phase of the MTP development. Other local planning processes that may affect the development of a transportation vision for an area may include historic preservations plans, conservation plans, and emergency preparedness plans.

For the Monroe Urbanized Area the study team consulted the Monroe Comprehensive Plan, the West Monroe/West Ouachita Community Vision, the D'Arbonne National Wildlife Refuge Comprehensive Conservation Plan, and the Monroe Historic Preservation Plan (although this document has not yet been adopted by the City of Monroe).

Forecast Demographics

Besides addressing current needs, the long-range planning process that produces the MTP Update also accounts for anticipated future needs. More people and more jobs produce more trips on the transportation system. The amount and location of these trips may require the building of more facilities, better management of existing facilities, or other strategies to keep the system operating smoothly.

Parish-level data were obtained from Louisiana State University (which provides population forecasts for the parishes of Louisiana) as well as private vendors. Using information from local planning officials as well as existing plans and studies, future growth was allocated to traffic analysis zones (TAZs).

Stakeholder Consultation

SAFETEA-LU requires that MPOs consult with state and local agencies responsible for land use management, natural resources, environmental

protection, conservation, and historic preservation concerning the development of a long-range transportation plan. Many of these agencies are included in the MPO's Technical Advisory Committee, or MPO staff members regularly participate in coordination processes hosted by other agencies. In addition, to this ongoing consultation process, an effort was made by the study team to consult with any other agencies not regularly consulted to gather their input regarding the transportation system.

Develop Alternative Growth Scenarios for the Region

Once data regarding current conditions and anticipated growth are gathered, alternative growth scenarios are prepared for the region. These alternative scenarios provide a baseline for discussion regarding changes to the transportation system. Different scenarios require different transportation solutions.

Public Participation Workshops

An outreach and advertising campaign was conducted with two objectives. First, to invite as large and diverse a group of stakeholders as possible to participate in the public visioning meetings and second, to educate the public on the metropolitan planning process including the public's roll in providing community vision and values to guide the MTP planning process. Starting with the SAFETEA-LU planning emphasis areas, the public was asked

to determine what criteria should be used in making decisions. The public was then asked to rank the criteria based on community needs and values. At the public meetings, public participation specialists worked with the community to help people provide meaningful input regarding potential land use scenarios and future multi-modal transportation system options to serve and be integrated with the land use, economic development, and other community plans.

Establishment of Vision, Goals, and Assessment Criteria

After the data, information, professional opinion and public input was collected, the study team crafted the received input and technical resources into a recommended vision, set of goals and objectives, and list of evaluation criteria that were reviewed and adopted by the MPO Policy Committee.

MTP Vision and Goals

VISION: The quality of life in the Monroe Urbanized Area is supported by a transportation system that supports the local economy and provides users with safe, convenient, and affordable transportation choices to desired destinations.

The vision and goals developed for the MTP are the result of a collaborative effort between the Policy Committee, Technical Committee, and the public. The vision statement at left reflects a collective vision that defines important transportation issues for the Monroe Urbanized Area.

The following goals for the MTP provide the framework for implementing the vision:

- Use the existing transportation system efficiently and maintain it to maximize public investment.
- Expand non-driving transportation options such as public transportation, bicycling, and walking.
- Develop a transportation system consistent with local social, land use, economic, energy, and environmental plans.

The method by which the vision and goals were developed is described in Chapter 3 of this document.

IDENTIFICATION OF NEEDS

The third step in the MTP planning process was the determination of the transportation needs of the community over the next 25 years. This can be done using a variety of methods. One method uses computer modeling that represents the roadway system. Another method evaluates future transportation demand based on various types of travel behavior such as tourist travel, travel to work, etc. For non-highway projects, available needs assessments and professional judgment were used to conduct a deficiencies analysis.

CONDUCT DEFICIENCIES ANALYSIS TO DEFINE NEED

A travel demand model is used to provide a quantitative component in the analysis of the impact of potential future roadway improvements. The current travel demand model was calibrated and validated against observed data. By assuring the ability of the model to accurately represent current conditions, it can be used to evaluate future scenarios. The travel demand model can be used to see how the transportation system will function if the forecasted population and employment occurs and no new roads are built, beyond those already in progress.

PROJECT DEVELOPMENT/IDENTIFICATION

Once these other strategies were considered and/or adopted, projects to build new facilities or purchase new equipment were considered. Working from the results of technical planning studies; highway and corridor studies; ongoing management systems analysis; consultation with local traffic engineers, planners, and other stakeholders, a slate of candidate projects was developed and then assembled into staged improvements.

INFRASTRUCTURE INVESTMENT STRATEGIES

Some identified needs can be addressed by building new facilities such as new roads and bridges. Others projects may consist of widening existing roads, building a transit transfer facility, or providing a grade-separated crossing. The Monroe Urbanized Area 2035 MTP Update includes a range

of projects designed to increase, improve, and maintain the current infrastructure.

Operations and Management Strategies

It is not possible to address all identified needs by building new facilities. Not only has there never been enough money to meet all identified needs, but some identified needs are best met by the adoption of strategies other than building something new. Therefore, the MTP planning process included consideration of preservation of the existing system through preventative and rehabilitative maintenance; the institution of a transportation system management plan; the inclusion of an access management plan; the development of a pavement management plan; and the incorporation of travel demand management strategies.

Effectiveness of Staged Improvement Program

Once a slate of projects is developed to address identified needs a variety of methods are used to assess how well these projects meet these needs and meet community goals. This is done using quantitative criteria (the results of the model) as well as qualitative criteria – such as increasing security, or supporting economic development.

Analysis of Projects Based on Quantitative Criteria

These packages of highway improvements were then coded into the travel demand model network. Using the travel demand model, these staged improvements were then tested to determine what impact they had in addressing the identified deficiencies of the transportation system. Model results include measures related to how many vehicles are moving along a facility and how quickly.

Analysis of Projects Based on Qualitative Criteria

Qualitative criteria are also used to evaluate projects. These include criteria developed during the visioning process as well as professional judgment. Qualitative criteria include environmental justice, environmental mitigation,

economic development, safety, security, human service transportation coordination, impact on nonmotorized mode users, and freight. These criteria are particularly important for projects that cannot be modeled, such as traffic signal improvements and projects related to nomotorized modes.

PROJECT EVALUATION RESULTS

The study team presented a list of projects derived from the weighted criteria and quantitative analysis to the MPO Policy Committee as part of the consultation process. At this point, the MPO Policy Committee had the opportunity to either accept or revise the methodology used by the study team to weight the criteria.

The quantitative performance measures provided by the travel demand model were used in conjunction with the qualitative measures developed through the visioning process to create a prioritized list of projects.

Upon approval of the methodology, the input and technical analyses listed above were reviewed by the study team. The team then created a list of candidate projects that were submitted for financial analysis.

FINANCIAL ANALYSIS AND CONSTRAINT

Fiscal achievability is a significant priority in determining the final list of improvements to be included in the MTP. Not only does SAFETEA-LU mandate that the MTP be fiscally constrained (i.e. only include projects that can reasonably be expected to have adequate funding), but many times there is also a requirement that local communities provide matching funds out of limited, and often dwindling, local revenue streams in order to receive federal funds. The process for establishing both estimated costs and revenues is critical for the creation of a viable long-range transportation plan.

Develop Revenue Projections

A revenue projection was developed that identified the anticipated revenue stream for local, state and federal funds. This revenue stream was also indexed using economic indicators.

Develop a Cost for Each Project Selected in Year-of-Expenditure Dollars

A cost was calculated for each project based on historical project cost by project type. Cost is defined as the total project cost, which includes: planning elements (e.g. environmental studies and functional studies); engineering costs (e.g. preliminary engineering and design); preconstruction activities (e.g. line and grade studies, right-of-way acquisition and corridor preservation); construction activities, and contingencies. These costs also include an inflation factor so that costs can be determined based on year-of-expenditure dollars.

Create a Fiscally Constrained Plan

Once a list of candidate projects is selected, their costs are calculated, and an income stream is projected.

Conduct a Fiscal Constraint Analysis

A fiscal constraint analysis was performed that compared the anticipated year-of-expenditure dollar costs to the year of receipt anticipated to determine if sufficient and timely financial resources were likely to exist to fund the proposed program of projects.

Selection of a Proposed Package of Projects

Based on costs and revenue projections, a package of fiscally constrained projects anticipated to best meet community defined goals and objectives was selected by the study team and then submitted to the MPO Policy Committee for approval.

ADOPTION PROCESS

PUBLISH LIST OF PROPOSED PROJECTS.

The proposed list of projects was published for public review and comment.

SOLICIT PUBLIC INPUT

Public input on the proposed list was solicited through both the MPO website and through public meeting(s).

EVALUATE PROPOSED LIST BASED ON PUBLIC INPUT

Any further analysis requested by the MPO Policy Committee based on public comment was conducted. All technical analysis was rerun on the changes made to the adopted package as a result of public input, and the same metrics were reported as those reported on the original package presented to the public.

ADOPT FINAL LIST OF PROJECTS

The MPO Policy Committee adopted a final fiscally constrained list of projects and approved the MTP.

LADOTD AND FHWA/FTA REVIEW AND COMMENT

The MTP was forwarded to the Louisiana Department of Transportation and Development, the Federal Highway Administration, and the Federal Transit Administration for their review and comment.

2. Assessing Current Conditions

The initial step in creating this Monroe Urbanized Area MTP was an assessment of current conditions. This chapter describes the efforts undertaken to inventory the current transportation infrastructure, and understand current conditions affecting the Monroe Urbanized Area, which includes Monroe, West Monroe, Richwood and parts of Ouachita Parish.

In June of 2009, a study team was established to begin the process of developing the Monroe Urbanized Area 2035 MTP Update. The study team consisted of the Monroe Urbanized Area MPO Technical Advisory Committee, the MPO staff, and a professional planning and engineering consulting team. The role of the study team was to provide technical expertise and professional judgment throughout the process of creating the MTP update.

In order to create a baseline from which to start the planning process, the study team gathered existing data, plans, reports, and institutional knowledge about land use patterns, economic development goals, demographic trends, environmental issues, and the various modes of the transportation system of the study area. From this information, the following picture of the current conditions of the study area was created.

THE EXISTING TRANSPORTATION SYSTEM

A baseline picture of all infrastructure facilities for the various modes of transportation in the community was created by the study team. As shown in the maps on the following pages, that baseline included highways, rail, ports, airports, and transit (see maps on following pages).

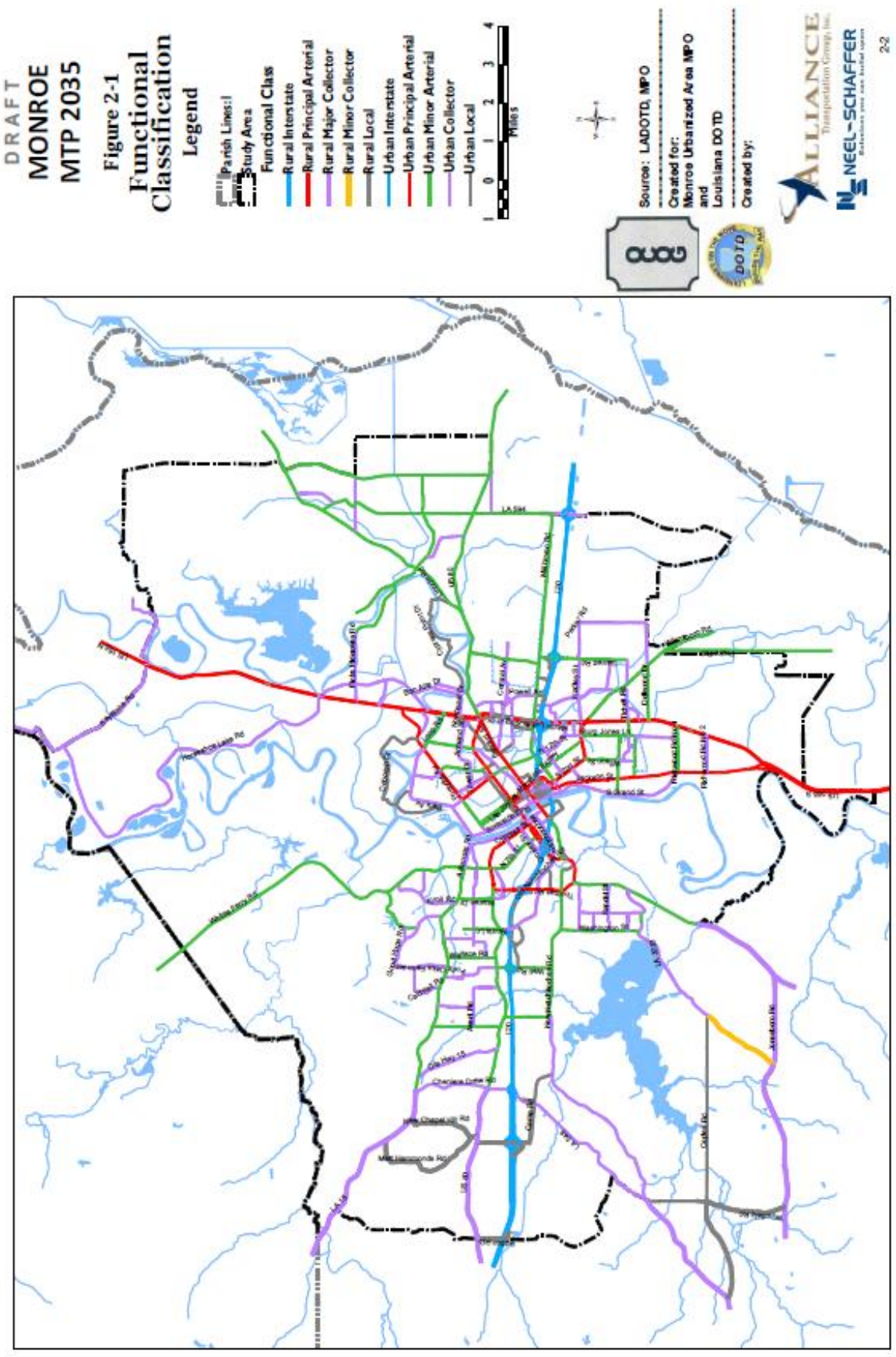
In addition, a baseline of the level of service was created highways and major roads. The MPO's current travel demand model was updated with the latest planning variables and information to conduct future "what if" scenarios on roadway projects. Travel demand model updates and methodology are discussed in Chapter 3.

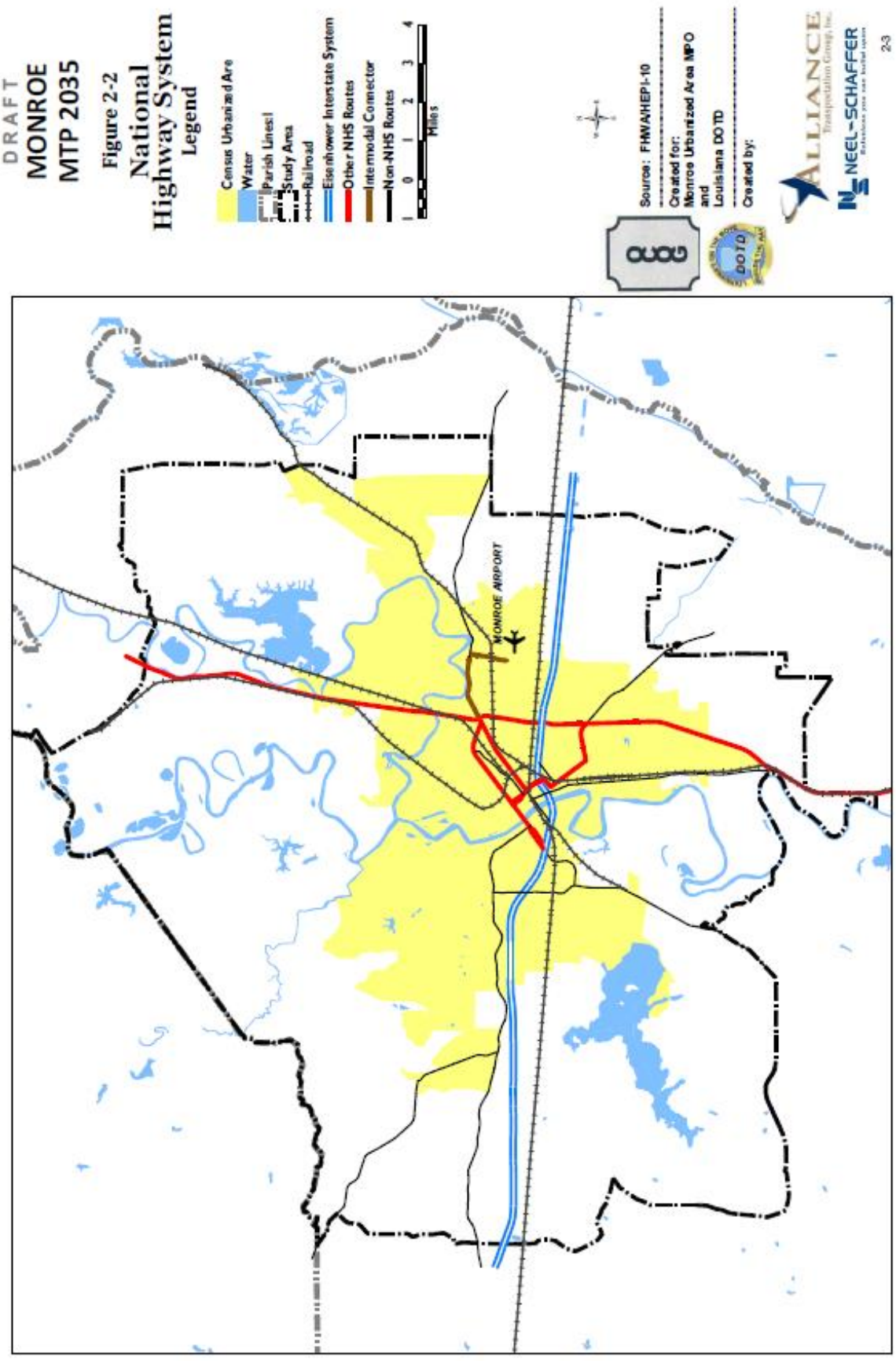
The City of Monroe is served by the Monroe Transit System (MTS). It provides fixed route and demand-response paratransit service. There are currently twelve fixed routes that provide bus service Monday through Friday from 6:00 am to 6:45 pm – with some variation by route. Eleven routes operate on Saturday. MTS also provides a downtown trolley service that offers weekday commuter service, lunchtime express service, and weekend touring. They also provide service to the Vo-Tech via a flyer service when classes are in session. The downtown terminal is the origin and terminus for all routes.

Rural transit in western Ouachita Parish is provided by West Ouachita Public Transportation which is operated by the City of West Monroe. Twelve vehicles are available to provide demand response and subscription deviated public transportation (a route based on subscription service that deviates for non-subscription riders). This service is offered to the residents of the western portion of Ouachita Parish weekdays from 7 am to 5 pm.

Transit for the elderly, throughout the parish, is provided by the Ouachita Council on Aging, although they are not the official rural transit provider for the area. They coordinate with the Governor's Office of Elderly Affairs regarding evacuations.

Transit for the disabled is provided by the Ouachita Association of Retarded Citizens (ARCO). ARCO serves all of Ouachita Parish.


DRAFT
MONROE
MTP 2035
Figure 2-1
Functional Classification
Legend
Parish Lines
Study Area
Functional Class
Rural Interstate
Rural Principal Arterial
Rural Major Collector
Rural Minor Collector
Rural Local
Urban Interstate
Urban Principal Arterial
Urban Minor Arterial
Urban Collector
Urban Local
0 1 2 3 4
Miles
Source: LADOTD, MPO
Created for:
Monroe Urbanized Area MPO
and
Louisiana DOTD
Created by:
ALLIANCE
NEEL-SCHAFFER
2-2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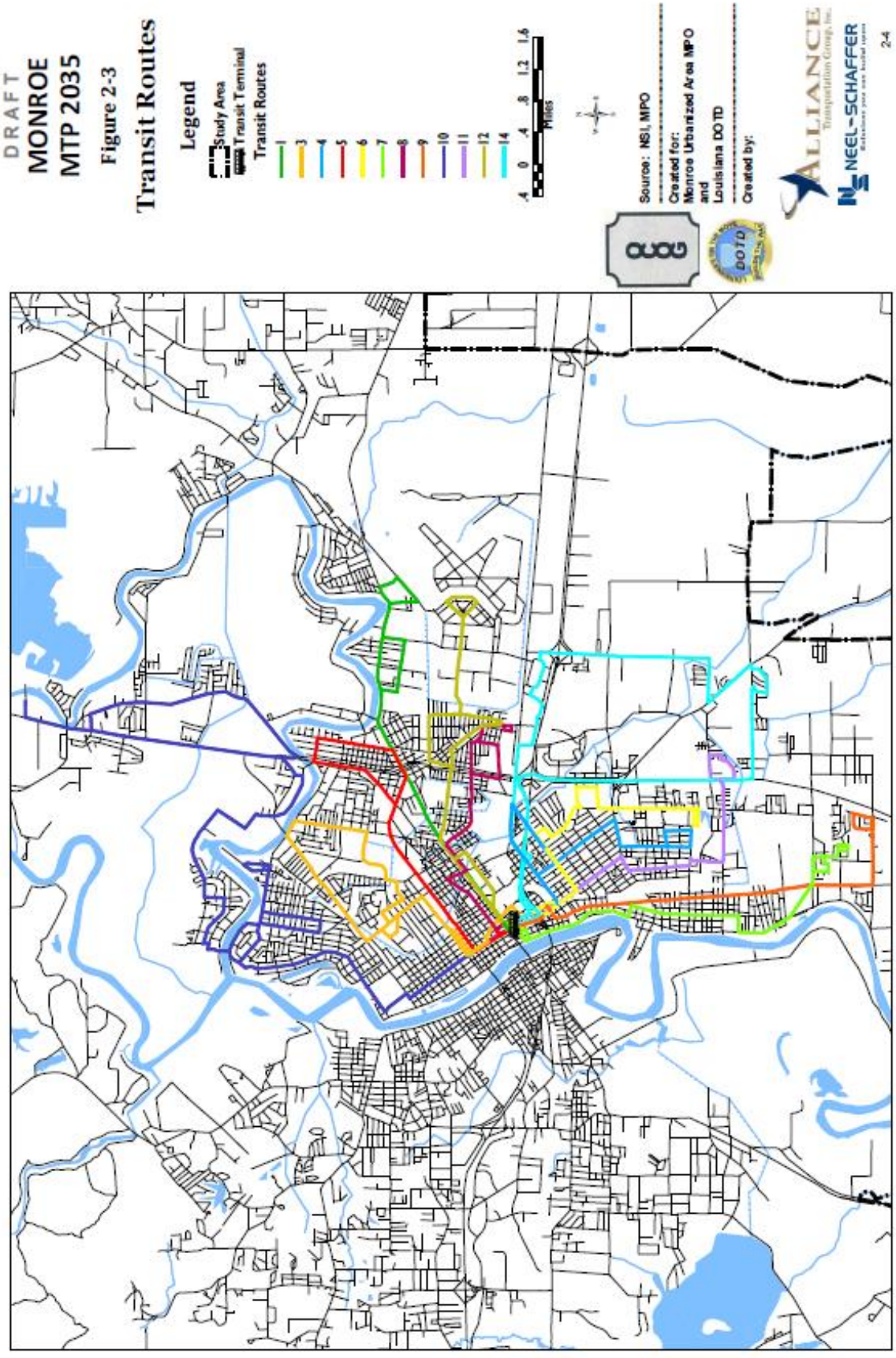
MONROE
MTP 2035
Figure 2-2
National
Highway System
Legend
Census Urbanized Are
Water
Parish Lines
Study Area
Railroad
Eisenhower Interstate System
Other NHS Routes
Intermodal Connector
Non-NHS Routes
0 1 2 3 4
Miles
Source: FHWA/HEPI-10
Created for:
Monroe Urbanized Area MPO
and
Louisiana DOTD
Created by:
ALLIANCE
Transportation Group, Inc.
NEEL-SCHAFFER
2-3
MONROE AIRPORT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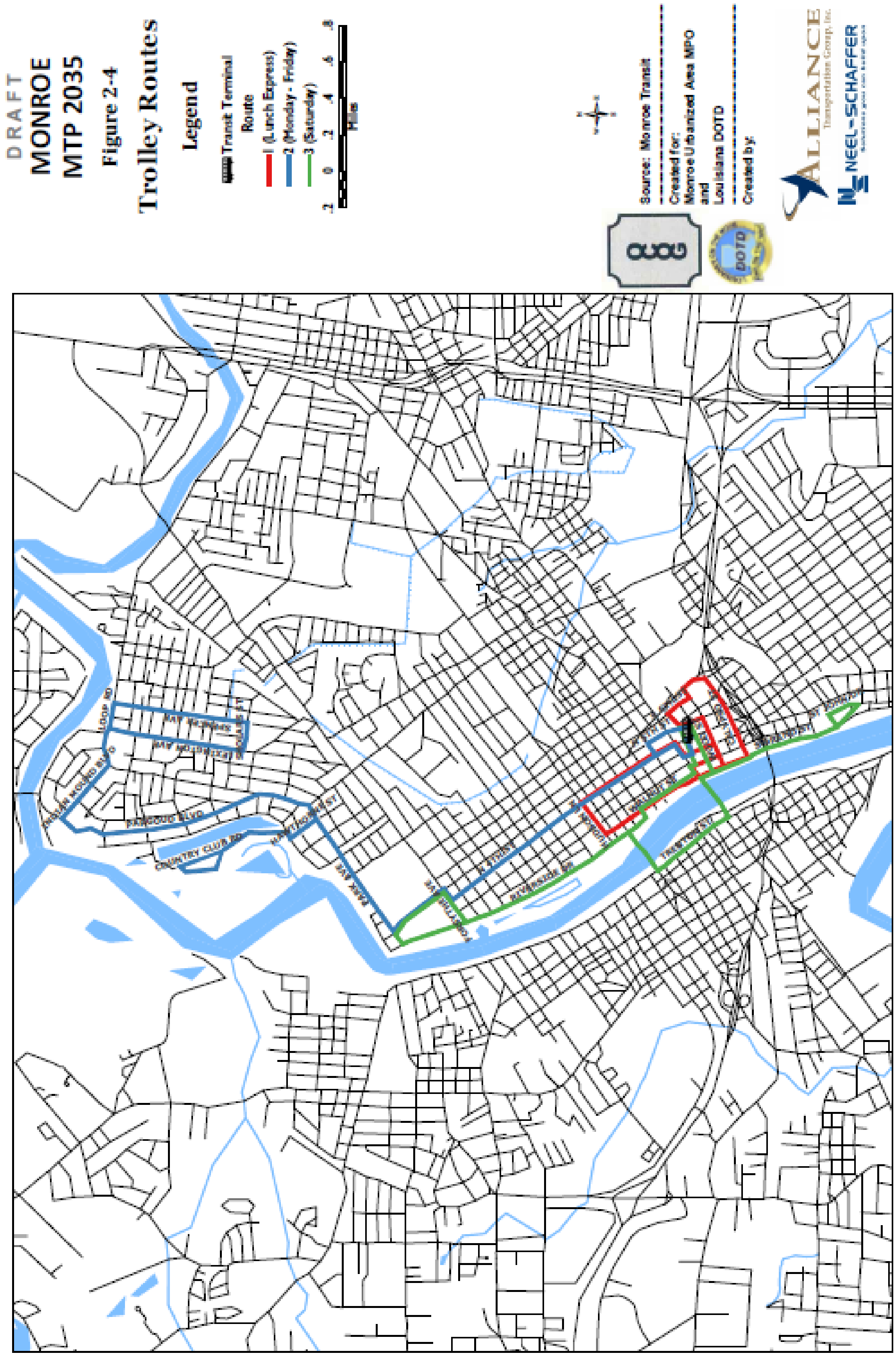
MONROE
MTP 2035
Figure 2-3
Transit Routes
Legend
Study Area
Transit Terminal
Transit Routes
1
3
4
5
6
7
8
9
10
11
12
14
Miles
Source: NSI, MPO
Created for:
Monroe Urbanized Area MPO
and
Louisiana DOTD
Created by:
ALLIANCE
NEEL-SCHAFFER
2-4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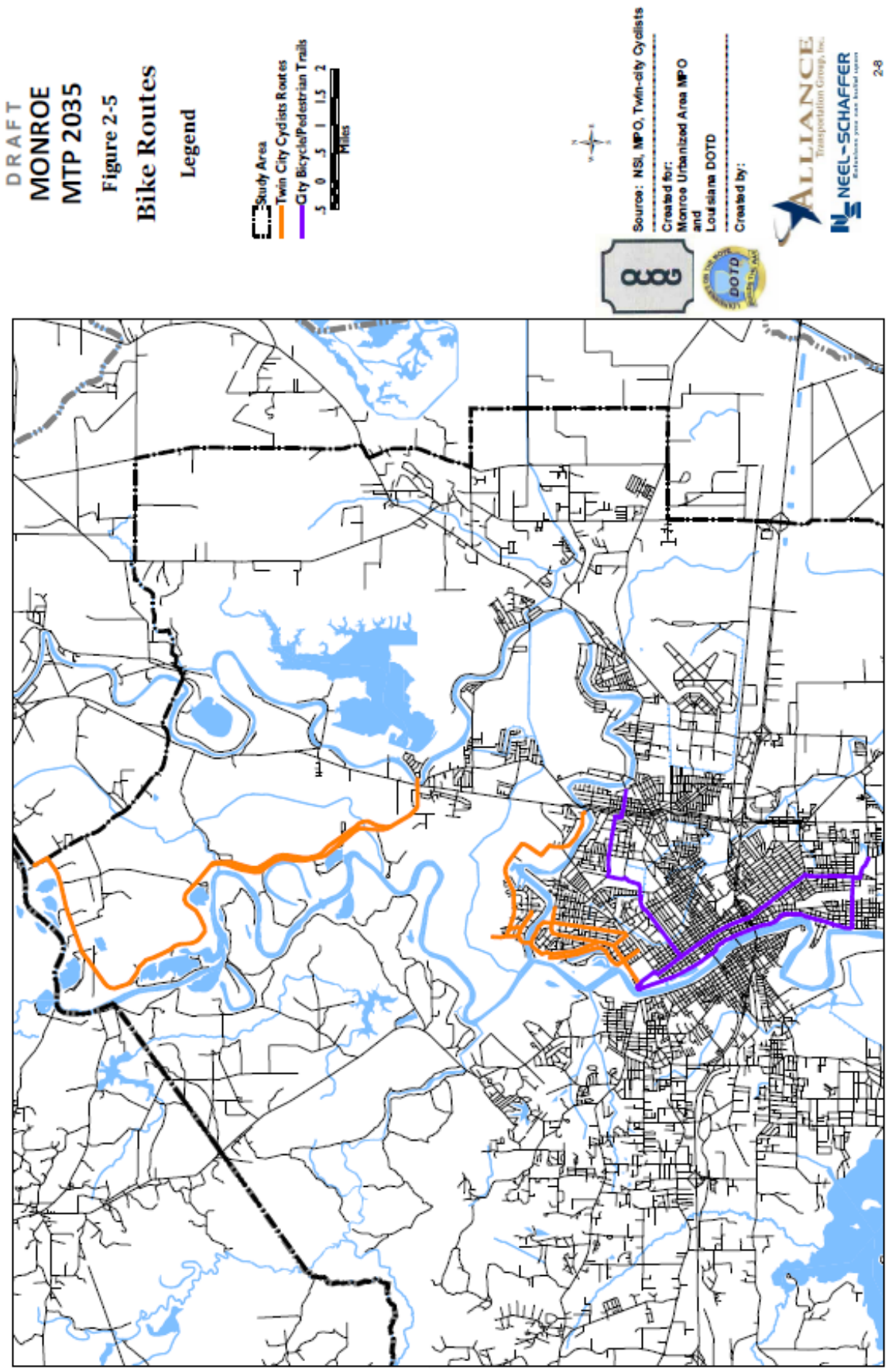
MONROE
MTP 2035
Figure 2-4
Trolley Routes
Legend
Transit Terminal
Route
1 (Lunch Express)
2 (Monday - Friday)
3 (Saturday)
Miles
Source: Monroe Transit
Created for:
Monroe Urbanized Area MPO
and
Louisiana DOTD
Created by:

Overall, the availability of bicycle and pedestrian facilities, within the study area is limited. However, in the past three decades various progressive steps have been taken to improve bicycle and pedestrian access within the region. In 1986, the City of Monroe adopted a Bicycle and Jogging Trail Plan; the city is interested in updating its current plan, but a firm date has not been set. The City of Monroe also adopted subdivision ordinances, which require the installment of sidewalks on each side of a street unless the planning commission deems adding sidewalks impracticable.

As a result of these progressive steps, trails along Spencer Avenue, Riverside Drive, and Lexington Avenue were constructed; and shared use paths along Ouachita River and Bayou Desiard were also developed. In November 2009, the City designated their first official bike routes. Both routes originate at Forsythe Park; one ends at the Louisiana Purchase Gardens and Zoo, and the other route ends at the University of Louisiana at Monroe.

The local bicycle club, Twin City Bicyclists, provides volunteers for local events such as the Special Olympics and a Bike fair. They also organize local rides and have several routes that they use (see Figure 2-5).

Currently, West Monroe and Richwood do not have official bicycle and pedestrian plans. However, the City of West Monroe's Restoration Park, a wetland preserve, provides multiple trails for pedestrian recreational use. Bicyclists are only permitted to use hard road surfaces within the wetland preserve.


DRAFT
MONROE
MTP 2035
Figure 2-5
Bike Routes
Legend
Study Area
Twin City Cyclists Routes
City Bicycle/Pedestrian Trails
.5 0 .5 1 1.5 2
Miles
Source: NSI, MPO, Twin-city Cyclists
Created for:
Monroe Urbanized Area MPO
and
Louisiana DOTD
Created by:
ALLIANCE
Transportation Group, Inc.
NEEL-SCHAFFER
2-8

Key proponents of bicycle and pedestrian access in the study area include Monroe Advocates for Safe Streets (M.A.S.S.), Twin City Cyclists Club, and the Rotary Club. The M.A.S.S. is a nonprofit organization that works with community partners to promote alternative multi-use transportation such as biking and walking, and educating the public on safe interactions between various transportation modes. Monroe's Rotary Club is a membership-based organization that promotes improved physical health for youth. Both the Monroe Rotary Club and the M.A.S.S. were influential in encouraging the City of Monroe to designate the two Forsythe Park routes. The Twin Cities Cyclists are also a membership-based organization, which promotes cycling, walking and swimming. This organization sponsors and organizes many triathlons, group cycling trips, and races throughout the region.

The Monroe Urbanized Area is served by the Monroe Regional Airport. This airport was the original home of Delta Airlines. It started out during World War II as a navigation training school. In 1949 ownership was transferred to the City of Monroe.

The airport currently has three runways. A new terminal is under construction with plans to open in 2011. It will add three more gates to the airport. The airport provides direct flights to Atlanta, Dallas-Fort Worth, Houston, and Memphis. Cargo and passenger service are provided by the airport.

For major water service, the Monroe Urbanized Area is served by the Greater Ouachita Port. In 2008 it moved over 1.1 million tons of cargo. Products moved through the Greater Ouachita Port include aggregates, oil and fuel, fabricated steel, and containers. This is the only port between Dallas, TX and Jackson, MS where containers can be moved off and on barges.

CURRENT LAND USE PLANNING & ZONING

Changes in the transportation system and land use are interrelated. Therefore, it is important that land use be taken into consideration in planning for the future transportation needs of the community. Transportation infrastructure is necessary for growth in new areas and for the maintenance of growth in established areas. When the transportation system is inadequate, efficient land use can be negatively impacted. Therefore, developing an accurate picture of current conditions was undertaken by the study team as part of the baseline from which future forecasts of land use and transportation demand could be made.

The study team met with planners and elected officials from Ouachita Parish and the Cities of Monroe and West Monroe to discuss current zoning and land use planning efforts. Three relevant efforts were identified. The City of Monroe has recently completed a comprehensive plan (West Monroe intends to begin the comprehensive planning effort soon). The City of West Monroe has recently completed the West 20/20 plan, a visioning plan for West Ouachita Parish and West Monroe. In addition, West Monroe was recently part of the Louisiana Development Ready Communities pilot program provided by the Louisiana Department of Economic Development. As part of this program a consultant evaluated the assets and challenges of West Monroe regarding economic development. Following are descriptions of these planning documents.

AREA PLANNING DOCUMENTS

In October West 20/20 released their vision plan for West Monroe and West Ouachita Parish. The resulting plan offers recommendations regarding branding, business attraction and development, community development, education, governmental, leadership, and quality of place. This seven month process included meetings with representatives from the business, public, and community sectors. These meetings were conducted as focus groups, a town hall meeting, and an action plan workshop.

Several initiatives pertain to this MTP Update. These initiatives are:

- Improve traffic flow/public transportation,
- Create a master plan,
- Strengthen zoning,
- Create an industrial park, and
- Increase interaction [between the education sector and the] community.

Many of these key initiatives are under development at this time.

In December 2009 as part of the Louisiana Development Ready Communities pilot program (funded by Louisiana Economic Development) a plan assessing West Monroe's assets and challenges was prepared. The city's attractiveness to business was assessed in seven areas: access to markets, labor, access to resources, local economic development program, access to space, government impact on business, and quality of place. The following transportation-related assets were identified:

- Centrally located for major regional market
- Centrally located for national market
- Interstate highways
- Rail service
- Port facilities
- Scheduled airfreight services
- Within one hour of commercial air passenger service
- General aviation airport capable of handling corporate aircraft
- Condition and maintenance of local streets
- Level of traffic-carrying capacity of local streets and highways
- Zoning policies

The only transportation –related challenge identified was: well-positioned to serve international markets.

In November of 2008 the City of Monroe completed a comprehensive planning effort that resulted in a plan covering land use, housing, economic

development, the environment, transportation, infrastructure, community facilities, parks, and historic and cultural resources. This was a year long process that included meetings with officials, two mail out surveys to a random selection of residents, interactive public meetings, focus groups, and a review of relevant local documents. The final transportation findings are listed below.

- The Kansas Lane Project included a recommendation to upgrade and widen the interchange with Kansas Lane under the Kansas/Garrett/I-20 interchange.
- To facilitate commercial development along the I-20 corridor, it was recommended that a traffic signal at the intersection of Nutland Road and Millhaven Road be installed. Additional improvements in this area could include widening of Nutland Road; realignment of US 165 service road at Millhaven Road; and realignment of Booth Street to connect with US 165.
- Projects identified in the Monroe Metropolitan Transportation Plan should be implemented to correct forecasted deficiencies for year 2010. In addition, segments of roadway that were forecasted as reaching severe deficiency in capacity in year 2030 should be considered for implementation.
- The existing bus terminal and transit operations center are in need of renovation to facilitate efficient operations. Also, the Ouachita Port was identified as being in need of improvements. The respective improvements should occur to better the intermodal connections within Monroe (public transit/passenger railroad/airport) and to facilitate better movement of freight in and out of the Port.
- Capacity deficiencies are forecasted for future travel demand on the east-west arterials in Monroe. LA 616, US 80/15 and LA 15 should be considered for expansion to facilitate forecasted travel demand on these roadways. Signalization should be considered on urban roads to maximize system efficiency on and within these roadways.

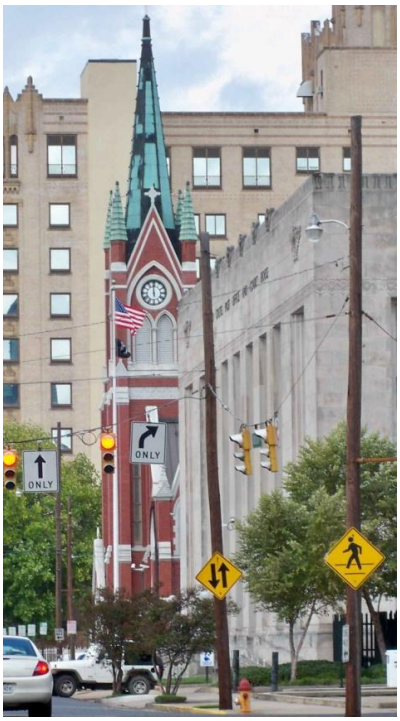
- The Ouachita River crossings need to be reviewed and considered for making corrections to maximize the efficiency of facilitating traffic movement across the River.
- The Monroe Transit System should consider development of a regional transportation plan to make the system more efficient for moving people in and around the greater Monroe area.
- At-grade rail crossings should continue to be reviewed by the City Engineering Department to seek ways to either eliminate the crossings and/or consider alternatives to the at-grade crossing.
- Traffic signalization and better facilitation of traffic are needed in the area of the Monroe Regional Airport. Access from I-20 is congested due to traffic control devices that are not synchronized; at-grade railroad crossings; and slopes of existing roadways causing traffic facilitation problems.
- The City needs to conduct a survey of all city streets and determine which warrant sidewalks. Further, connectivity to other neighborhoods and nearby parks via sidewalks should be researched and implemented to instill a sense of urbanism and overall safety for pedestrians and school children.
- Additional parking is needed in the area of the courthouse complex and St. Francis Medical Center.

When members of the transportation focus group were asked what the City's transportation focus should be over the next 20 years, participants suggested:

- constructing both a north and a south bridge,
- more interchanges and overpasses,
- new airport/airport terminal,
- a loop within Monroe that's tied to a loop for the entire parish,
- better north/south access,
- more buses that run later and to more areas,
- a fully operational Ouachita Port,

- more sidewalks and wider streets in south Monroe,
- connections to Amtrak,
- decreasing traffic deficiencies on Highway 165, and
- a local option gasoline tax.

HISTORIC PRESERVATION



There are seven historic districts within the region, five are designated as Historic Districts by local ordinance and two are National Register Historic Districts (see Figures 2-6 and 2-7). The various districts overlap each other.

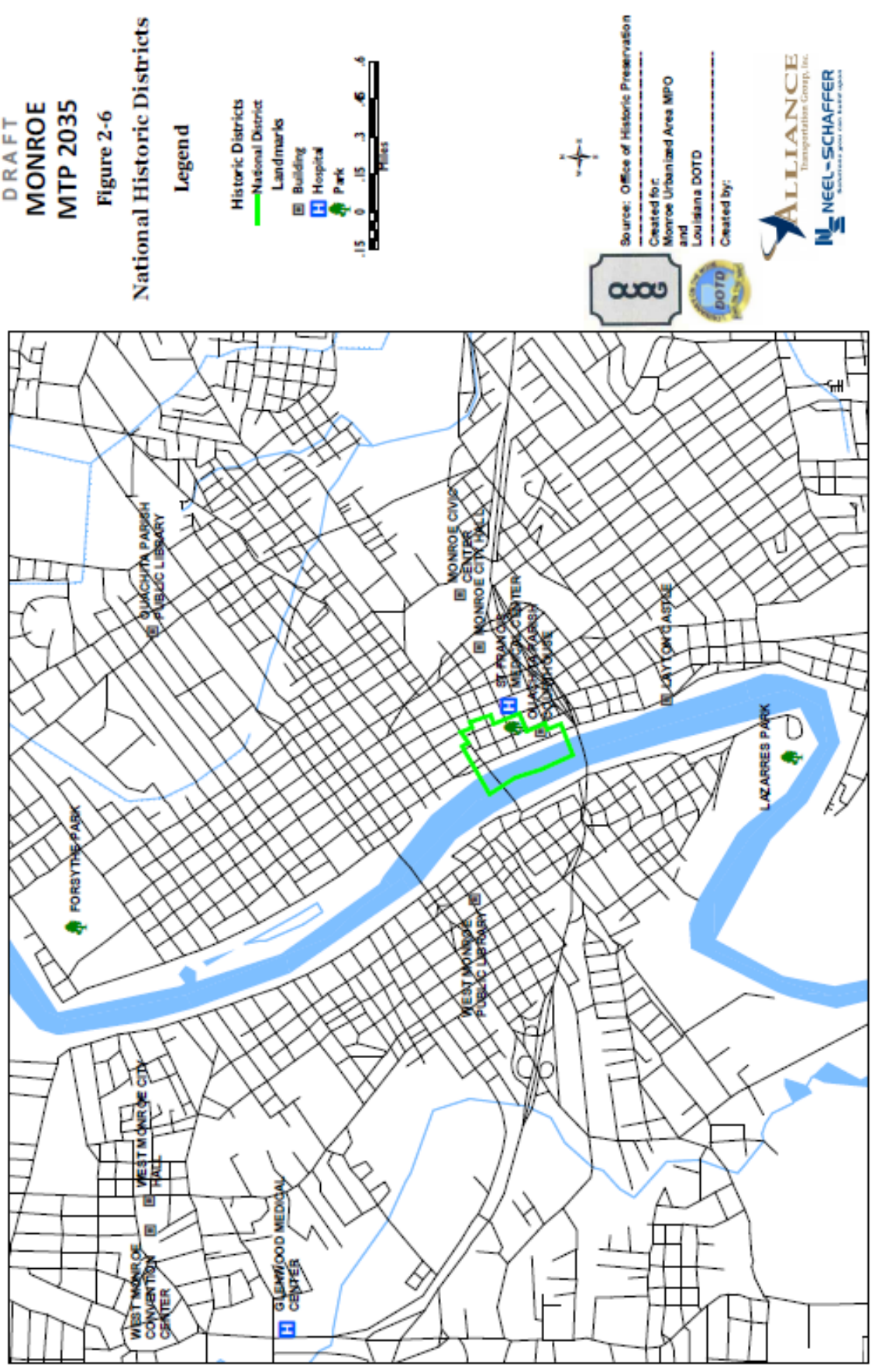
The three locally designated Historic Districts are:

- Old Cottonport Historic Preservation District,
- Don Juan Filhiol Historic Districts,
- Henry Bry Historic District, and
- Louis De Alexander Breard Historic District.

The two National Registered Districts are:

- Residential Historic District and
- Downtown Historic District.

The Old Cottonport Historic Preservation District is in downtown West Monroe. The Don Juan Filhiol Historic Districts are in each city's downtown and meet in the middle of the Ouachita River. The rest of the districts are located in the downtown area of the City of Monroe and the preservation and enhancement of these historic districts is part of an overall economic development strategy for the revitalization and growth of both cities.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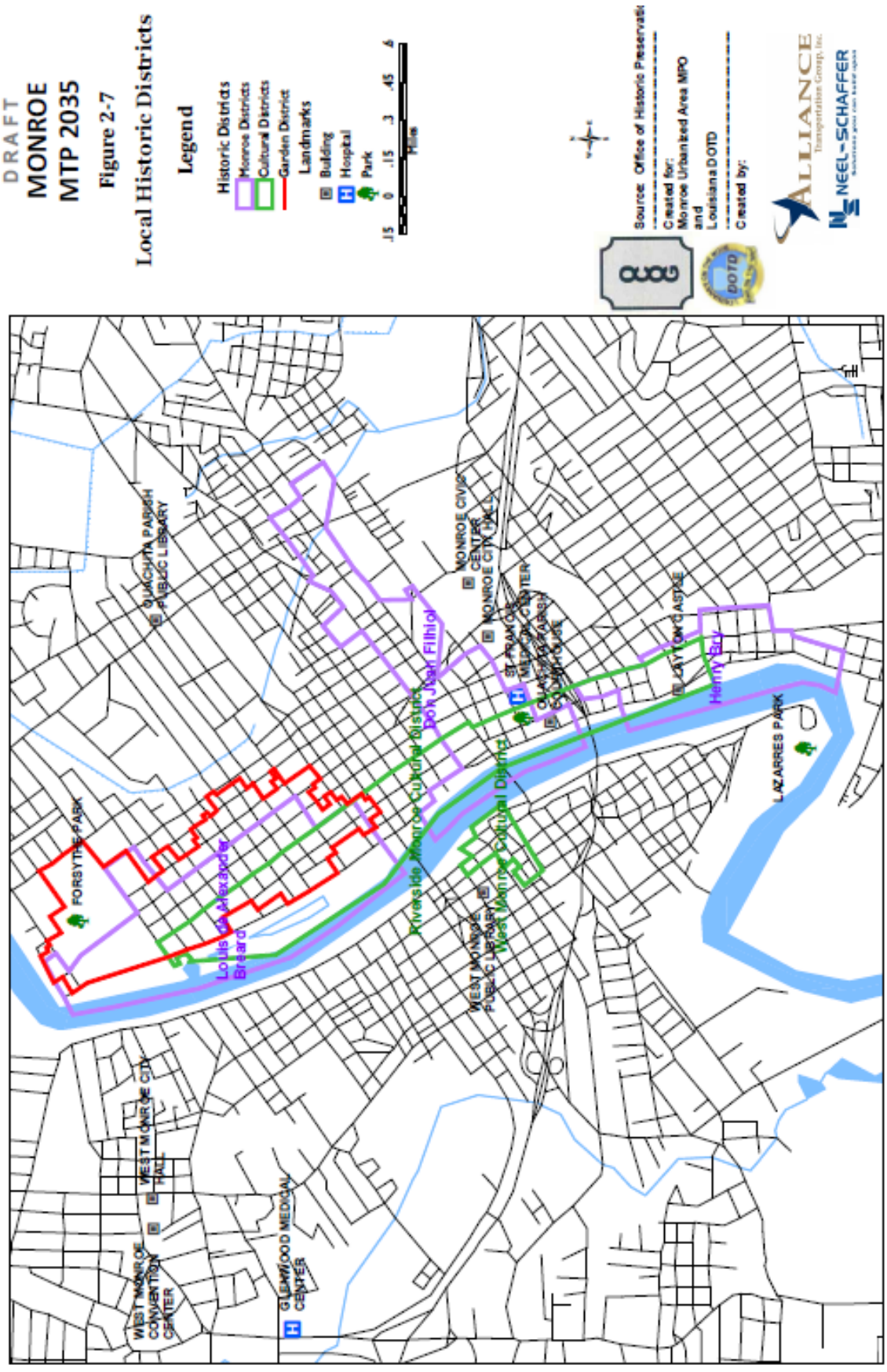
MONROE
MTP 2035
Figure 2-6
National Historic Districts
Legend
Historic Districts
National District
Landmarks
Building
Hospital
Park
.15 0 .15 .3 .6 .9
Miles
Source: Office of Historic Preservation
Created for:
Monroe Urbanized Area MPO
and
Louisiana DOTD
Created by:
ALLIANCE
NEEL-SCHAFFER
OUACHITA PARISH PUBLIC LIBRARY
MONROE CIVIC CENTER
MONROE CITY HALL
ST. FRANCIS MEDICAL CENTER
OUACHITA PARISH COURTHOUSE
CHATEAU DE LA CASTLE
LAZARRES PARK
FORSYTHE PARK
WEST MONROE PUBLIC LIBRARY
WEST MONROE CITY HALL
GLENWOOD MEDICAL CENTER
WEST MONROE CONVENTION CENTER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MTP 2035
Figure 2-7
Local Historic Districts
Legend
Historic Districts
Monroe Districts
Cultural Districts
Garden District
Landmarks
Bulding
Hospital
Park
Miles
Source: Office of Historic Preservati
Created for:
Monroe Urbanized Area MPO
and
Louisiana DOTD
Created by:
ALLIANCE
NEEL-SCHAFFER
Riverside Monroe Cultural District
Don Juan Filhiol
Louis Gil Alexander
Bregard
West Monroe Cultural District
Henry Bry
FORSYTHE PARK
OUACHITA PARISH PUBLIC LIBRARY
MONROE CIVIC CENTER
MONROE CITY HALL
ST. FRANCIS MEDICAL CENTER
CLAIBORNE BUILDING
LAYTON CASTLE
LAZARRES PARK
WEST MONROE PUBLIC LIBRARY
WEST MONROE CITY HALL
WEST MONROE CONVENTION CENTER
GLENWOOD MEDICAL CENTER

A Historic Preservation Plan, developed in 2008, was sponsored by the Louisiana department of Culture, Recreation, and Tourism, the North Delta Regional Planning and Development, District, and the Downtown Economic and Development District. As of April 2010 the plan had not been adopted by the City of Monroe.

Besides covering design guidelines for facades, the plan covers the design of streetscapes and sidewalks. The plan calls for brick sidewalks, park benches, landscaping, trash cans, and antique-style lighting.

The plan supports several improvement projects planned for the downtown area. These include:

- the building of a retail riverwalk from Louisville Ave. to the railroad bridge;
- construction of a 147-slip marina;
- the promotion and preservation of the vital elements of Museum Row;
- the building of a 500-space parking garage; and
- beautification of streets in the historic districts.

ENVIRONMENT

Environmental issues can both affect the operations and maintenance of the transportation system and create barriers that restrict transportation options. Waterways, flood zones, wetlands, endangered species habitats, lack of bedrock, poor soils, air quality, steep grades (not usually found in Louisiana), and park lands, not to mention hurricanes, climate change, and concrete buckling droughts are all examples of the kind of environmental issues that can negatively impact the transportation system.

A baseline of the environmental constraints on the transportation system was developed by the study team using data indicating waterways, hydric soils, threatened and endangered species, and protected sites.

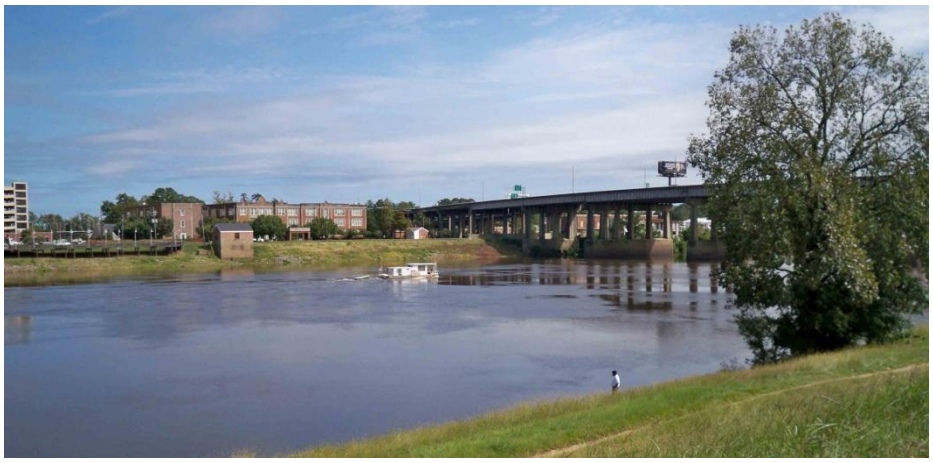
WETLANDS

Map of the Ouachita River Watershed

The primary waterway in the study area is the Ouachita River. The Ouachita River originates in west central Arkansas along the northern slope of the Ouachita Mountain. The 605-mile-long river reach extends through southeast Arkansas and northwest Louisiana. At the confluence of the Tensas, Ouachita and Little River in Jonesville, Louisiana, the combined stream flow continues as the Black River for several miles until it joins the Red River, which flows into both the Atchafalaya River and the Mississippi River, via the Old River Control Structure. The river and its contributory streams form the backdrop of the regions natural and human environments.

Section 404 of the Clean Water Act establishes a program to regulate the discharge of dredged and fill material into waters of the United States, including wetlands. Activities in waters of the United States that are regulated under this program include fill for development, water resource projects (such as dams and levees), infrastructure development (such as highways and airports), and conversion of wetlands to uplands for farming and forestry.

The basic premise of the program is that no discharge of dredged or fill material can be permitted if a practicable alternative exists that is less damaging to the aquatic environment or if the nation's waters would be significantly degraded. Figure 2-8 shows the locations of the waterways and hydric soils in the study area.



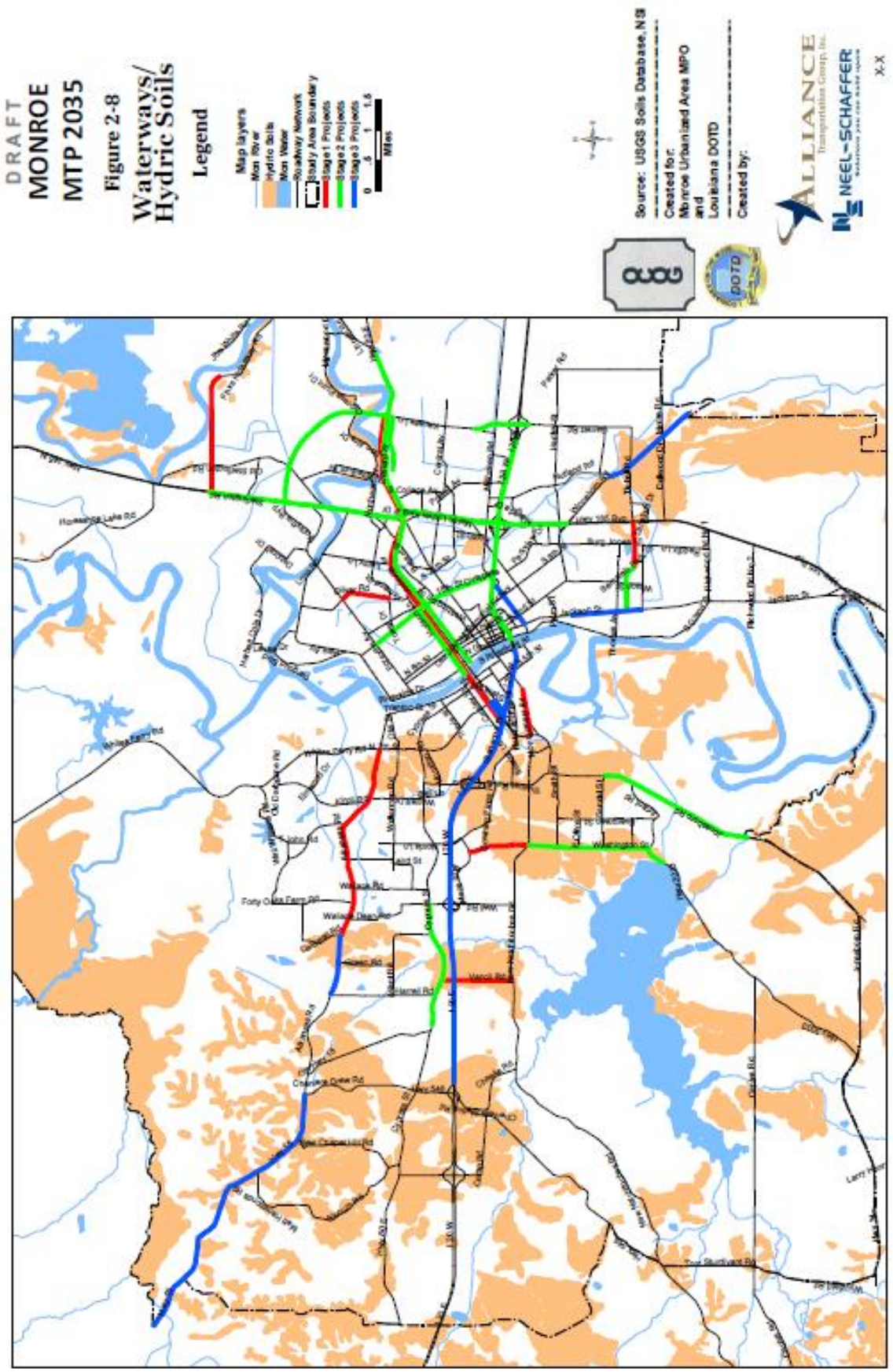

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Figure 2-8
Waterways/
Hydric Soils
Legend
Map layers
Man River
Hydric Soils
Man Water
Roadway Network
Study Area Boundary
Stage1 Projects
Stage2 Projects
Stage3 Projects
0
.5
1
1.5
Miles
Source: USGS Soils Database, NSI
Created for:
Monroe Urbanized Area MPO
and
Louisiana DOTD
Created by:
ALLIANCE
Transportation Group, Inc.
NEEL-SCHAFFER
xx

THREATENED AND ENDANGERED SPECIES

Federally Listed Species

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 authorities to further the purposes of the act.

The USFWS and the National Marine Fisheries Service (NMFS) are the primary agencies responsible for implementing the ESA. The USFWS is responsible for birds and terrestrial and freshwater species, while the NMFS is responsible for non-bird marine species. The USFWS responsibilities under the ESA include: (1) the identification of threatened and endangered species; (2) the identification of critical habitats for listed species; (3) implementation of research on, and recovery efforts for, these species; and (4) consultation with other federal agencies concerning measures to avoid harm to listed species.

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: (1) the current/imminent destruction, modification, or curtailment of their habitat or range; (2) overuse of the species for commercial, recreational, scientific, or educational purposes; (3) disease or predation; (4) the inadequacy of existing regulatory mechanisms; and (5) other natural or human-induced factors affect continued existence.

In addition, the USFWS has identified species that are candidates for listing as a result of identified threats to their continued existence. The candidate (C) designation includes those species for which the USFWS has sufficient information on hand to support proposals to list as endangered or threatened under the ESA. However, proposed rules have not yet been issued because such actions are precluded at present by other listing activity.

State Listed Species

The Louisiana Natural Heritage Program (LNHP), part of the Louisiana Department of Wildlife and Fisheries (LDWF), maintains a list of state protected species, plant communities, and other natural features.

Table 2-1 presents a summary of state and federal listed species in Ouachita Parish.

Table 2-1:

Ouachita Parish Rare, Threatened, & Endangered Species & Natural Communities Tracked by the Louisiana Natural Heritage Program (April 2008)

Scientific Name	Common Name	State Rank	Global Rank	State Status	Federal Status
Amsonia ludoviciana	Louisiana Blue Star	S3	G3		
Burmannia biflora	Northern Burmannia	S3	G4G5		
Carex decomposita	Cypress-knee Sedge	S3	G3		
Carphophis vermis	Western Worm Snake	S1	G5		
Chamaelirium luteum	Fairy Wand	S2S3	G5		
Circaea lutetiana ssp. canadensis	Intermediate Enchanter's Nightshade	S2	G5T5		
Crystallaria asprella	Crystal Darter	S2S3	G3		
Cyprinella whipplei	Steelcolor Shiner	S2S3	G5		
Cypripedium kentuckiense	Southern Lady's-slipper	S1	G3		
Eleocharis wolfii	Wolf Spikerush	S3	G3G4		
Eptesicus fuscus	Big Brown Bat	S1S2	G5		
Haliaeetus leucocephalus	Bald Eagle	S2N,S3B	G5	Endangered	Delisted
Hardwood slope forest	Hardwood Slope Forest	S3S4	G2G3		
Helianthus silphioides	rosinweed sunflower	S3S4	G3G4		
Hexalectris spicata	Crested Coral-root	S2	G5		

Scientific Name	Common Name	State Rank	Global Rank	State Status	Federal Status
Isotria verticillata	Large Whorled Pogonia	S3	G5		
Lycopodiella cernua var. cernua	Staghorn Clubmoss	S2	G5T5		
Macroclemys temminckii	Alligator Snapping Turtle	S3	G3G4	Restricted Harvest	
Mixed hardwood-loblolly forest	Mixed Hardwood-loblolly Forest	S4	G3G4		
Monotropa hypopithys	American Pinesap	S2	G5		
Mustela frenata	Long-tailed Weasel	S2S4	G5		
Notropis boops	Bigeye Shiner	S3	G5		
Panicum flexile	Wiry Witchgrass	S2	G5		
Percina copelandi	Channel Darter	S1S2	G4		
Phacelia glabra	smooth phacelia	S2	GNR		
Picoides borealis	Red-cockaded Woodpecker	S2	G3	Endangered	LE
Plethodon kisatchie	Louisiana Slimy Salamander	S1S2	G3G4Q		
Polyodon spathula	Paddlefish	S3	G4	Prohibited	
Procambarus viaeviridis	Vernal Crawfish	S2S3	G5		
Pteronotropis hubbsi	Bluehead Shiner	S2	G3		
Rhynchospora nitens	Short-beaked Baldsedge	S3	G4?		
Salix humilis var. tristis	Dwarf Gray Willow	S2	G5T4T5		
Silene virginica	Fire Pink	S2	G5		
Spiranthes magnicamporum	Great Plains Ladies'-tresses	S2	G4		
Sporobolus vaginiflorus var. ozarkanus	Ozark Dropseed	S3	G5T5?		
State champion tree	State Champion Tree	SNR	GNR		
Waterbird Nesting Colony	Waterbird Nesting Colony	SNR	GNR		

EXPLANATION OF RANKING CATEGORIES EMPLOYED BY NATURAL HERITAGE PROGRAMS NATIONWIDE

Each element is assigned a single global rank as well as a state rank for each state in which it occurs. Global ranking is done under the guidance of NatureServe, Arlington, VA. State ranks are assigned by each state's Natural Heritage Program, thus a rank for a particular element may vary considerably from state to state. Federal ranks are designated by the U.S. Fish & Wildlife Service under the provisions of the Endangered Species Act of 1973. **DISCLAIMER:** This document is not an official copy of the laws in effect and should not be utilized or relied upon as such. For this reason, the accuracy of the information contained within this document cannot be guaranteed and the reader is cautioned that it is his/her responsibility to be apprised of the laws in effect at any given time. These laws include those contained within the Louisiana Revised Statutes, particularly Title 56, the official regulations of the Louisiana Wildlife and Fisheries Commission, federal laws, and any local or parish ordinances.

FEDERAL RANKS (USESA FIELD):

LE = Listed Endangered
LT = Listed Threatened
PE = Proposed endangered
PT = Proposed Threatened
C = Candidate
PDL = Proposed for delisting
E (S/A) or T (S/A) = Listed endangered or threatened because of similarity of appearance
XE = Essential experimental population
XN = Nonessential experimental population
No Rank = Usually indicates that the taxon does not have any federal status. However, because of potential lag time between publication in the Federal Register and entry in the central databases and state databases, some taxa may have a status which does not yet appear.
(Rank, Rank) = Combination values in parenthesis = The taxon itself is not named in the Federal Register as having U.S. ESA status; however, all of its infraspecific taxa (worldwide) do have official status. The statuses shown in parentheses indicate the statuses that apply to infraspecific taxa or populations within this taxon. *THE SPECIES IS CONSIDERED TO HAVE A COMBINATION STATUS IN LOUISIANA*
(PS) = partial status= Status in only a portion of the species' range. Typically indicated in a "full" species record where an infraspecific taxon or population has U.S. ESA status, but the entire species does not. *THE SPECIES DOES NOT HAVE A STATUS IN LOUISIANA*
(PS: Rank) = partial status= Status in only a portion of the species' range. The value of that status appears because the entity with status does not have an individual entry in Natureserve. *THE SPECIES MAY HAVE A STATUS IN LOUISIANA*

GLOBAL ELEMENT RANKS:

G1 = critically imperiled globally because of extreme rarity (5 or fewer known extant populations) or because of some factor(s) making it especially vulnerable to extinction
G2 = imperiled globally because of rarity (6 to 20 known extant populations) or because of some factor(s) making it very vulnerable to extinction throughout its range
G3 = either very rare and local throughout its range or found locally (even abundantly at some of its locations) in a restricted range (e.g., a single physiographic region) or because of other factors making it vulnerable to extinction throughout its range (21 to 100 known extant populations)
G4 = apparently secure globally, though it may be quite rare in parts of its range, especially at the periphery (100 to 1000 known extant populations)
G5 = demonstrably secure globally, although it may be quite rare in parts of its range, especially at the periphery (1000+ known extant populations)
GH = of historical occurrence throughout its range; i.e., formerly part of the established biota, with the possibility that it may be rediscovered (e.g., Bachman's Warbler)
GU = possibly in peril range-wide, but status uncertain; need more information
G? = rank uncertain. Or a range (e.g., G3G5) delineates the limits of uncertainty
GQ = uncertain taxonomic status
GX = believed to be extinct throughout its range (e.g., Passenger Pigeon) with virtually no likelihood that it will be rediscovered
T = subspecies or variety rank (e.g., G5T4 applies to a subspecies with a global species rank of G5, but with a subspecies rank of G4)

STATE ELEMENT RANKS:

S1 = critically imperiled in Louisiana because of extreme rarity (5 or fewer known extant populations) or because of some factor(s) making it especially vulnerable to extirpation
S2 = imperiled in Louisiana because of rarity (6 to 20 known extant populations) or because of some factor(s) making it very vulnerable to extirpation
S3 = rare and local throughout the state or found locally (even abundantly at some of its locations) in a restricted region of the state, or because of other factors making it vulnerable to extirpation (21 to 100 known extant populations)
S4 = apparently secure in Louisiana with many occurrences (100 to 1000 known extant populations)
S5 = demonstrably secure in Louisiana (1000+ known extant populations)
(B or N may be used as qualifier of numeric ranks and indicating whether the occurrence is breeding or nonbreeding)
SA = accidental in Louisiana, including species (usually birds or butterflies) recorded once or twice or only at great intervals hundreds or even thousands of miles outside their usual range
SH = of historical occurrence in Louisiana, but no recent records verified within the last 20 years; formerly part of the established biota, possibly still persisting
SR = reported from Louisiana, but without conclusive evidence to accept or reject the report
SU = possibly in peril in Louisiana, but status uncertain; need more information
SX = believed to be extirpated from Louisiana
SZ = transient species in which no specific consistent area of occurrence is identifiable

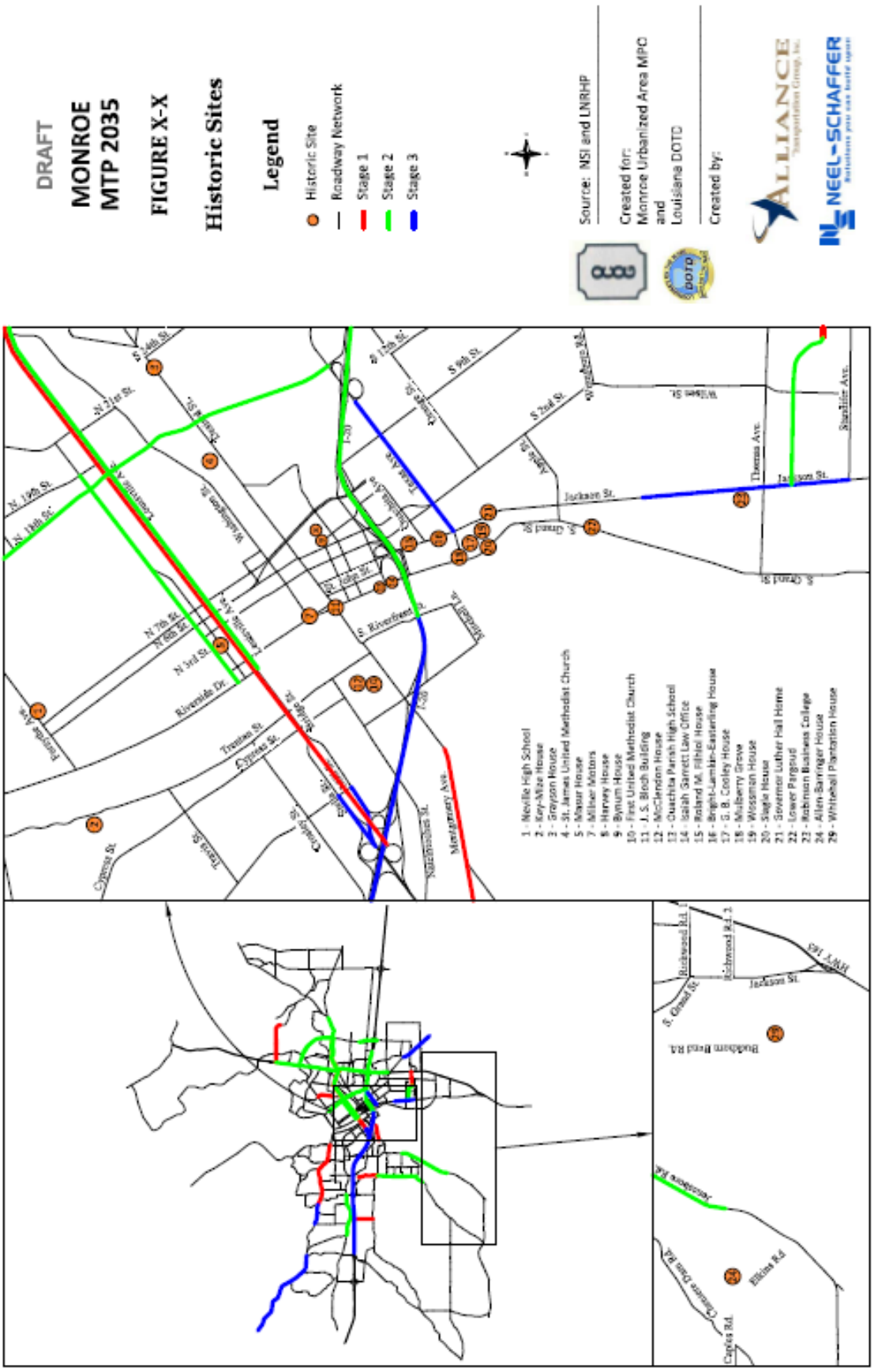
STATE PROTECTION STATUS:

State status are contained in Title 56 of the Louisiana Revised Statutes as well as relevant rules and regulations adopted by the Louisiana Wildlife and Fisheries Commission and the Secretary of the Department of Wildlife and Fisheries. The Secretary of the Department of Wildlife and Fisheries is authorized to implement additional restrictions in emergency situations in order to protect fish and wildlife resources.

Endangered = Taking or harassment of these species is a violation of state and federal laws.
Threatened = Taking or harassment of these species is a violation of state and federal laws.
Threatened/Endangered = Taking or harassment of these species is a violation of state and federal laws.
Prohibited = Possession of these species is prohibited. No legal harvest or possession.
Restricted Harvest = There are restrictions regarding the taking and possession of these species

CULTURAL RESOURCES

Archeologists have documented a rich and diverse Native American occupation of the Ouachita River Basin extending back over 5,000 years. Native Americans relied on the basin's rivers and lakes for food and trade, and the fertile floodplain for agriculture. Exemplary of this occupation, is the Watson Brake archeological site which lies in the floodplain of the Ouachita River near Monroe. The site has been dated to 5400 B.P. (years before present). The site consists of at least 11 mounds extending from three to 25 feet above natural ground elevation. These are connected by ridges to form an oval 853 feet across. The historic occupation of the Monroe Urbanized Area is documented to the arrival of French settlers in the 1720s. Figure 2-9 shows the locations of the historic sites within the study area.


DRAFT
MONROE
MTP 2035
FIGURE X-X
Historic Sites
Legend
Historic Site
Roadway Network
Stage 1
Stage 2
Stage 3
Source: NSI and LNRHP
Created for:
Monroe Urbanized Area MPO
and
Louisiana DOTD
Created by:
ALLIANCE
NEEL-SCHAFFER
1 - Neville High School
2 - Ory-Maze House
3 - Grayson House
4 - St. James United Methodist Church
5 - Masur House
7 - Milner Motors
8 - Harvey House
9 - Bynum House
10 - First United Methodist Church
11 - J. S. Bloch Building
12 - McClendon House
13 - Ouachita Parish High School
14 - Isaiah Garrett Law Office
15 - Roland M. Filhiol House
16 - Bright-Lamkin-Easterling House
17 - G. B. Cooley House
18 - Mulberry Grove
19 - Wossman House
20 - Slagle House
21 - Governor Luther Hall Home
22 - Lower Pargoud
23 - Robinson Business College
24 - Allen-Barringer House
29 - Whitehall Plantation House

Publicly Owned Parks, Golf Courses, and Wildlife Refuges

Section 4(f) of the Department of Transportation Act of 1966 affords protection to historic sites, publicly owned parks, recreation areas, and wildlife or waterfowl refuges when USDOT funds are invested in a project. Figure 2-10 displays the wildlife refuges within the study area, while Figure 2-11 shows the locations of the public parks and golf courses.

Crossing of Navigable Waterway

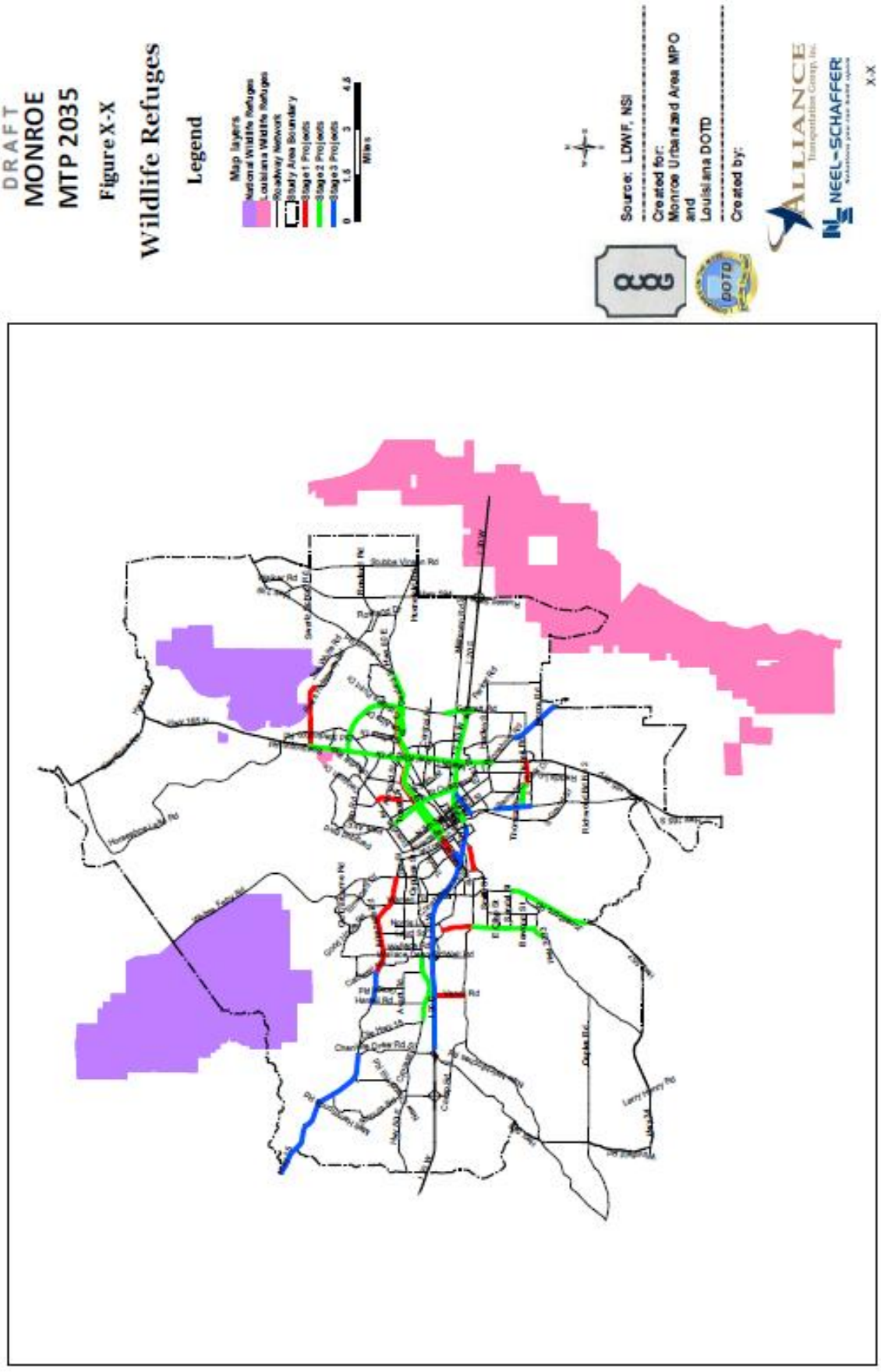
A number of the projects proposed in the long range plan potentially cross navigable waterways. These include:

- Kansas Lane Connector from US 80 to US 165
- Widening of Interstate 20 from Ouachita River to Garrett Road
- Widening of Interstate 20 from LA 546 to Ouachita River
- Widening of US 80 (Louisville Avenue) from Ouachita River to US 165

As the projects proceed through LaDOTD's project delivery process, consultations with the Coast Guard will have to be completed pursuant to the Coast Guard Authorization Act of 1982. Structures located in navigable channels will be designed to mitigate any potential affects to navigation.

Air Quality

The Monroe MPO area does not have any designated nonattainment or maintenance areas.


DRAFT
MONROE
MTP 2035
Figure X-X
Wildlife Refuges
Legend
Map layers
National Wildlife Refuges
Louisiana Wildlife Refuges
Roadway Network
Study Area Boundary
Stage1 Projects
Stage2 Projects
Stage3 Projects
0
1.5
3
4.5
Miles
Source: LDWF, NSI
Created for:
Monroe Urbanized Area MPO
and
Louisiana DOTD
Created by:
ALLIANCE
Transportation Group, Inc.
NEEL-SCHAFFER
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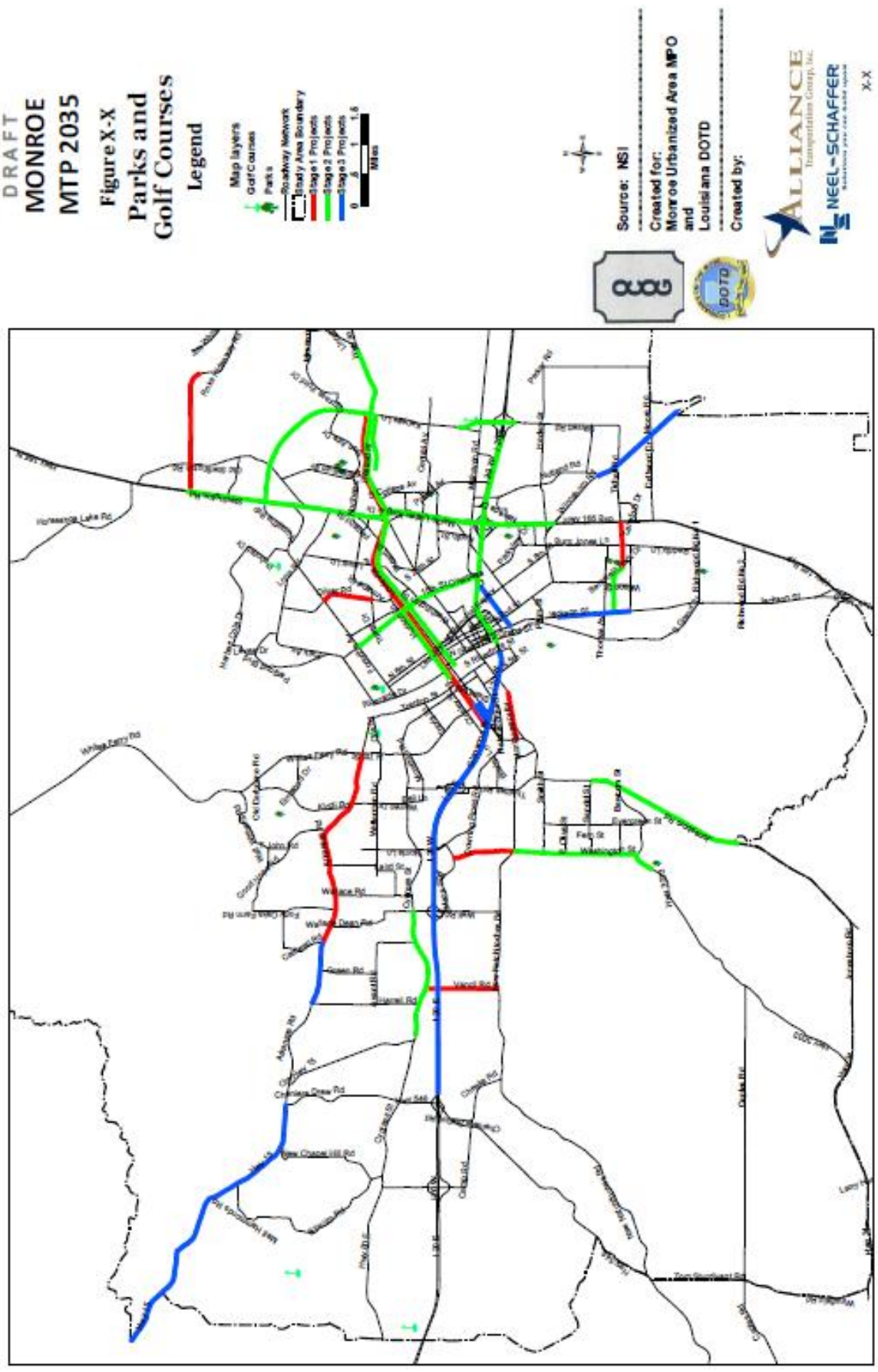

DRAFT
MONROE
MTP 2035
Figure X-X
Parks and
Golf Courses
Legend
Map layers
Golf Courses
Parks
Roadway Network
Study Area Boundary
Stage1 Projects
Stage2 Projects
Stage3 Projects
Miles
Source: NSI
Created for:
Monroe Urbanized Area MPO
and
Louisiana DOTD
Created by:
ALLIANCE
NEEL-SCHAFFER
X-X

TRAVEL CHARACTERISTICS AND MARKETS

When developing the study design for the Monroe Urbanized Area MTP 2035 Update, the study team incorporated the SAFETEA-LU metropolitan transportation regulation guidance and Louisiana DOTD policies to employ innovative planning approaches and techniques to enhance the planning process. In keeping with this guidance the study team, employed the following approaches:

- Increased use of the Internet as a communications tool;
- Used Geographic Information Systems (GIS) as a market and spatial analysis tool;
- Conducted a visioning process to assist the public in understanding likely transportation system conditions based on the MPO's adopted forecast land use scenario; and
- Treated major corridors and the transportation system on the whole as a market delivery system designed to address multiple travel purposes (how and why people make their travel choices).

Viewing MTP development as a process for optimizing a transportation system to support the travel purposes and addressing the market demands of consumers, offers a more comprehensive understanding of how the various transportation markets interact with broader community land use, economic and societal influences, and objectives. A holistic look at market forces acting on the transportation system allows transportation investments to be identified and prioritized using performance measures and criteria based upon a broad spectrum of community values and objectives. At the same time, planners must also realistically consider how transportation agencies are able to respond to rapid changes in the market. Investments in transportation infrastructure incur an enormous expense and once transportation infrastructure has been developed, it is a sunk cost through the lifetime of the investment, which is frequently 75 years or more. Therefore, thoughtful planning can lead to more efficient expenditures and to investments in a variety of modes that expand the

overall capacity of the transportation network, where there is existing or latent demand, and create needed redundancies.

To implement this market based, systemic approach, the study team incorporated a visioning process during the development of the Monroe Urbanized Area 2035 MTP Update. Scenario-Based Planning is a process of working with travel consumers and suppliers (i.e. participating members of the public, as well as, local jurisdictional stakeholders, such as policy makers and planning professionals) to examine the various ways that land use decisions, economic development initiatives, and transportation systems design and operation can come together in an articulated vision of the future community. The visioning process used in development of this MTP Update asked workshop participants to consider the consequences to the transportation system of implementation of the MPO adopted future land use scenario.

The MTP update process was supported by the development (in conjunction with the participating public, stakeholders and other interested parties) of a broad spectrum of travel and community criteria that can be used to examine which transportation investment decisions are most likely to provide optimal transportation system performance that meets travel market needs, while also supporting a spectrum of community goals and values.

In formulating the concept of how to best meet citizens' needs, the study team considered the purposes for which people presently travel and how these trends might change during the twenty-five year horizon of the MTP. The travel purposes considered in this process were:

- Journey to work;
- Non-work travel - shopping, personal business (e.g. medical, financial, grooming, etc.), social, religious, and entertainment;
- Goods movement and trade;
- Education (primary, secondary, and higher); and

- Regional economic generators.

This approach allowed us to better evaluate proposed solutions in terms of not only transportation system performance but in terms of community impacts and the effectiveness of transportation solutions in meeting community needs and societal objectives; including land use patterns, economic initiatives, and social equity. While traditional traffic engineering analysis may indicate a transportation facility will work well and provide an adequate level of service for people using motor vehicles, a scenario-based analysis of the transportation system, in terms of travel purposes, may reveal that the delivery of transportation services do not fully meet the needs of all citizens. This is particularly true for transportation system users who choose or are dependent upon walking, biking, or transit as their primary means of journey-to-work or non-work travel. There is a need to develop regional transportation systems so that they become more multimodal in nature, as a means to offer alternatives, reduce congestion, and create redundancies in the transportation network.

In the case of the Monroe Urbanized Area, the dominant land use scenario was slow but steady growth with some infill development, although most of the new growth will occur at the periphery of the urbanized area. Exploring these current trends and emerging market forces as identified by the participants in the public participation process, the stakeholders contacted in the consultation process and the technical specialist and agency professionals contacted in the technical review process, allowed the study team to identify the following challenges and opportunities with regard to the five travel purposes used to frame the discussion.

JOURNEY TO WORK

The MTP development process reviewed input regarding the journey to work. During the interviews with stakeholders, it was revealed that there are some obstacles in accessing job sites, particularly for single-family mothers (who must also access daycare) and low income populations. During the public meetings, participants expressed a desire to improve

alternate modes of transportation in the region. One group of suggestions centered on public transportation. Proposed changes were adding smaller shuttle busses to the current transit system, improving handicap accessibility, introducing light rail, and expanding fixed route transit service to West Monroe. Other participants looked to the creation or improvement of bike lanes and better pedestrian access. Some participants expressed concern that oil scarcity and higher costs for transportation would affect mobility in the future, along with the need for technologies that will lower transportation costs.

NON-WORK TRAVEL

Non-work travel includes shopping, personal business (medical, financial, grooming, etc.), social, religious, and entertainment trips. These activities generate a significant number of trips on the transportation network each day. Although the urbanized area does not deviate significantly from statewide characteristics, consideration of the poor and elderly is an important aspect of transportation planning for the region. During the period of stakeholder input, Monroe Transit representatives expressed a desire for more sidewalks to be built along their bus routes, more pedestrian crosswalks, and ADA-compliant bus stops. At a number of locations, they noted, transit riders with mobility issues cannot be discharged from the bus at a designated bus stop, because of the lack of sidewalks.

At the public meetings, a number of attendees identified the need for investments or improvements of alternative modes of transportation. Some attendees identified the need for improved public transportation services for the elderly, especially as the participants began to identify with their own future needs as they age.

Similar concerns were echoed by the Ouachita Council on Aging (OCOA). The OCOA observed that extreme weather conditions (hot or cold) make it difficult for the elderly to use public transportation. The West Ouachita Senior Center also provides transportation services to the elderly and was

concerned about inadequate roadway infrastructure and traffic congestion, as well as, their subsequent delays on travel times.

The elderly are a rapidly growing segment of the population that will quickly increase the demand for special transportation services. As the number of elderly grows and they begin to drive less, the population will increasingly demand transit options in the form of fixed routes or more flexible paratransit routes. While the number of their destinations will be relatively few (e.g. shopping, medical care, social and religious, etc.), the origin of the trips to those destinations will be more scattered because the elderly can and do live throughout the region. Thus, providing travel services requires more resources to service.

Goods Movement and Trade

Ouachita Parish has many of the same goods movement activities and issues found in other communities of a similar size. With a vibrant economy and a population of more than 150,000 residents, large volumes of goods are both consumed and produced within the local region. In the case of consumption goods, their flow diffuses across all segments of the transportation network from major roadways to local streets before reaching the final consumer. Almost every item a household uses or that is necessary to operate a business most likely moves a considerable distance using regional and national road, rail, air, or water transportation networks. Produced goods, on the other hand, tend to be concentrated in fewer locations and their demands upon the transportation system are determined by the volume of production and the good's market areas. Locally produced goods intended for local consumption (for example, a bakery) rely almost exclusively on the local roadway network. However, products produced by manufacturers with a regional, national, or international marketplace may use one or multiple modes, depending upon each mode's accessibility, cost, and appropriateness for transporting that good. Two components of the region's freight transportation network that deserve special attention are the I-20 corridor and the Greater Ouachita Port.

I-20 Trade Corridor – Ouachita Parish is bisected by Interstate highway 20, a major national and regional corridor for freight movement. Maintaining an efficient and safe flow of goods along the I-20 corridor is an essential element to local prosperity.

Greater Ouachita Port – The Greater Ouachita Port is a shallow-draft (9-foot) port located along the Ouachita River in West Monroe. The Port handles approximately 15,000 TEUs of containerized cargo each year as well as bulk commodities, which include outbound paper, cotton, oil, aggregates, and steel and inbound fuel, furniture, and baby supplies. In terms of tonnage handled, petroleum products account for approximately 53 percent of the tonnage, while aggregates account for about 25 percent and containerized cargo accounts for almost 20 percent. Expanding the port's activities could be one strategy for reducing congestion and offering a competitive mode for freight transportation in the region and on the statewide transportation network.

EDUCATION

There are approximately 29,500 students enrolled in the Monroe Urbanized Area's primary and secondary schools. This figure includes students in the Ouachita Parish School District, the Monroe City School District, and the various parochial and other private schools in the Parish. Within higher education, there are estimated to be more than 1,600 students enrolled at 2-year colleges and approximately 8,500 undergraduate and graduate students enrolled at the University of Louisiana at Monroe. Primary and secondary students produce at least two trips apiece each school day and the number of trips generated by students in higher education depends upon their course load and schedules. Assuming that all students in the urbanized area generated two school-related trips per day, this could add as many as 80,000 trips to the transportation network on the average day. Thousands more two-way daily trips are added by the employees of these educational institutions. Fortunately, many student trips occur on busses, which reduce the overall demands on roadway infrastructure. Nonetheless,

the impacts of student travel on the region's transportation network are significant and have received special consideration in the preparation of the MTP.

Economic Generators

At the public meetings, a significant number of the attendees ranked assessment for transportation projects according to their support of future economic development in the region as very important among a list of potential assessment criteria. Some attendees, however, were concerned that future development would increase traffic volumes on local roadways. Economic generators in the region that were also large-scale traffic generators include medical centers, call centers and corporate headquarters, industrial sites, the regional airport, the University of Louisiana at Monroe, and a regional shopping mall. From a transportation modeling standpoint, these economic generators are considered within the transportation models as journey to work trips or non-work trips. However, given their importance to the regional economy, there is a need to have a better understanding of how congestion on the transportation network may affect their operations.

Recent estimates of major public employers were not readily available, although the parish's two school districts and the University of Louisiana at Monroe are generally regarded as the largest public employers. In 2009, the top five private employers in Ouachita Parish were:

- St. Francis Hospital – Hospital: 2,500 employees
- JPMorgan Chase – Call center, mortgage operations, retail banking: 1,900 employees
- CenturyLink – Telecommunications – company headquarters: 1,360 employees
- Graphic Packaging – Paper mill, carton plant – 1,130 employees
- Glenwood Regional Medical Center – 820 employees

In addition to these employers, there are other locations in Ouachita Parish that are not necessarily the location of major employers, but form a clustering of firms with substantial employment. These locations include the Pecanland Mall, the Monroe Regional Airport and the Monroe Air Industrial Park, the West Ouachita Industrial Park, Downing Pines Industrial Park, and Ouachita River Industrial Park. The V-Vehicle plant will be a future economic generator and is proposed to have 1,400 employees in 2012.

Develop Demographic Baseline

As mentioned earlier, travel demand is greatly influenced by the pattern of development or land use in the study area. Changes in land use and/or intensity will create new travel demand or modify existing patterns. A definite relationship exists between trip-making, land use and demographic data, such as: population, number of housing units, employment, and school attendance. For the Monroe Urbanized Area Model, this data was compiled from several sources: population and housing from the 2000 Census, employment from a database of employers in Ouachita Parish purchased from infoUSA, and school attendance from the Ouachita Parish School Board and individual private schools.

Throughout this section, there may be slight differences in the totals for this data. These discrepancies are due to mathematical rounding, which takes place as a result of calculations by the computer modeling software.

Base Year (2008) Planning Data

The demographic data required as input into the trip generation programs can be subdivided into five major categories: occupied dwelling units, population, total employment, retail employment, and school attendance. These variables are further described below.

DWELLING UNITS

The largest single type of developed land use in the study area is residential land. The number of dwelling units plays a major role in trip generation since many trips have an origin and/or destination in residential areas. The Total and Occupied Dwelling Unit counts from the 2000 Census were aggregated by TAZ. New residential building permit data for the years 2000 to 2008 were then collected from the City of Monroe, City of West Monroe, the Town of Richwood and Ouachita Parish. The permits were geocoded by address and tabulated by TAZ. Permits for duplicate addresses (mostly mobile home park lots) were eliminated. A reduction factor was estimated to account for movement within the Study Area. The new residential units were then added to the 2000 Census numbers which resulted in an estimate of 2008 Total Dwelling Units in each TAZ. The TAZ occupancy rate (Occupied DU's/Total DU's) for the 2000 data was calculated and applied to the 2007 Total DU's to create an estimate of the 2008 Occupied DU's in each TAZ.

In 2000, there were 54,094 total dwelling units in the study area. Of that total, 49,748 (91.96%) were occupied. The 2008 Total Dwelling Units are estimated at 57,142, with 52,541 being occupied. Occupied dwelling units are allocated to Household Size Groups of 1-2 persons, 3-4 persons, and 5+ persons based on the average population per dwelling unit in each TAZ.

POPULATION

Population enters the trip generation equation in terms of calculating population per occupied dwelling unit by zone, which allows the distribution of units into household size categories. In 2000, the population of the study area was 132,153 persons. By applying the 2000 population per dwelling unit rate for each TAZ, the 2008 estimated population is 140,481.

EMPLOYMENT

The location of employment centers has a major impact on travel in the area, particularly home-based work trips. The employer database was geocoded by street address and tagged with the appropriate TAZ number. The number of total employees was aggregated by TAZ. The number of

retail employees was determined by SIC code. Total employment in the study area in 2008 was 72,905 with 16,724 being in retail. For modeling purposes, employment variables were differentiated into total employment, retail employment and other employment.

SCHOOL ATTENDANCE

School attendance figures include public and private elementary, middle and high schools; colleges; universities; and vocational and business schools. Total school attendance in the study area in 2008 was 26,641 students. For modeling purposes, the school attendance is measured by the number of students attending a school in a traffic zone and *not* by the number of students residing in a traffic zone.

The nature and distribution of the residential population within the region also impacts the manner in which the transportation system is used. The density of population in an area can affect the congestion levels on the transportation system. The age of the population can affect the modes of transportation used in an area. Although the gender gap in economic activity and household responsibility is narrowing, there is still an appreciable difference in the number and types of trips generated by each gender. The socio-economic level of the population impacts both the number of trips generated by each household as well as the modes of transportation used. Whether a household owns a car, or is located near a transit stop, or can safely walk or bike to work are all demographic factors that can affect how people in that household utilize the transportation system.

The study team created a picture of the demographics of the region from two sources; Census data and residential building permit data. These two sources combined with historical trends and state projections allowed the Team to estimate current population and project population to the 2035 planning horizon.

Like population, the number, type and location of jobs is an important factor in planning for the future travel needs in an area. The study team obtained employment data from infoUSA, which provides up to date employment data by employer for an area. This data, along with 2000 Census Bureau employment data were used to estimate current and project future employment. Table 2-2 presents the final baseline figures for the MPO study area.

Table 2-2: Baseline (2008) Population and Employment for the MPO Study Area

Population	Employment
140,481	72,905

CRASH DATA

An average of over 42,000 fatalities occurs on the roadways in the United States each year. Every crash, regardless of the severity, costs governments and tax-payers money and time in damages, emergency services, and delays. Crashes have become an increasing problem each year and 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 records from Ouachita Parish that were corrected with LaDOTD latitude and longitude data from 2004 to 2008 were used in the crash analysis of the study area. The crash records included the time and location of the accident, severity, and the existing conditions when the accident occurred. Within the study area, 13,174 crashes occurred.

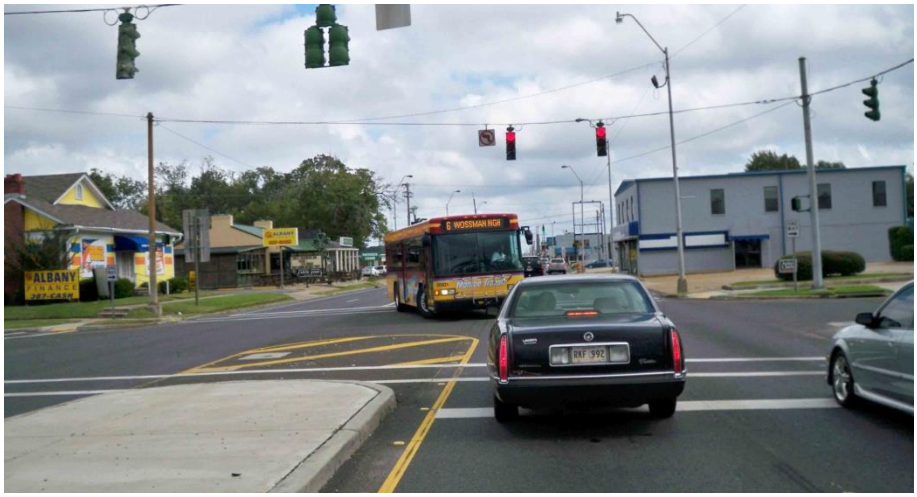
CRASH TRENDS

The first step in improving travel safety is determining the cause of the crashes. This study looks at the time, surface conditions, lighting, severity, collision type, and whether or not alcohol was involved. A summary of these data are presented in this chapter.

Within the study area, a total of 13,174 crashes occurred between 2004 and 2008. The majority of these crashes took place between the hours of 8am and 8pm, with the most crashes occurring during the 4pm and 7pm hours. These crashes could likely be attributed to the roadway not being designed to withstand large traffic volumes and can be fixed by adjusting signal timing or adding lane(s). Approximately 80% of crashes in the study area occurred during dry roadway surface conditions; therefore, roadway surface conditions do not play a major factor in the crashes. About 80% of crashes occurred during the daylight, while 12% occurred when it was dark outside with no street lights or only a signal for light. The crashes that occurred under these conditions could be attributed to poor lighting and can be reduced by providing proper lighting.

Within the study area, there were 61 fatal crashes and 4,200 injury crashes. The last factor that was taken into consideration was the involvement of alcohol. About 4% of the crashes that occurred in the study area involved alcohol; therefore, alcohol is not assumed to be a main cause of crashes. The three highest collision types, making up nearly 71% of the accidents in the study area, were:

- Rear end collisions
- Non-collision with motor vehicle (NCWMV)
- Right angle collisions



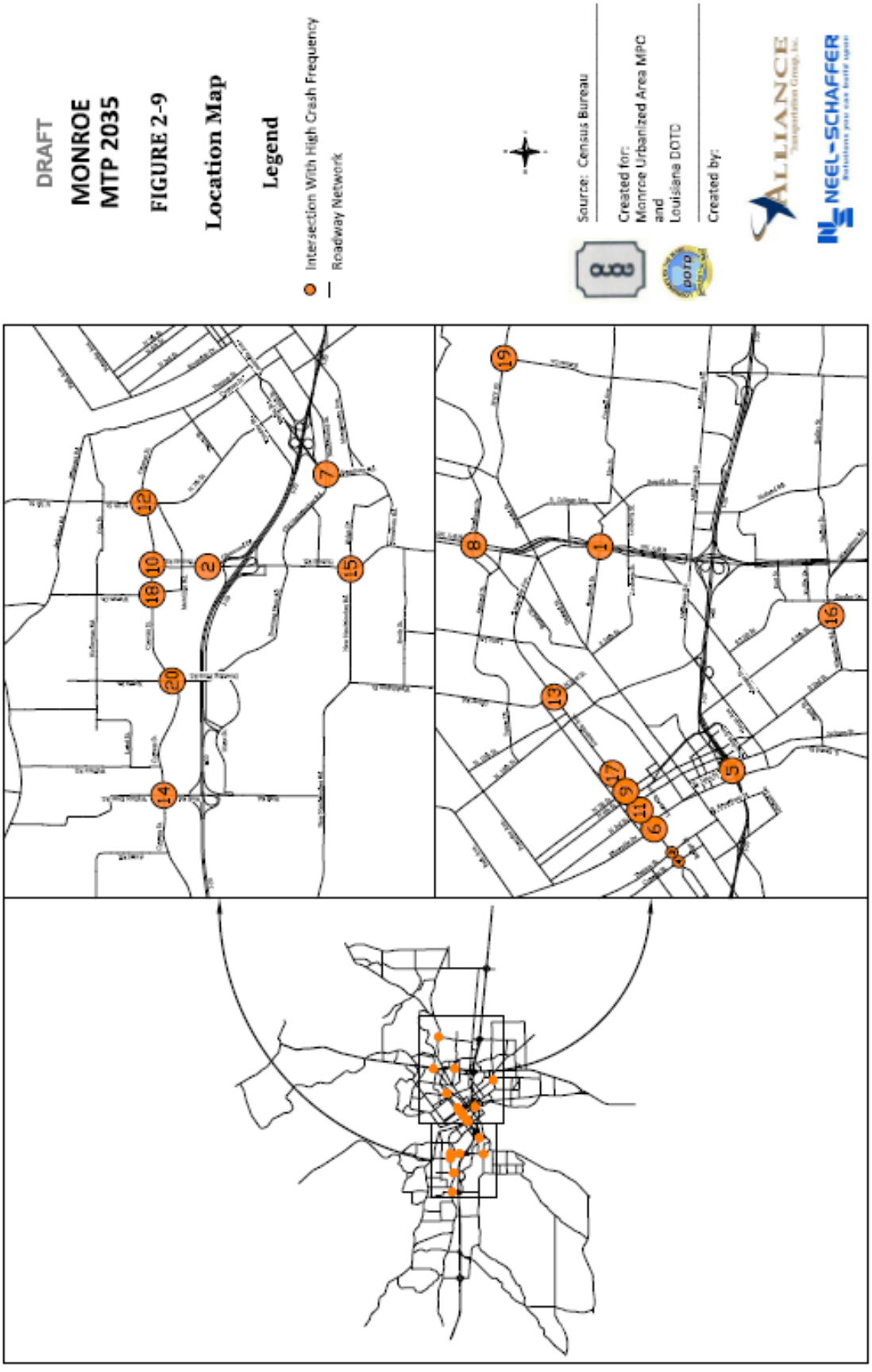
CRASH LOCATIONS

Intersection and intersection related crashes made up 48% of the total crashes in the study area. The total crash numbers at each intersection are based on the assumption of crashes happening in the intersection or related to it within a 100 foot radius. Table 2-3 shows the top 10 intersections with the highest number of crashes. The table also includes the type of intersection control. The locations of the crashes are shown in Figure 2-9.

Table 2-3: Top 10 Intersections for Crash Frequency (2004-2008)

Rank	Intersection	Number of Crashes	Intersection Control
1	LA Hwy 165 at Renwick St.	107	Signal
2	Bridge St. at Trenton St.	59	Signal
3	Thomas Rd. at Glenwood Dr.	42	Signal
4	Louisville Ave. at Riverside Dr.	36	Signal
5	I-20 Entrance Ramp near Saint John St.	31	None
6	LA Hwy 165 at Northeast Dr.	31	Signal
7	LA Hwy 80 at Kansas Ln.	29	Signal
8	LA Hwy 165 near Armand St.	28	None
9	Louisville Ave. at N. 21st St.	27	2-Way Stop
10	Cypress St. at Bridge St.	26	Signal

Source: Louisiana Highway Safety Commission, 2004-2008 Crash records for Ouachita Parish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MONROE
MTP 2035
FIGURE 2-9
Location Map
Legend
Intersection With High Crash Frequency
Roadway Network
Source: Census Bureau
Created for:
Monroe Urbanized Area MPO
and
Louisiana DOTD
Created by:
ALLIANCE
NEEL-SCHAFFER

OTHER SAFETY ISSUES

Another safety-related issue in the Monroe Urbanized Area is at-grade rail crossings. Grade-separated crossings decrease conflict points with motor vehicles and allow trains to travel more quickly through the urbanized area.

SECURITY-RELATED DATA

Citizens are more likely to use modes if they are not afraid of being exposed to crime. Bus stops that are not lit at night or in areas that are not heavily populated can carry the perception of lack of security. Monroe Transit tracks security-related issues on its system. There has been only one incident in the past few years, so the system is considered secure.

Another potential security issue is locating major transportation facilities near federal buildings. Other than post offices, there are no major federal facilities in the study area.

The work of local law enforcement agencies policing roadways enhances security as well as safety.

3. Regional Visioning Process

This chapter describes the process by which the vision and goals of the MTP planning process were established. In addition, the chapter describes the process by which the set of criteria - used to evaluate whether recommended transportation projects support the established vision and goals - was developed and ranked.

This MTP visioning process, therefore, focused on gathering the locally generated plans and information, as well as the knowledge and wisdom of the local community, while following the state and federal guidelines that structured the planning process.

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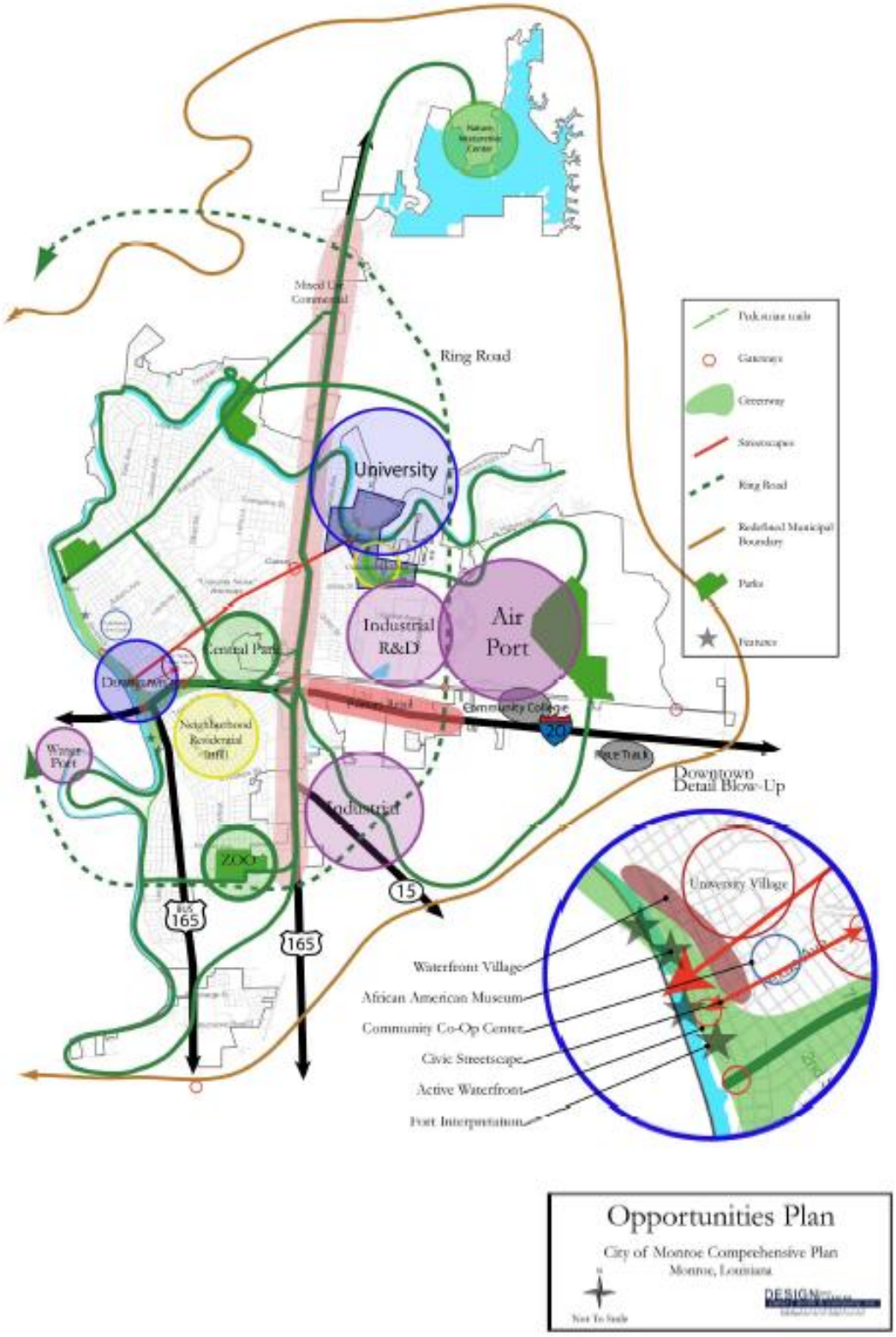
Review Other Planning Processes

Monroe Comprehensive Plan

In November of 2008 the City of Monroe completed a comprehensive planning effort that resulted in a plan covering land use, housing, economic development, the environment, transportation, infrastructure, community facilities, parks, and historic and cultural resources. Besides the transportation findings presented in chapter 2, the comprehensive plan includes an Opportunities Plan. This map graphically displays the major land use influences in Monroe and proposes pedestrian trails (see Figure 3-1).

Figure 3-1: Opportunities Plan from the Monroe Comprehensive Plan (produced by Peter J. Smith & Co., Inc.)



West Monroe/West Ouachita Community Vision

In October 2009 the City of West Monroe completed their community vision planning effort. The resulting vision for the West Monroe/West Ouachita area is:

> By 2020, Greater West Ouachita will be a vibrant community with a distinct identity and a balance of residential, commercial, recreational, and educational development that offers a high quality of life for all.

D'Arbonne National Wildlife Refuge Comprehensive Conservation Plan

The southeast portion of the D'Arbonne National Wildlife Refuge (NWR) lies within the northwest portion of the MPO study area. The refuge was originally created in 1975 to provide mitigation for a US Army Corps of Engineers navigation project on the Ouachita River. D'Arbonne NWR and Black Bayou Lake NWR (which lies wholly within the MPO study area) along with three other nearby refuges make up the Northeast Louisiana National Wildlife Refuge Complex.

In 2006 D'Arbonne NWR adopted a comprehensive conservation plan. This plan proposes a variety of projects designed to meet the refuge's purpose. Proposed projects in the 15-year plan address a variety of issues related to:

- Fish and wildlife population management,
- Habitat management,
- Resource protection,
- Architectural and cultural resources, and
- Refuge administration.

Several project goals identified in the refuge's plan are relevant to this MTP update. First, the refuge plan indicates that public use would increase if there were signs on state or federal highways directing people to the refuge's access points. LA 143 forms much of the eastern boundary of the

refuge and provides seven access points to the refuge. However, there are also five access points on the western portion of the refuge.

Second, one project is the identification of cultural resources on the refuge. Should any of these cultural resources extend outside the refuge, these adjacent properties would be good candidates for mitigation properties.

Similarly, ponding by beavers causes flooding on adjacent properties. Refuge biologists may be able to help identify adjacent properties appropriate for mitigation that would appropriately extend preserve habitat.

Black Bayou Lake NWR was created in 1997. The lake is the secondary water source for the City of Monroe. There is no comprehensive conservation plan in place for this NWR at this time.

Emergency Preparedness Plan

Plans are currently in place to develop emergency preparedness plans in northeast Louisiana. In approximately two years there should be in place 12 individual parish plans and an encompassing regional plan.

Airport Master Plan

The Monroe Regional Airport Master Plan has a 20-year planning horizon. It is updated approximately every ten years and it is scheduled to be updated in the next year or two. A new passenger terminal is under construction that will expand the number of gates at the airport. In another 3-4 years the airport would like to build a new rescue and firefighting station.

Forecast Demographics

Demographic Data Forecast

To adequately forecast future transportation needs, future projections of these demographic variables are needed. In order to accomplish this effort,

two different scenarios were evaluated. One was prepared by Louisiana State University and the other by Woods & Poole, an economic forecast provider. Using these data and based on discussions with the MPO Director, appropriate population and employment forecasts were decided upon.

The allocation of future population growth relied upon information provided by MPO staff and local planning officials, along with additional information from existing studies, plans, and documents. Planners responsible for residential development at the municipality and parish level were interviewed during the preparation of the forecasts. Specifically, they were asked to identify the locations of residential developments that were either planned, under development, or recently completed. These projects could be either single-family or multifamily developments. In addition to their location, the planners were also queried about the number of lots or units, although very little information was available. Planners were also asked to describe the general spatial patterns of residential development within their area, including any depopulation trends in areas prone to flooding. Finally, planners were asked to describe the current migratory patterns of households previously affected by Hurricane Katrina.

Information necessary to allocate new employment growth was gathered according to a similar process. Local planners were asked about anticipated major employers, retail developments, or other new employment centers to locate within their jurisdiction. The most prominent projects identified

were the new V-Vehicle plant in the former General Motors plant and the expansion of Delta Community College. Planners were also asked if the area is anticipated to lose any major employers, but none were identified. Other questions concentrated on sensitive environmental features and properties protected from development, along with planned or new parks, recreational facilities, schools, and other public buildings. To supplement the interviews, information to guide the forecast was gathered from aerial photography, the *2008 Comprehensive Master Plan for the City of Monroe* (which provided zoning, current land use, and future land use maps), and a zoning map for the City of West Monroe. Base year and forecast employment by TAZ are shown in the next several figures.

The table below presents the forecast demographic data for the study area. A complete listing of all the demographic variables by TAZ is found in Technical Memo 1.

Table 3-1: Demographic Data Forecast (2008 - 2035)

Year	Population	Occupied Dwelling Units	Total Employment	Retail Employment	School Attendance
2008	140,214	52,687	72,905	16,724	26,641
2015	141,893	53,252	74,772	16,996	26,702
2025	143,967	53,987	77,502	17,689	26,948
2035	146,010	54,716	80,195	18,379	27,191

Population figures do not include group quarters.

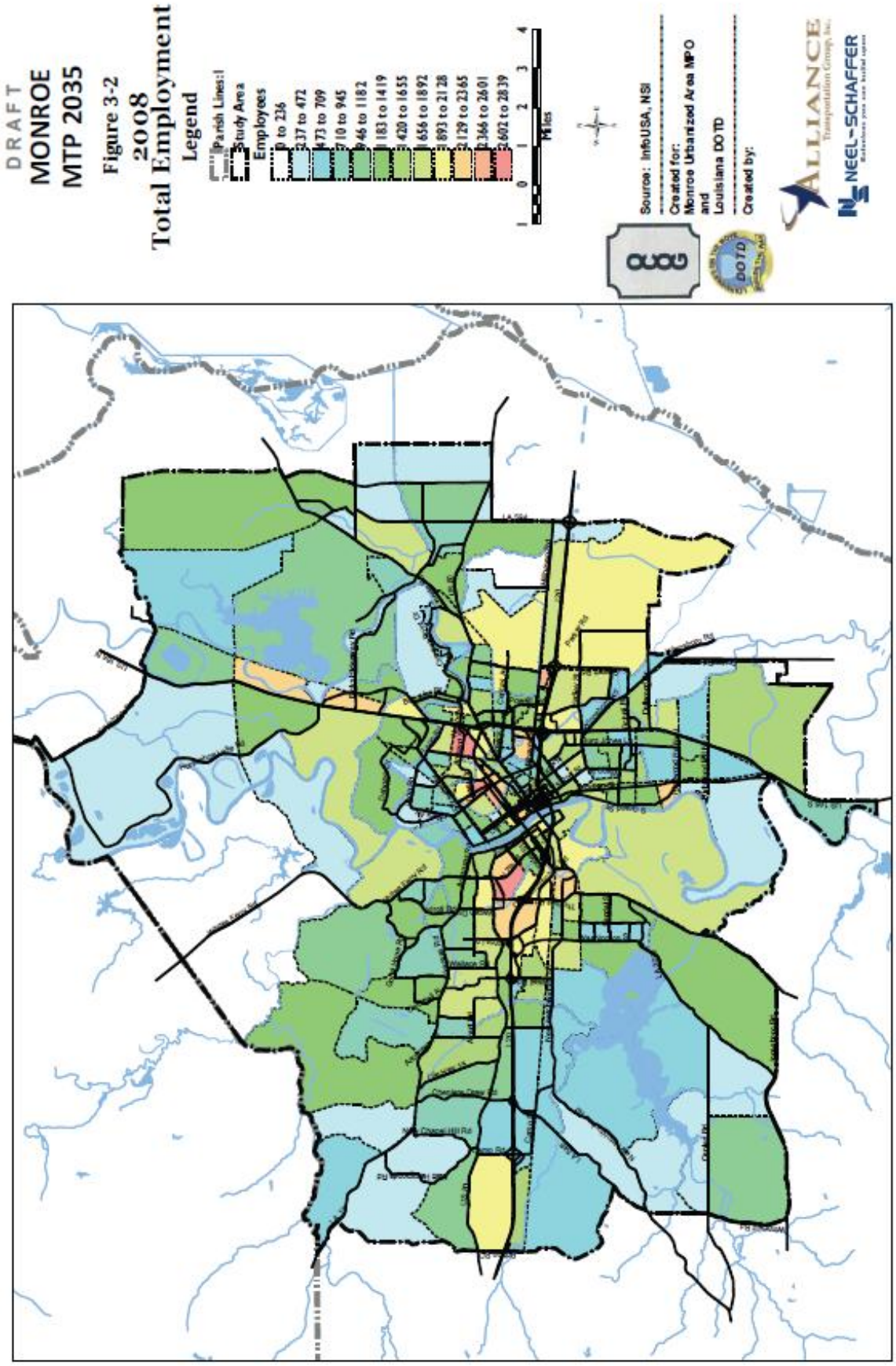

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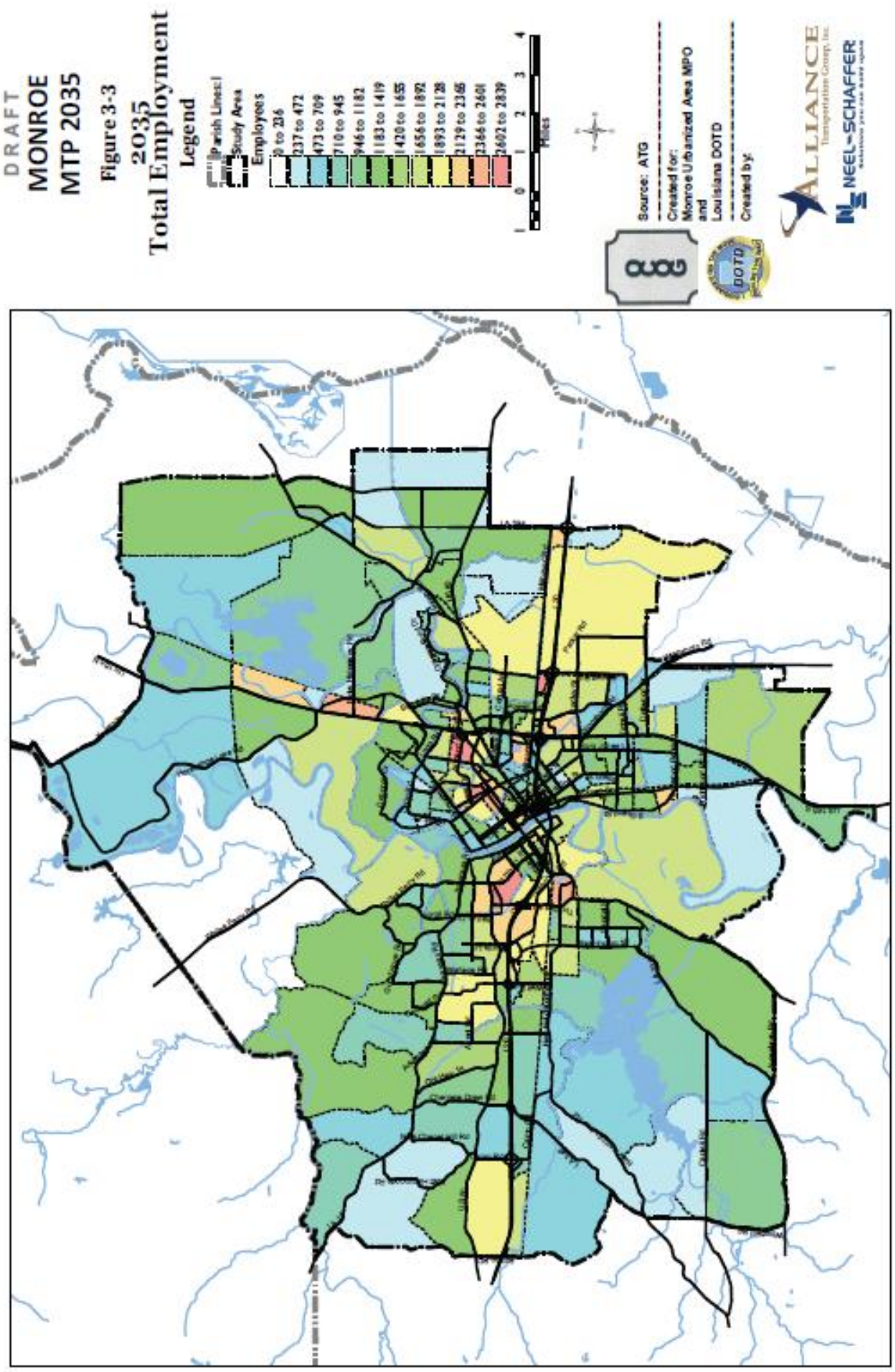
Figure 3-2
2008
Total Employment
Legend
Parish Lines
Study Area
Employees
0 to 236
237 to 472
473 to 709
710 to 945
946 to 1182
1183 to 1419
1420 to 1655
1656 to 1892
1893 to 2128
2129 to 2365
2366 to 2601
2602 to 2839
Miles
Source: InfoUSA, NSI
Created for:
Monroe Urbanized Area MPO
and
Louisiana DOTD
Created by:
ALLIANCE
NEEL-SCHAFFER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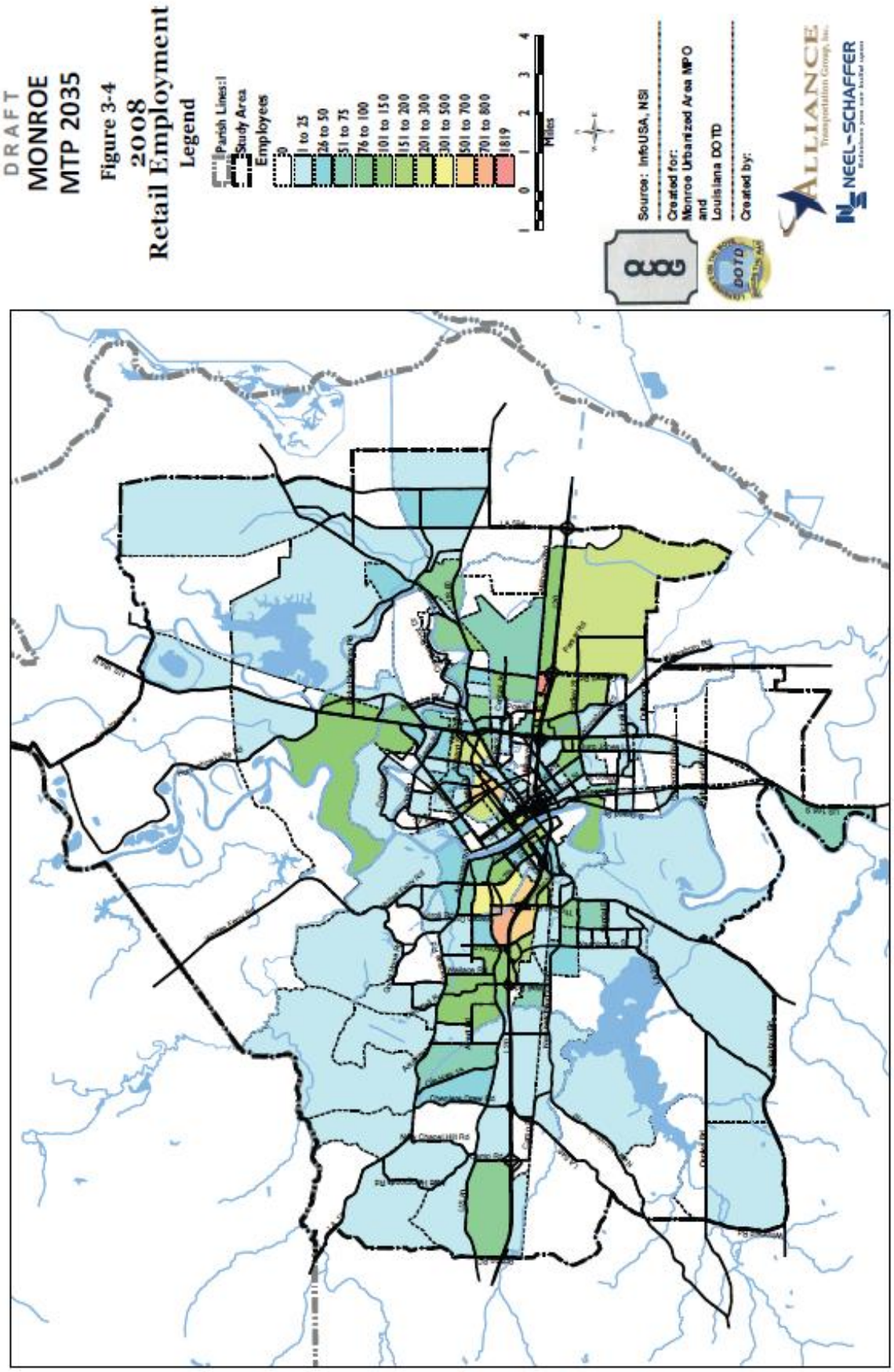
MONROE
MTP 2035
Figure 3-3
2035
Total Employment
Legend
Parish Lines
Study Area
Employees
0 to 236
237 to 472
473 to 709
710 to 945
946 to 1182
1183 to 1419
1420 to 1655
1656 to 1892
1893 to 2128
2129 to 2365
2366 to 2601
2602 to 2839
0
1
2
3
4
Miles
Source: ATG
Created for:
Monroe Urbanized Area MPO
and
Louisiana DOTD
Created by:
ALLIANCE
NEEL-SCHAFFER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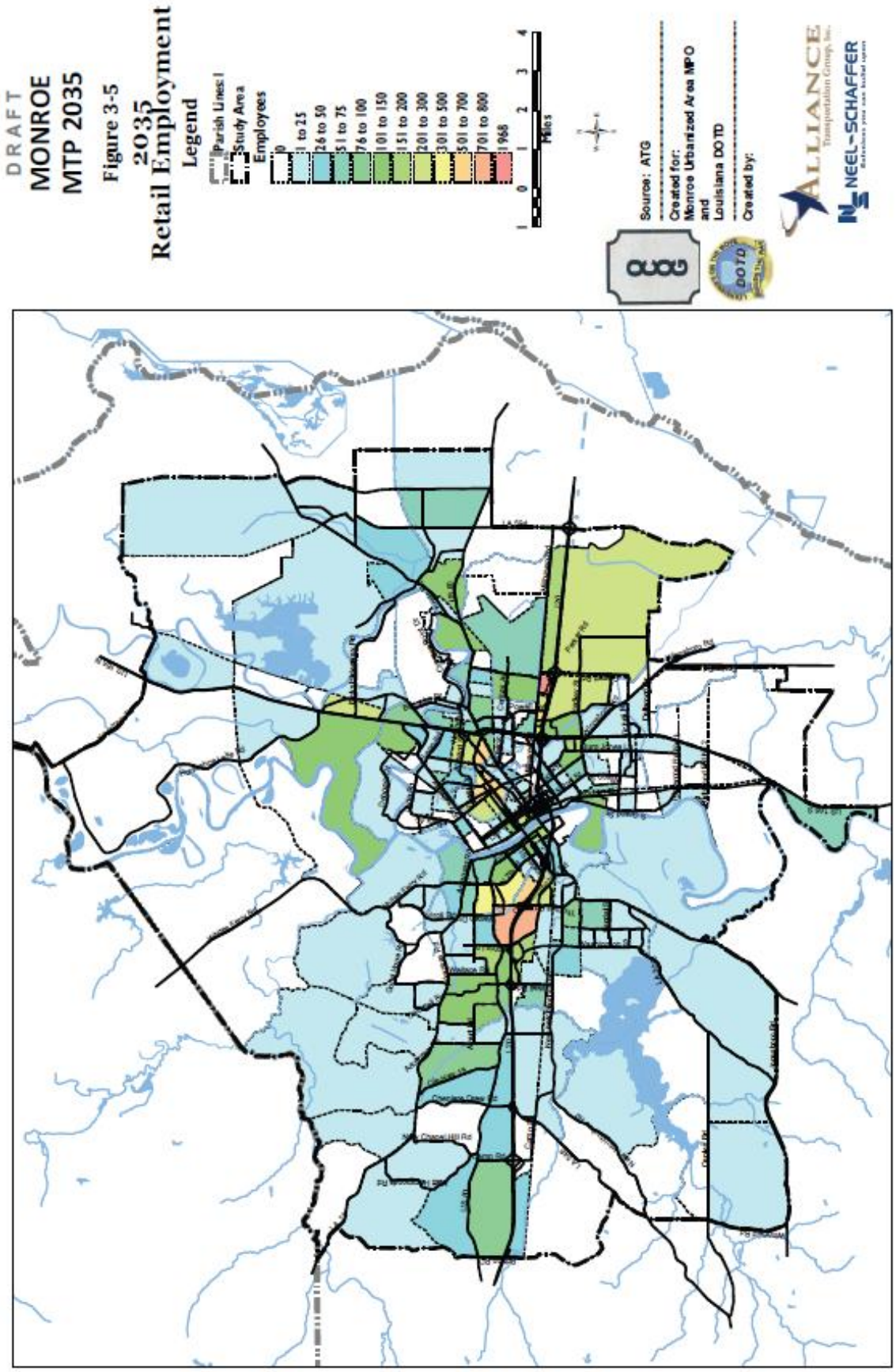
MONROE
MTP 2035
Figure 3-4
2008
Retail Employment
Legend
Parish Lines
Study Area
Employees
0
1 to 25
26 to 50
51 to 75
76 to 100
101 to 150
151 to 200
201 to 300
301 to 500
501 to 700
701 to 800
1819
Miles
Source: InfoUSA, NSI
Created for:
Monroe Urbanized Area MPO
and
Louisiana DOTD
Created by:
ALLIANCE
NEEL-SCHAFFER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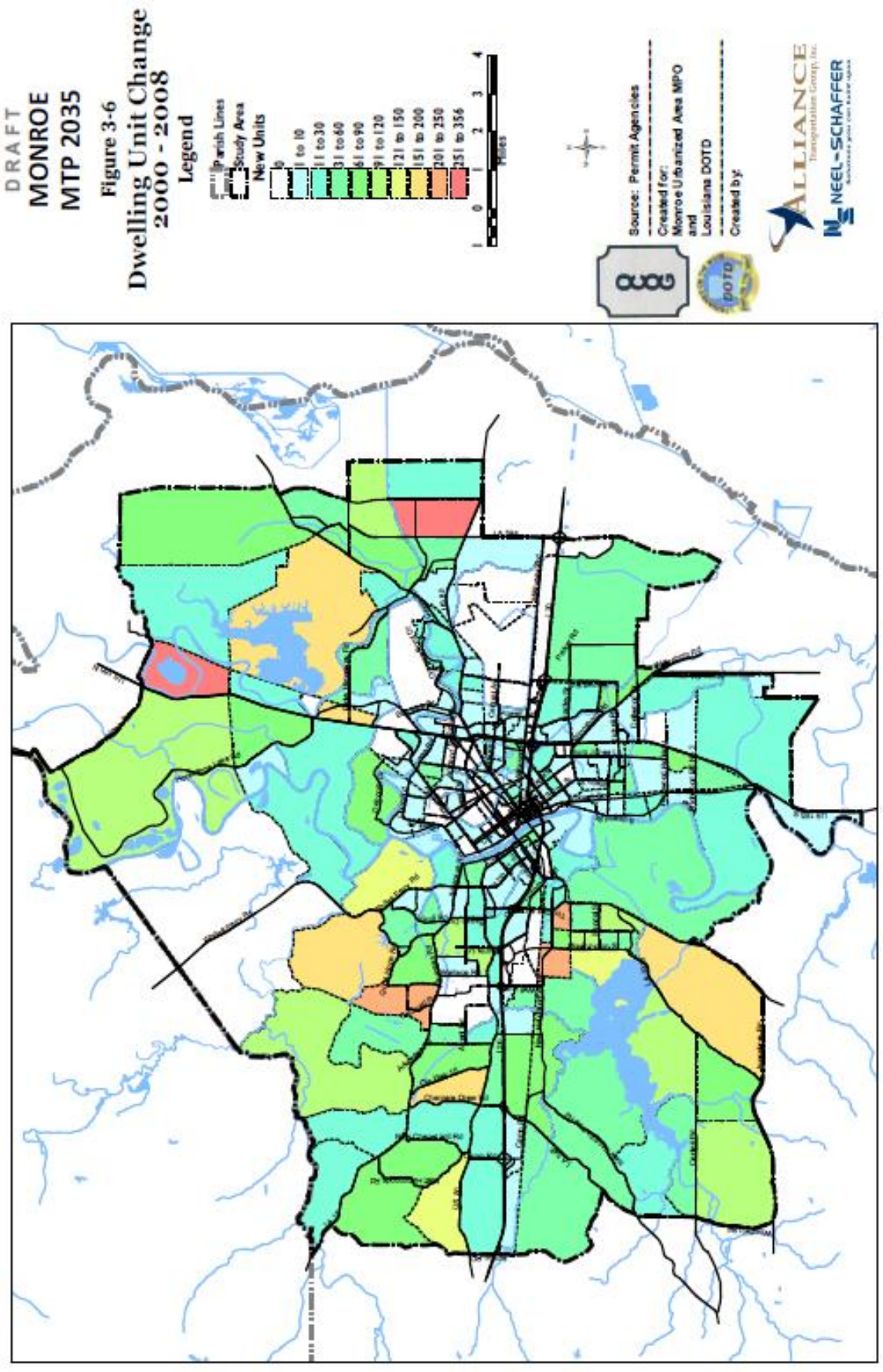
MONROE
MTP 2035
Figure 3-5
2035
Retail Employment
Legend
Parish Lines
Study Area
Employees
0
1 to 25
26 to 50
51 to 75
76 to 100
101 to 150
151 to 200
201 to 300
301 to 500
501 to 700
701 to 800
1968
0 1 2 3 4
Miles
Source: ATG
Created for:
Monroe Urbanized Area MPO
and
Louisiana DOTD
Created by:
ALLIANCE
Transportation Group, Inc.
NEEL-SCHAFFER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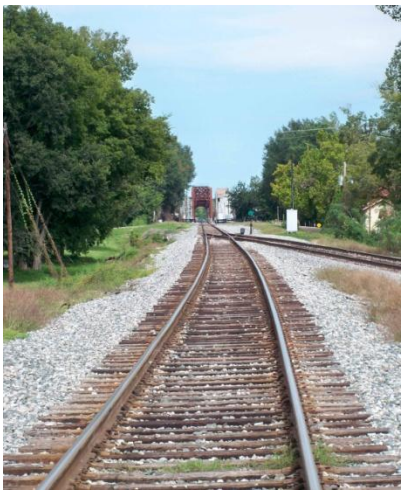
MTP 2035
Figure 3-6
Dwelling Unit Change
2000 - 2008
Legend
Parish Lines
Study Area
New Units
0
1 to 10
11 to 30
31 to 60
61 to 90
91 to 120
121 to 150
151 to 200
201 to 250
251 to 356
Miles
Source: Permit Agencies
Created for:
Monroe Urbanized Area MPO
and
Louisiana DOTD
Created by:
ALLIANCE
NEEL-SCHAFFER

STAKEHOLDER CONSULTATION

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 process is an important component of plan development. While community outreach and public participation meetings garner input from most transportation system users, there are also special interest groups that are traditionally under-represented.

Federal and state planning regulations require that MPOs attempt to involve all transportation stakeholders in the planning process. The following is a list of stakeholders that should be afforded the opportunity to participate:



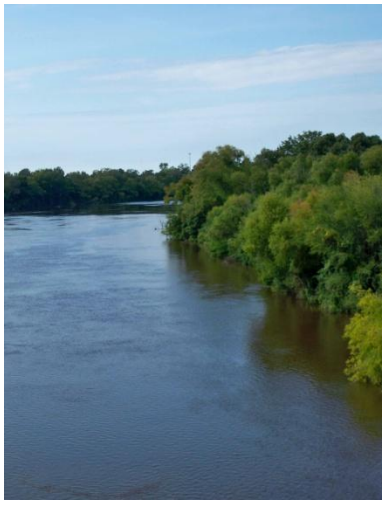
- Affected public agencies,
- Freight shippers,
- Providers of freight transportation services,
- Private providers of transportation,
- Representatives of users of public transportation,
- Representatives of public transportation employees,
- Representatives of user of pedestrian walkways, and bicycle transportation facilities, and
- Representatives of the disabled.

The following is a discussion of the consultation process that is either ongoing or was initiated during this planning process.

AFFECTED PUBLIC AGENCIES

The MPO staff regularly interacts with their federal partners such as the FHWA and FTA on a continuing basis through meetings, conferences, and workshops. Through this interaction, information and current best practices are exchanged. In addition, federal and state lands managed by U.S. Fish & Wildlife and the Louisiana Department of Wildlife & Fisheries are located in the MPO study area. MPO planners also interact with and discuss the planning process with state partners such as LaDOTD and the Department of

Environmental Quality (DEQ) through similar meetings, conferences, and workshops.



As part of this consultation process, the study team met with representatives from U.S. Fish & Wildlife and DEQ regarding the MTP Update process. A forester with U.S. Fish & Wildlife noted two nearby wildlife refuges, Black Bayou and Russell Sage, may be affected by construction of a loop connecting US 165 and LA 143. North of this area (and partially within the MPO study area) is D'Arbonne National Wildlife Refuge. He referred the study team members to the Comprehensive Conservation Plan for this area. This Plan finds three main ecological threats and problems for D'Arbonne National Wildlife Refuge. These are loss of bottomland hardwoods and habitat fragmentation, encroachment of invasives and contaminants.

The representative from DEQ expressed concern in three areas. First, there is an issue of hazardous material routing. Roadway conditions are an issue for all trucking, but particularly for hazardous materials. Second, there is an issue of underground storage tanks, particularly those that have been abandoned. Lastly, he expressed concern about traffic safety in front of the area DEQ offices. A curve in the road makes for an unsafe situation for truckers, particularly when it rains.

As part of this process the study team also met with the LaDOTD District Engineer. The two main transportation issues facing the area are a fourth bridge across the Ouachita River and a loop around Monroe and West Monroe. They are still putting funding in place for the environmental study for the new bridge. At the time of this meeting one of the bridges was inoperable and the engineer said there was an issue with one of the other bridges. Regarding the loop, the engineer indicated three of the four alignments had been roughed out. The southwest component has not been identified. In addition, there are safety issues associated with LA 15 from US 80 to LA 616.

Other issues came up with the district engineer. One is a desire to widen I-20 to six lanes. Also, Chenier Drew Rd. is crooked and is experiencing a high crash rate. Safety could be improved if the road were widened and straightened. Lastly, the district engineer informed the study team that two bridges had been rehabilitated with off-system bridge funds.

Freight Shippers and Providers of Freight Transportation Services

The Port Ouachita Port Director told the study team that the port had received a $1,000,000 grant to build a rail spur to the V-Vehicle plant and that was a major factor in their decision to locate in Monroe. They have an EDA grant to extend the rail spur and double it, but they are having trouble securing the local match.

Port Ouachita is the only place between Dallas, TX and Jackson, MS where containers can be loaded and unloaded. One factor affecting operations at the port (as well as at Bancroft Bay/Georgia Pacific) is the west bound portion of the I-20 interchange at 5th St. The port would like to see Coleman Ave. as part of the NHS and upgraded accordingly. In addition, the port director said that there are problems with the intersection at Bancroft and LA 34.

Transit Agencies

At this, Monroe Transit provides the only fixed route public transportation in the urbanized area and only within the City of Monroe. The system consists of 800 bus stops (24 have shelters). While Monroe Transit is pleased with ridership, the system could benefit from improved pedestrian access. The representatives from Monroe Transit would like to see sidewalks on all their bus routes, more pedestrian crosswalks, and ADA-compliant bus stops. At many locations, people with mobility issues cannot be let off directly at a designated bus stop because it is not safe for them.

Monroe Transit representatives (which included the general manager, a bus operator, the projects manager, and a union representative) also discussed

general issues related to transit in their area. There are many gaps in service in the rural parts of the parish due to lack of coordination among the various providers. In addition, they would like to see feeder service to outlying areas, making Monroe the northeast Louisiana hub.

The Ouachita Council on Aging (COA) provides transportation services to seniors throughout. The Director commented that seniors have difficulty riding public transit because they can't get to stops and they can't go out when the weather is extreme. In providing service, the COA has difficulty with the railroad crossing at US 165. COA vehicles are required to stop at all railroad crossings, but these are the only vehicles stopping at this particular crossing.

The Council on Aging is part of the Volunteer Organizations Assisting in Disaster. For evacuating the elderly they coordinate with the Governor's Office of Elderly Affairs.

The West Ouachita Senior Center is a 5311 provider (public transportation) with some vehicles purchased with 5309 funding. They provide service to rural western Ouachita Parish. Vehicles are maintained by the City of West Monroe which the West Ouachita Senior Center finds invaluable. However, the vehicles lack GPS and they are not able to be secured in a building at night. The West Ouachita Senior Center is surrounded by a trail that also serves an apartment complex and there are security concerns.

When providing service to downtown destinations, delays caused by the river and nearby commercial activity can add time to a trip. Many government offices are located on the east side of the river. At 8:00, 12:00, and 3:00 the river can add 15 minutes to the trip. On bad days the river crossing can add an hour to the work day commute.

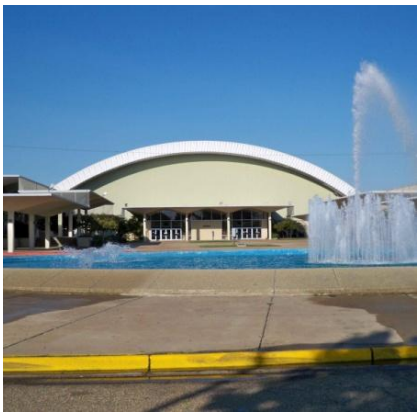
Disadvantaged and Traditionally Underserved Citizens

The Assistant Project Director of Renewal, Inc., an organization that provides services to low income and elderly people, said that some of their

customers have problems accessing jobs. In particular single mothers have issues with daycare and transportation. Also, young people who have recently graduated from high school and are trying to get to college have difficulties with transportation. Transportation-related issues for some of their clients are also caused by their lacks of bank accounts.

The Rehabilitation Manager at Goodwill said they work with people with a wide range of physical and mental disabilities. The majority of their clients do not have transportation. At Goodwill employment is their main thrust. They help clients get identification, bus passes, or whatever they need to transition to the job force.

BUSINESS INTERESTS



The Executive Vice President of the Monroe Chamber of Commerce reported two main projects that the Chamber was interested in:

- Kansas Lane Connector (this project has been on the books a long time and is a big economic development project) and
- Kansas/Garrett Connector (this project is critical).

Other important local economic development projects identified by the Chamber include the V-Vehicle plant going into the old GM plant and the new Louisiana Delta Community College (DCC) at the University of Louisiana at Monroe. DCC is one of the fastest growing schools in the country and is expected to start with 1,500 new students. In addition, the Executive Vice President expressed a desire for a fourth bridge across the Ouachita River. I-20 is an important economic development corridor for the area and she feels it needs access and frontage roads.

She also reported on the recently built racetrack and recent discussions about widening Millhaven. The potential increase in trains in the area, particularly at the 4th St. underpass (from 30 to 50 trains per day), has caused the City to apply for a Quiet Zone permit.

Lastly, the Chamber would be interested in seeing US 165 widened and to have an I-69 connector through Monroe.

HISTORIC PRESERVATION DISTRICTS

West Monroe has two Local Historic Districts. Owners of property that lies within designated Historic Districts must meet certain standards when building on, removing, or making significant changes to structures on their properties. These standards are applicable to buildings and other elements such as steps and paving.

A historic preservation plan has been prepared for Monroe (as described in chapter 2), but not yet adopted. Monroe contains two National Register Historic Districts and three Local Historic Districts. Both national districts are included in the local districts.

Cultural district designation is a tool to revitalize an area (including historic districts) that is available in Louisiana by the Louisiana Department of Culture, Recreation & Tourism. Cultural district designation provides a mechanism for cities to create a hub of cultural activity and rehabilitate revenue generating historic structures. The program allows for tax credits for rehabilitation of historic structures which are either owner-occupied or revenue generating historic structures. In addition, it provides sales tax exemption for proceeds from the sale of original, one-of-a-kind artwork from locations established within the district. More than one Cultural District may be designated in a jurisdiction. Both Monroe and West Monroe had areas designated as Cultural Districts. They are the Riverside Monroe Cultural District and the West Monroe Cultural District.

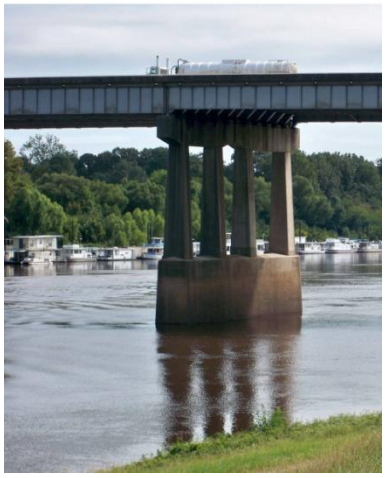
EMERGENCY MANAGEMENT SERVICES

The Administrative Assistant for the Ouachita Parish Office of Homeland Security and Emergency Preparedness said the agency had recently participated in a winter storm exercise with LaDOTD. As a result of this exercise the agency learned that closure of the I-20 Bridge due to ice would cut off supplies to hospitals and other facilities that would have heavy use in

an emergency. The railroads emerged as potential partners to move critical supplies in an emergency, and it would help if there were an MOU with the railroad companies.

In addition, the Administrative Assistant would like to see additional bridge crossings, perhaps two or three, and the completion of US 165 to the south.

Transportation Safety and Security Agencies



The City of Monroe maintains all signals in its area – including those on the state system. They conduct all warrant and delay studies and then submit their results to LaDOTD for final determination. At this time they are upgrading the reflectivity plan for the area to the newly adopted yellow-green fluorescent color.

A representative of the West Monroe Police Department said that security was not a major issue on the west side of the river. He suggested that Arkansas Rd. is a real traffic problem on the west side. However, the top crash location is the I-20 westbound off ramp at Thomas Rd. While most crashes are minor, they are frequent. Two other high congestion locations are Thomas Rd. and Downing Pines at US 80.

A Senior Trooper with the Louisiana State Police said they are currently developing a GIS-based tool to analyze crash locations. He mentioned only US 80 between Monroe and Rayville as being problematic. It is in bad shape, which is bothersome since it is the alternate route for hazardous materials.

Local Government Partners

The Planning Director for the City of Monroe reported on a variety of activities in the area. The City has a comprehensive plan, *One City, One Future*, which was adopted in November 2008. In addition, with the university in town the city has a large student population and the university has recently built a parking garage. The addition of a bus stop and bike racks would make this a multi-modal facility. Currently the buses have bike

racks and the City has recently received funds to improve signage at bus stops.

The City adopted a bicycle plan in 1988 and is seeking funding to update that plan. They have recently produced route maps with connected routes that serve major destinations including the zoo. Local bicycle and pedestrian advocates have formed a group – MASS: Monroe Advocates for Safe Streets.

The Planning Director also reported that there is no on-street metered parking in the region.

The West Monroe Planning and Zoning Director said the department is hampered by insufficient funds to meet all their needs; however the area does have some big roads which are helpful for getting federal funds. The City of West Monroe does not have a comprehensive plan. The Planning and Zoning Director noted several roads in the area in need of attention. These include Montgomery St. (which is already included in the TIP), and N. 7th (LA 143) from Mill to Arkansas Rd. (LA 616). He also discussed bicycle use and facilities in the area. He suggested Arkansas Rd. from LA 15 to Well Rd. would be a good candidate for a trail.

DEVELOPMENT OF ALTERNATIVE GROWTH SCENARIOS

Due to moderate growth in the Monroe Urbanized Area in the past few years, the future growth scenario developed during the previous MTP Update process was used as a base future scenario for this update process. During the public visioning meetings participants were asked to indicate on maps where they thought growth would happen in the area. Several citizens mentioned certification of the levee in the southern portion of the study area as being a main determinant regarding where future growth might occur. There was concern that the levee might not be certified by the

US Army Corps of Engineers which would create flood insurance issues for residents and therefore deter people from moving to the area.

A final source for growth scenarios resulted from discussions with local stakeholders. Local planning officials and others familiar with the various factors that might affect growth provided input regarding where they thought growth might and might not occur.

Visioning and Scenario Based Planning Workshops solicited public input regarding the future of the transportation system in the Monroe Urbanized Area, which includes Monroe, West Monroe, Richwood, and Bawcomville.

PUBLIC VISIONING PROCESS

To gather public input regarding the planning process for the MTP Update, OCOG held a series of Visioning and Scenario Based Planning Workshops. These workshops solicited public input regarding the future of the transportation system in the Monroe Urbanized Area, which includes Monroe, West Monroe, Richwood, and Bawcomville. At these workshops, stakeholders and members of the public shared their concerns, ideas, values, and visions. The following is a description of that process and its outcomes.

OUTREACH METHODS

The study team utilized various outreach methods to inform the public about the update process and the Visioning and Scenario Based Planning Workshops. The study team invited transportation stakeholders and the public to attend one of three visioning workshops through personal invitations sent to "interested parties" on OCOG's mailing list. To notify the general public within the Monroe Urbanized Area, advertisements were placed in local print media that announced the date, time, and location of the Visioning Workshops. The advertisements ran for a full week in the Monroe News-Star, and one week each in the Monroe Free Press and the University of Louisiana at Monroe Hawkeye newspaper. West Monroe is served by the weekly paper the Ouachita Citizen, where the advertisement ran for two weeks. The study team also distributed media releases and advisories announcing the Visioning Workshops. The media advisory

provided information on the date, time, location, and purpose of the Visioning Workshops.

SCENARIO WORKSHOP REGISTRATION AND MATERIALS

During registration, participants were given a set of dots with a color based on where they lived: Monroe, West Monroe, Richwood, or Ouachita Parish. Before leaving the registration area the participant was asked to place one of their dots on a map of the area in the general location of their home. He or she was then asked to sit at a table. Approximately four to eight (4-8) people were at each table. At each table, there was also a member of the study team to facilitate group activities and to help answer participant questions. Assistants to the facilitators recorded comments and concerns to supplement information that participants recorded in their individual participant workbooks (which were collected at the end of the workshop). After signing in, each participant was given a participant workbook that included an agenda and the workshop exercises for the evening.

VISIONING WORKSHOP OVERVIEW

At each table, the participants were welcomed by a member of the study team and any elected officials in the room were introduced. Mr. JD Allen served as the moderator for all three workshops.

Mr. Allen introduced himself as the moderator for the evening. He then started a PowerPoint presentation that he used throughout the workshop.

The moderator told the participants that this process is based largely on a public participation program to set the vision for future growth through open dialogue, collaboration, and the use of scenario-based planning tools. He said the purpose of the workshop was for the public to tell the MPO about the transportation needs and challenges over the next 25 years and to give input regarding the importance of the criteria used to evaluate MPO transportation projects. He told participants that they would be asked to do three things:

1. Help the MPO to understand the critical transportation issues that they expect to be facing in the future.
2. Help the MPO to evaluate the importance of a new list of criteria, which are used to evaluate various land use scenarios and transportation projects.
3. Share with the MPO their vision of what the future transportation system in the Monroe Urbanized Area should look like in order to serve the needs of the people living in the study area.

The moderator then provided participants with a workshop overview. He said that they would be working in table groups in order to give everyone an opportunity to participate. The moderator stated that each table would be facilitated by a member of the study team. The participants were then guided through a series of workshop exercises designed to solicit their input as part of the Visioning Process.

WORKSHOP EXERCISE I - STAKEHOLDERS PRESENT

The moderator introduced Exercise I and asked the facilitators at each table to lead a discussion of the stakeholder groups represented. The participants were directed to the list of stakeholder groups in their workbooks and asked to place an X in their own workbooks next to *all* of the stakeholder groups to which they belonged. The table below presents the results of that

exercise. All tables and figures presenting workshop results show data from all three workshop sessions.

Table 3-2: Stakeholders Present

STAKEHOLDER GROUP	NUMBER OF PARTICIPANTS
Private Auto/SUV/Pickup User	29
Bicycle User	12
Pedestrian Facilities (sidewalks, hike & bike trails, etc.) User	17
Public Transit User (inside Monroe)	4
Public Transit User (outside Monroe)	1
Transit for the Elderly and Disabled User	2
Airport User	25
Intercity Bus and/or Rail User	2
Water Port User	1
Responsible for Transportation of Children	5
Business Owner	12
Member of Community Group (such as neighborhood association, civic club, etc.)	20
Member of Environmental Protection Organization	2
Member of Historic or Cultural Preservation Organization	6
Representative of an Agency that Provides Traffic Control	0
Representative of an Agency that Supports Ride-Sharing	2
Representative of an Agency that Regulates Public Parking	0
Representative of an Agency that Is Responsible for Transportation Safety	4
Representative of a Law Enforcement Agency	1
Representative of an Agency that Is Responsible for Land Use Management	3
Representative of an Agency that Is Responsible for Natural Resources	0
Representative of an Agency that Is Responsible for Environmental Protection	0
Representative of an Agency that Is Responsible for Energy Conservation	0
Representative of an Agency that Is Responsible for Historic	4

STAKEHOLDER GROUP	NUMBER OF PARTICIPANTS
Preservation	
Transit Operator	3
Airport Operator	0
Port Authority	0
Private Transportation Provider (e.g. taxis, buses, etc.)	1
City or Parish Elected Official	1
Tribal Official	0
Planning Organization Member	5
Freight Handler – or Freight Company Owner	0
Member of a Population that Is Traditionally Underserved by the Transportation System	6
Resident of Monroe, West Monroe, or Richland	18
Resident of Ouachita Parish – Outside of the City Limits of any Incorporated City	17

WORKSHOP EXERCISE II- CURRENT STATE OF THE TRANSPORTATION SYSTEM

The moderator introduced workshop exercise II by explaining to the participants how the MTP Update process works, focusing on the fact that the plan must address transportation issues over the next 25 years. The moderator then asked the participants to complete the following two tasks:

Task 1. With the other members of your table group, please answer the following question:

Thinking about future changes to the region and the nation, (Hurricanes and/or environmental changes – Gas prices – Aging Boomers – Economic Changes – Land Use Changes – etc.), are there any users of the transportation system that will be poorly served if there are no changes to the system?

Each table had a general discussion of the question. The facilitators recorded the following themes from that discussion:

Factors affecting transportation

- Many people will be living to an older age (increasing population of older and handicapped people), and will have transportation needs different than today.
- We may not be driving.
- Young people today are overweight – obesity will affect transportation.
- Need alternative fuel; cost of oil is an issue.
- Need low cost ways to transport people to their destinations.
- Growth affects neighborhoods.
- We will be shuffling great-grandchildren around.
- More jobs will be coming to the area meaning more cars on the road.
- Small cars will be more prevalent.

Modes and projects

- We'll have a need for public transit and different types of transit like ramps, small shuttles, handicap accessible, electrical sidewalks, small train/light rail.
- Lighter and smaller buses that run more efficiently.
- Transit for the elderly, handicapped, and low-income population (including in rural areas).
- Connect transit to V-Vehicle & community college.
- Train service (Amtrak) in the region and to Baton Rouge and shuttle to Sterlington.
- Need more turning lanes.
- Need new bridge, fix and maintain the bridges we have.[1]
- Bike share and car share would be viable.
- Need more bicycle infrastructure including streets wide enough to accommodate bicyclists and a route connecting to the ULM campus.
- Need more sidewalks.
- Need more safety signs for crossing US 165.

[1] During the period leading up to the workshops, one of the bridges crossing the Ouachita River was stuck in the "open" position preventing automobile traffic from crossing the river.

- Traffic congestion on US 165 near ULM is a problem.
- Lots of traffic on Louisville.
- There is too much traffic congestion for this size town.
- W Monroe will be very congested in future.
- Louisville Ave. very congested – maybe need more lanes?
- Only 3-4 major E-W arterials - more E-W needed.
- Expand Well Road crossing over IH 20.
- We need to separate cars from freight.
- Airport can be a transportation hub & bigger airport would lower the prices.

Growth/no growth areas

- There are high growth areas that were forest just a few years ago.
- There hasn't been any change in the past 26 years.
- People will be moving to the central area and require buses to get around.
- Sterlington is growing.
- There's not much land left to build on.
- Parish needs more land use controls.

Task 2. If there are any important issues that have not been recorded by your facilitators, please write them in your workbook. The facilitators asked the participants to complete Task 2.

The following comments represent the general comments recorded in participant workbooks:

- Get DOTD to study Phillips Bridge and route connecting to the university.
- Overall population will age, currently population is not growing – it's stable.
- Anticipate major economic growth between Hwy 80 and IH20 east of city.
- Transportation was key to these groups: car manufacturing (Vo-Tech), river port, sweet potatoes, Delta Community College.
- Need trains, 15 bus routes, and 35 buses.
- Install traffic cameras for safety/security.
- Increase bike connections.
- Everyone will be poorly served by the transportation system if we don't make changes.
- Hurricanes may cause increases in population and need for services at higher rate than previously. Transit & transportation alternatives will be have to [be] planned for and built quickly. Keep up on studies of land use and migration patterns.
- Need more safety for pedestrians and on walkways & sidewalks.
- Anticipate congestion before it happens. Need more options for modes of travel and for conserving energy.
- Redo/reduce streets & driveways along 18th and 19th St., Louis Ave.
- Better traffic & congestion planning to anticipate more cars on the road.

Presentation - Evaluation Criteria

The moderator presented to the participants a list of major criteria used to evaluate transportation projects. He explained that the list has been developed over many years of gathering input from the public and reflects

the recommended criteria in the new SAFETEA-LU legislation. The following is the list of criteria presented:

- Improve Safety,
- Improve Security,
- Protect Environment ,
- Reduce Congestion,
- Promote Efficiency,
- Support Economic Development Goals,
- Support Land Use Goals,
- Increase Connections,
- Improve Access,
- Connect Modes of Travel,
- Conserve Energy,
- Improve Quality of Life,
- Increase Multi-Modal Options, and
- Preserve Rights-of-Way.

WORKSHOP EXERCISE III - RANKING AND SCORING CRITERIA

The moderator introduced workshop exercise III and asked facilitators to lead their respective table groups in completing the following three tasks:

Task 1. Briefly discuss the criteria presented by the moderator.

There was a brief discussion and explanation of the criteria after which the table groups moved on to complete Task 2.

Task 2. Group Ranking of the Criteria.

The participants at each table placed ten dots on a chart listing the criteria to indicate the criteria that they felt were the most important. By counting the dots next to each criterion, each table could clearly see which criteria were deemed the most important to the people at their table. By averaging the rank received by each table, an overall prioritized list of the criteria was revealed. The following table indicates the number of ranking dots received by each criterion.

Table 3-3: Weighted Scoring of Criteria by Participants – All Tables

Criteria	Total Number of Dots
Reduce Congestion	71
Improve Quality of Life	57
Support Economic Development Goals	50
Improve Safety	46
Increase Connections	44
Improve Access	34
Conserve Energy	34
Support Land Use Goals	27
Protect Environment	20
Promote Efficiency	20
Connect Modes of Travel	19
Increase Multi Modal Options	17
Preserve Rights-of-Way	13
Improve Security	9

Task 3. Individual Scoring of the Criteria.

Please use the following chart to score each individual criterion – once again based solely on your personal preferences.

Participants were asked to score each criterion on a scale from 1 to 5. The results from the scoring of the criteria are listed in Table 3-3.

As a result, the following is a list of the criteria in ranked order:

Table 3-4: Individual Criteria Scoring

Criteria	Average Score
Reduce Congestion	3.9
Improve Quality of Life	4.4
Support Economic Development Goals	3.9
Improve Safety	4.0
Increase Connections	3.8
Improve Access	3.9
Conserve Energy	3.8
Support Land Use Goals	3.4
Protect Environment	3.8
Promote Efficiency	3.7
Connect Modes of Travel	3.7
Increase Multi Modal Options	3.5
Preserve Rights-of-Way	3.4
Improve Security	3.3

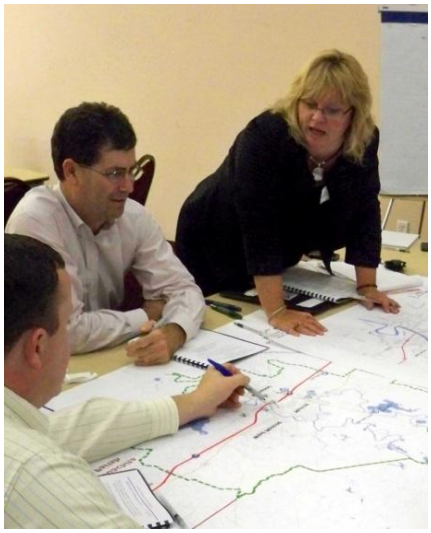
Presentation on Growth Trends

The moderator presented a series of maps showing recent growth trends in the area.

The moderator also explained the traffic flow diagrams in the workbooks are based on the currently available population projections and may need to be amended.

Lastly, the moderator explained the transit map. The moderator once again asked that the participants share their knowledge and experience regarding transit needs of the community when completing the remaining exercises.

Workshop Exercise IV - Dialogue on Growth Trends



The moderator asked that the facilitators lead a dialogue answering the following question:

Do you think that these growth trends accurately indicate what will happen in the future? What aspects of the trends do you think are desirable? What aspects of the trends do you think are detrimental to the area?

The facilitators took notes on the dialogue and those remarks that differ from those received in Exercise II are listed below:

Growth/no growth areas

- Development outside of the city limits will continue.
- Increase of population toward V-Vehicle plant, Gardiner, Denver, Centrum, Accent.
- Growth will go up north US 165 (near the lake) & IH 20 east & west.
- No growth near the Wildlife Management Area and the dump.
- The area between Monroe and Rayville is low and prone to flooding.
- We should grow towards Sterlington.
- New Industry – V-Vehicle, Delta Community College, Motor Speedway, W Monroe Commercial Park.
- South US 165 – residential & commercial growth.

- North US 165 – new homes, new growth.
- There will be residential growth if new sewer is implemented.
- If the levee is decertified growth east of the river will move to west Ouachita Parish.
- Just north of IH20 in Monroe is marshland.
- Residential growth past Sage.
- Northeast area is good for growth and expansion.
- Growth (mainly residential) in west Ouachita Parish and there is nothing wrong with building there.

Projects

- Connection road between IH 20 & Sterlington.
- North US 165 bus service needed as well as to West Monroe & Thomas Road, Industrial Park, Glenwood, and Swartz.
- Bike path along the levee.
- Transit to paper mill.
- Bus from Monroe to W. Monroe needed.
- New Jersey has "jug handle" left turns which work well- could work in Monroe.
- Reducing congestion on Louisville will help businesses.
- Need signal synchronization on US 165.

Other comments

- Need to improve Monroe urban school system
- With the development of certain businesses, housing, and school districts will need to be improved and land use regulated with the use of zoning

The facilitators then asked the participants to record in their workbooks anything that the participant felt was of particular importance or anything that needed further clarification after the dialogue.

- I support infill development.

- Protect environmentally sensitive areas.
- Lack of infrastructure to limit growth and land use control.
- Growth towards Sterlington, Richwood and little growth toward Vicksburg.
- The flood plain should be considered when permitting building.
- Need another bridge over the Ouachita River.
- Growth goes toward Sterlington & eastward.
- We need to think about land conservation as we go into the future. Increasing roadway capacity encourages urban sprawl.

PRESENTATION - THE PUBLIC'S ROLE IN THE MTP UPDATE PROCESS

The moderator explained the public's role in the MTP Update process and explained that the following factors should be considered in evaluating any transportation system:

Trip purposes that need to be considered when creating a working transportation system:

1. Journey to work
2. Goods movement and trade
3. Tourism, entertainment, and recreation
4. Economic generators
5. Community travel (small trips near home)
6. Evacuation for emergencies – natural and man-made

Modes of travel included in the transportation system:

1. Streets and highways
2. Public Transit
3. Bike ways
4. Pedestrian ways
5. Airports
6. Rail lines

7. Water ports
8. Intermodal transfer points – including parking

Users of the transportation system:

1. Adults who drive
2. Adults who do not drive – poor, elderly, disabled
3. Children
4. Freight movers
5. Tourists
6. Emergency services – ambulance, fire, police

WORKSHOP EXERCISE V - THE TRANSPORTATION SYSTEM IN 2035

The moderator introduced workshop exercise V and asked the facilitators to lead the participants at each table in completing the following tasks:

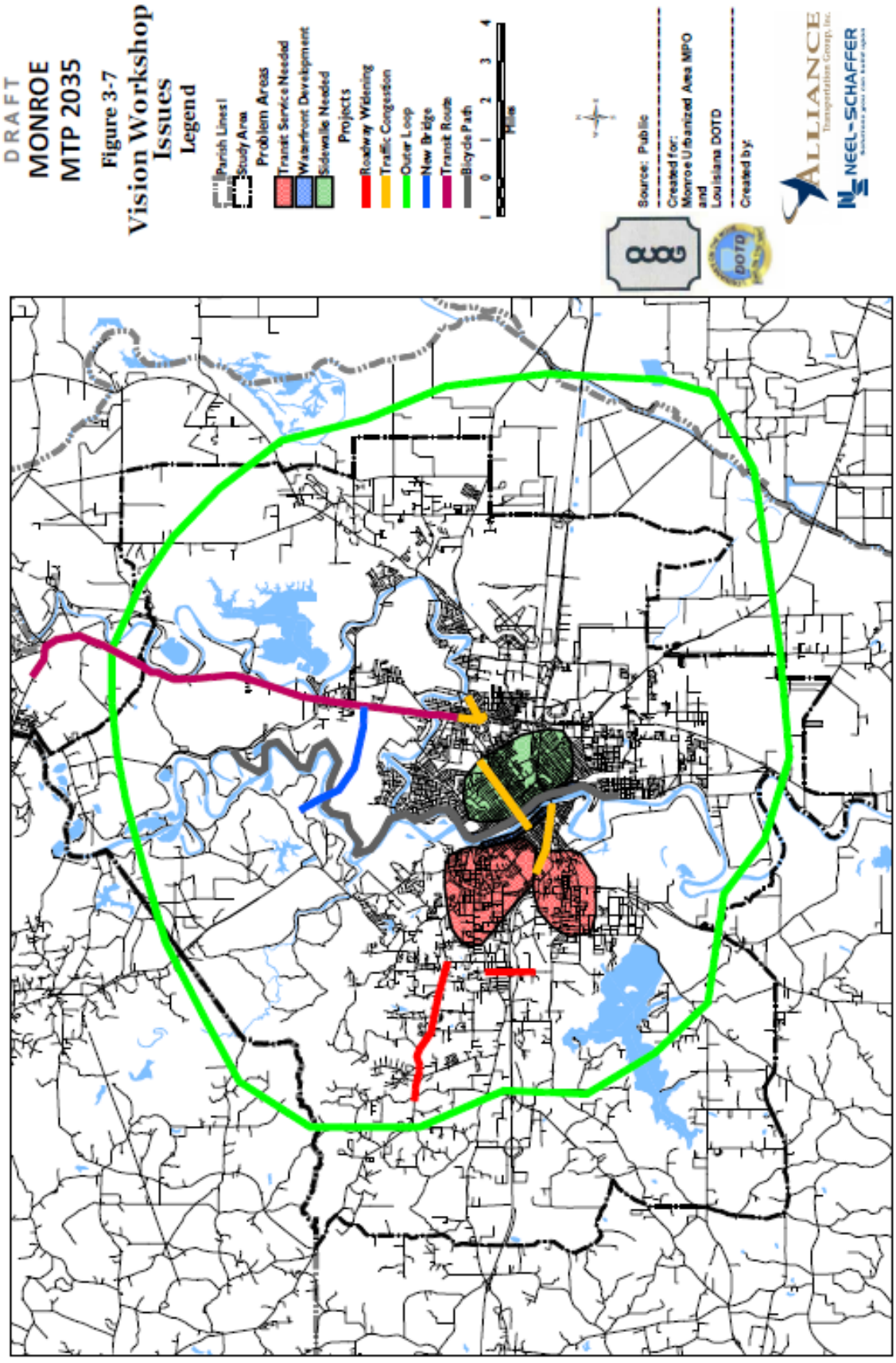
Task 1. The table groups discussed the changes in their personal needs over the next 25 years as well as the changes in the environment and community.

Task 2. The participants marked a number of areas on the maps where they believed that changes were needed.

The participants marked a number of areas on the maps where they believed that changes were needed. A map summarizing participants' marks

is presented as Figure 3-7. However, some comments were general and not easily represented graphically. These remarks include:

- We should get rid of eighteen-wheelers in the downtown area - truck bypass.
- New bridge over the Ouachita River at Hideaway White's Ferry Road or north of there and south of IH 20, south of Cheniere Brake- build a loop around the city.
- Sidewalks throughout the city and the Parish.
- A recreation center is needed outside the city limits as well as transit (more bus routes).
- Straighten out LA 15.
- We need trails around the bayous and along the river.
- Transit feeder service into and in the downtown West Monroe area.
- We need intercity bus routes among the following communities: Calhoun, Swartz, Richwood, Monroe & West Monroe.
- Why don't we have a US interstate other than IH 20?
- We'll need a new airport terminal in the next 25 years.
- Build overpasses to get around trains - stopped trains create a problem for buses & emergency vehicles.
- Port in W. Ouachita.
- Certify the levee or all items fail.
- Downtown parking garage needed.
- Transit service areas needs to improve (expand) due to need of access to facilities dealing with medical accommodations.
- Needed preparedness for migration northwards from the coast due to storms.
- Roads that are blocked off need better markings to identify their closure or disuse.


DRAFT
MONROE
MTP 2035
Figure 3-7
Vision Workshop
Issues
Legend
Parish Lines
Study Area
Problem Areas
Transit Service Needed
Waterfront Development
Sidewalks Needed
Projects
Roadway Widening
Traffic Congestion
Outer Loop
New Bridge
Transit Route
Bicycle Path
Miles
Source: Public
Created for:
Monroe Urbanized Area MPO
and
Louisiana DOTD
Created by:
ALLIANCE
NEEL-SCHAFFER

Task 3. Record any comments that you would like regarding this exercise.

The results from the map exercise and the comments written by the participants are listed below:

- Complete streets where possible!
- We need Phillips Bridge and sidewalks.
- The transit (bus) should travel between Monroe & West Monroe.
- Need bus service in West Monroe! As well as on North 165, Richwood, Schwartz and other areas.
- We need more bike paths and a fourth river crossing.

WORKSHOP CLOSING

At the close of the workshop, the moderator thanked the participants for coming and sharing their knowledge and experience. He then explained the next steps in the MTP Update process, and the way in which participants could continue having input to the process.

ESTABLISHMENT OF VISION AND GOALS

The study team drew from all of the input processes listed above to develop the following vision and goals for the MTP planning process:

VISION: The quality of life in the Monroe Urbanized Area is supported by a transportation system that supports the local economy and provides residents safe, convenient, and affordable transportation choices to desired destinations.

GOALS OF THE MTP PROCESS:

- Use the existing transportation system efficiently and maintain it to maximize public investment.
- Expand non-driving transportation options such as public transportation, bicycling, and walking.

- Develop a transportation system consistent with local social, land use, economic, energy, and environmental plans.

CREATING MEASURES OF EFFECTIVENESS

The establishment of a vision and goals for the MTP planning process is meaningless unless there is a method for evaluating whether the goals are being met. Through the data gathering process, and consulting with technical advisors, a set of criteria for evaluating the transportation system was created that included both federal and state mandates and local values. After the set of values was created and ranked by the public, the Policy Committee of the MPO approved the ranked criteria. After consultation with the Technical Advisory Committee and the Policy Committee, one additional criterion was added to the bottom of the criteria list – Cost Sharing (a measure of local financial participation). The study team then created a set of performance measures that would be used to apply those ranked criteria in the process of evaluating whether the community's vision and goals were being met by any project or set of projects.

Based on input from the public and the MPO a final ranking of the criteria was established. The results are presented in the table below.

Table 3-5: Final Ranking of Criteria

Rank	Criteria
1	Improve Quality of Life
2	Reduce Congestion
3	Improve Safety
4	Support Economic Development Goals
5	Improves Access
6	Increase Connections
7	Conserve Energy
8	Protect Environment
9	Promote Efficiency
10	Connect Modes of Travel

Rank	Criteria
11	Support Land Use Goals
12	Increase Multi-Modal Options
13	Preserve Rights-of-Way
14	Improve Security

The following is an explanation of the list of criteria adopted for this MTP. Although many of the criteria have overlapping characteristics (e.g. reducing congestion can also improve the environment and support economic development goals), each of these criteria was used separately to evaluate whether suggested transportation projects were meeting the vision and goals of the community.

THE CRITERIA

Improve Safety. Safety is defined as protection against unintentional harm and relates to both motorized and nonmotorized modes of travel. Examples of improved safety could be: a reduction in the number of automobile crashes involving personal injury; a reduction in the number of crashes involving bicycles and automobiles resulting in personal injury; a reduction in the number of infrastructure failures that cause personal injury; or improved operations of an emergency counter flow plan on major roadways in the area in response to a hurricane..

Improve Security. Security is defined as protection against intentional harm and relates to both motorized and nonmotorized modes of travel. Examples of improved security could be: a reduction of the risk of individual acts of criminal behavior on a transit line; improvement in the emergency response capacity after an act of terrorism; or reduced time that it takes emergency vehicles to respond to incidents in a particular neighborhood due to improved access roads.

Protect the Environment. Methods for protecting the environment are as unique as the local environments that they serve. Therefore, examples of

ways in which a transportation system can impact the environment are myriad. In the Monroe Urbanized Area, environmental protection issues are primarily related to water quality.

Reduce Congestion. Congestion is defined as a roadway system operating at speeds below that for which it was designed. Congestion levels can be measured quantitatively, but the tolerance for congestion is a local values decision. The numeric level of congestion that the people in Los Angeles find acceptable is not necessarily the numeric level of congestion that the people of the Monroe Urbanized Area find acceptable. Therefore, congestion is evaluated both quantitatively and qualitatively based on input from the public in the Monroe Urbanized Area. Examples of ways in which congestion could be reduced are: the addition of turning lanes; improvements to signalization; a reduction in the number of access points; an increase in the number of lanes; or restriction of freight movement during peak travel times.

Promote Efficiency. Efficiency is promoted by improved system management, the preservation of the existing transportation system, and the reduction in costs. Examples of the promotion of efficiency in the transportation system could be: starting a travel demand management program; improvement in the operations and management of the system; establishment of a regular repair and maintenance program; or the use of cost sharing programs.

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. Examples of ways in which the economic development goals of the community could be met are: providing pedestrian amenities along a business corridor; improving the efficiency of freight movement to and from a port; providing transit access

to mixed-use neighborhoods; or connecting tourist destinations by circulator buses.

Support Land Use Goals. The land use goals of the community are defined by the planning ordinances and land use plans of the local jurisdictions and through the public visioning process. Examples of ways that the land use goals of the community could be supported are: not building new roads into areas prone to flooding; providing transit to areas designated for transit oriented development; providing lanes for non-motorized travel; or expanding or improving the roads into areas designated for new residential construction.

Increase Connections. The connectivity of the streets network and circulation system is measured through the ease by which people and goods can move to their desired destinations. Connectivity relates not only to the ease of movement of people and goods within the community, but also to external destinations – regional, national, and international. Examples of ways in which connections could be increased are: adding bridges across water barriers; adding access roads to neighborhoods; adding bike and pedestrian paths from neighborhoods to schools that do not necessitate crossing major arterials; providing transit service that allows people who live in the city to commute to suburban jobs; or providing highway facilities to ports and rail terminals.

Improve Access. Improving access involves control and management of the ingress and egress points to a transportation facility for people and freight. Increasing the number of access points does not necessarily improve access. Improved access is based on a balance between the number of access points and the efficient movement of traffic through the transportation facility. Improved access is often achieved through an access management program that establishes design standards that provide for this balance. Examples of ways in which access could be improved are: a reduction in the number of driveways that enter a major arterial; an increase in the number of transit stops in the community; improvement of roads before allowing

new development; development of a hierarchical master street plan that designs roads based on use; or provision for bicycles and pedestrians to cross interstates.

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. Examples of multimodalism for the movement of people include bike racks on buses and sidewalks from transit stops to nearby destinations. An example of intermodal connectivity for goods is a transfer terminal where containers are transferred from barges or rail cars to trucks.

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. Examples of ways in which this reduction could be achieved include: a reduction in the number of miles driven; a reduction in the use of single occupancy vehicles; an increase in the use of non-motorized modes of travel; or a reduction in idling time by freight movers.

Increase Multi-modal Options. Increasing multi-modal options for the movement of people and goods creates choice. In order for people to choose to use a more energy efficient mode of travel, there has to be more than one mode of travel available. This criterion is about creating options. Examples of ways in which multi-modal options could be increased are: expansion of the fixed route transit system into previously unserved areas; expansion of the hours of operation of the transit system; an increase in the number of streets with sidewalks; an increase in intermodal freight transfer facilities; an increase in park and ride facilities; or an increase in the number of sidewalks that meet ADA accessibility requirements.

Preserve Rights-of-Way. When streets and highways are expanded, either through the addition of miles or through widening of existing roadways,

land must be purchased for this construction. The more developed the area is, the more expensive the land. Preservation of right-of-ways refers to purchasing land before development occurs in anticipation of future expansion of the transportation system. Examples of ways in which right-of-ways could be preserved are: the purchase of enough land to build a four lane highway even though the current plans only call for the construction of a two lane facility; the purchase of land at points along an interstate where future entrances are planned, but where no development currently exists; or the restriction of development through land use ordinances along transportation corridors to industrial areas.

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. Examples of ways that a transportation system could have a positive impact on the quality of life are: a reduction in mobility gaps experienced by low-income communities; a reduction in the time that families spend commuting to school and work; a reduction of crime at transit stops; an increase in the walkability of the community; or improved access to recreation areas. Examples of ways that the transportation system can have a negative impact on the quality of life in a community are: addition of access points to a neighborhood that encourages through traffic that endangers children at play; widening of roadways to improve port access that also encourages truck traffic carrying hazardous materials through residential neighborhoods; an increase in the noise or pollution from added lanes; the lack of aesthetic amenities along a roadway; or the lack of restrictions on the movement of heavy trucks through historic neighborhoods causing destructive vibrations in historic structures.

4. Identification of Regional Transportation Needs

A deficiencies analysis of the transportation system within the Monroe Urbanized Area was conducted by the study team to determine the needs to be addressed by the MTP. The current plans for future land use and economic development in the region were considered, as well as the information gathered from the public visioning and consultation processes.

The analysis of need included both quantitative and qualitative evaluations for the forecast years of 2010 to 2035. The region's existing travel demand model was updated and used to conduct the roadway needs analysis and other qualitative analyses were used for the non-roadway elements. Therefore, this Chapter is split into roadway and non-roadway needs assessment.

While demographic forecasts are used throughout the MTP update process from visioning to needs analysis, the data are especially useful in updating the travel demand model. Therefore, the demographics estimation and forecasting methodology are discussed in the section relating to the travel demand model update.

Roadway Needs Assessment

Estimating Base Travel Demand

Current travel patterns, in combination with defensible assumptions regarding demographic and socioeconomic trends, are used to create estimates of future travel demand. Travel demand models are able to take

demographic forecasts and estimate future travel (vehicle) demand on the roadways or demand on alternative transportation modes.

Figures and maps presented in this section provide an overview of the 2008 travel patterns within the model area and how well those model patterns match reality.

Travel Demand Model

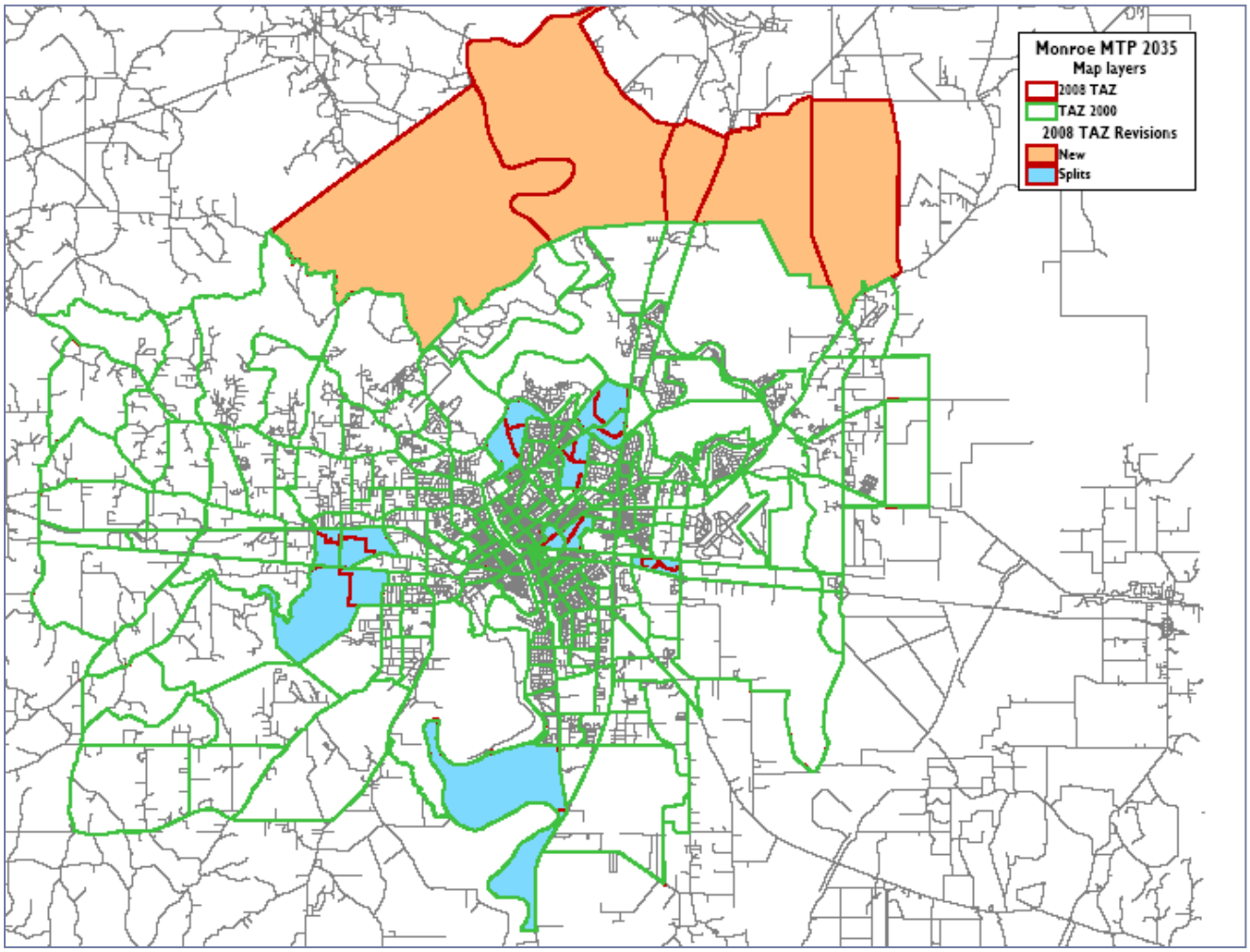
Travel demand forecasting quantifies the existing and future interaction between supply and demand for the transportation system. The supply of transportation is represented by the characteristics of the highway network. The demand for transportation is created by the separation and intensity of urban activities. Land use forecasts provide estimates of where people will live and where businesses will locate in the future. These forecasts include the intensity of activity in an area, such as the number of households, employees, and socioeconomic data concerning income levels and household size. These forecasts are prepared for small geographic areas called traffic analysis zones (TAZ). Descriptions of the service characteristics of the highway and the land use forecasts are direct inputs to the travel demand-forecasting model.

Monroe Urbanized Area Travel Demand Model

TAZ Structure

In preparation of this MTP Update it was necessary to first update the Monroe TAZ structure and model network. The existing model has been refined and expanded by twenty-two new internal zones to provide more realistic loadings on the roadway network and to expand the model area northward. These new zones were created from the existing TAZ structure without disrupting the existing TAZ boundaries. The new zones and split zones are shown in Figure 4-1.

Figure 4-1: New Traffic Analysis Zones (TAZs) and New Split Zones



The accuracy necessary for generating trips from planning data requires that the data be aggregated by small geographic areas called Traffic Analysis Zones (TAZs). These TAZs are generally homogeneous areas and were delineated based on factors such as population, land use, census tracts, physical landmarks, and governmental jurisdictions. The TAZ structure used in the creation of the 1996 TRANPLAN model encompassed the 1990 Census Urbanized Area. The Study Area boundary was expanded for the previous model update to include all of the 2000 Census Urbanized Area and was expanded again during this model update to match the new urbanized area boundary. New TAZs were created for the expanded area and some of the

original TAZs were subdivided to provide more realistic loading points on the street and highway network and to account for recent residential and commercial development. The Monroe Urbanized Area MTP 2035 study area contains 248 TAZs. The identification of the new TAZs and the splits are shown in

Table 4-1.

Table 4-1: New TAZs and Split TAZs

New TAZs	228, 229, 230, 231, 232

Original TAZ	Split Into
10	10, 310
24	24, 324
58	58, 358, 359
64	64, 364, 365, 366
69	69, 369
70	70, 370
95	95, 394, 395, 396
112	112, 312
179	179, 379
180	180, 380
197	197, 397

Throughout this report, there may be slight differences in the totals for these data. These apparent discrepancies are due to mathematical rounding, which takes place as a result of calculations by the computer modeling software.

The expansion of the study area necessitated the moving of three external stations and the creation of a new one. The splitting and re-numbering of

several TAZs also requires the re-numbering of the external stations. The conversion table from 2000 to 2008 is shown in Table 4-2.

Table 4-2: 2000 to 2008 External Station Conversion

2000 Ext Station	2008 Ext Station
301	501
N/A	502
302	503
303	504
304	505
305	506
306	507
307	508
308	509
309	510
310	511
311	512
312	513
313	514
314	515
315	516

ROADWAY NETWORK

In addition to modifying the model zone structure, the roadway network was also modified to create a 2008 base year network. Examination of the existing network revealed configuration and alignment issues. Instead of making changes to this network a new network was built based upon the 911 address layer acquired by the MPO. Links that were included in the network were identified by the LaDOTD functional class system and were coded based on the codes in Table 4-3. In addition, other significant local streets were included as network links for continuity and consistency to match the density of the TAZ structure.

Table 4-3: LaDOTD Functional Classification

Code	Description
01	Rural Interstate
02	Rural Principal Arterial
06	Rural Minor Arterial
07	Rural Major Collector
08	Rural Minor Collector
09	Rural Local
11	Urban Interstate
12	Urban Expressway
14	Urban Principal Arterial
16	Urban Minor Arterial
17	Urban Collector
19	Urban Local

Other descriptive data for number of lanes and posted speed were obtained from the existing TransCAD layer. These data were then updated to 2008 using information from the MPO, LaDOTD, and recent aerial photography. The lanes were coded as described in Table 4-4.

Table 4-4: Lane Coding for Links in the Monroe Model Network

Code	Description
1	One lane, one way link
2	Two lanes, one way link or one lane each direction,
3	Three lanes, one way link or one lane each direction with center turn lane
4	Two lanes each direction, two way link
5	Two lanes each direction with center turn lane
6	Three lanes each direction, two way link

Traffic counts are an important data source in model development. Traffic counts are stored on the roadway network and used to verify the accuracy of the travel model. The travel demand 2008 model was compared to available 2005, 2006, and 2007 traffic counts supplied by LaDOTD and the MPO. This ensured its predictive ability and allowed forecasts to be made with a certain degree of confidence. Figure 4-2 depicts the 2008 base roadway network showing count locations used for the model validation. Overall, seven percent of the links within the Monroe model have a count coded as an attribute.

Figure 4-2: MPO Study Area Traffic Count Locations

MODEL STRUCTURE

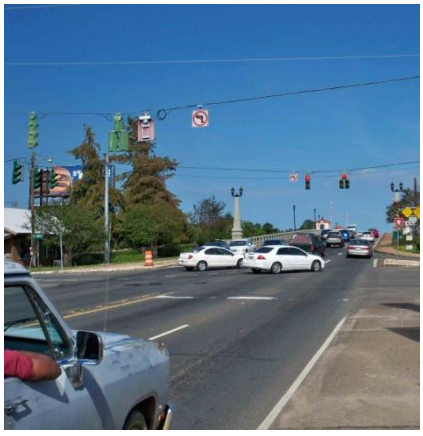
The internal structure of the travel demand model remains unchanged. The model runs with the TransCAD software package and is composed of three steps: trip generation, trip distribution, and trip assignment. Trip generation is the first step in the travel demand model process. The result of the trip generation model is a set of trip productions and trip attractions

for each traffic analysis zone (TAZ) that can be passed to the trip distribution model. Trips are categorized into five trip purposes: home based work (HBW), home based other (HBO), non-home based (NHB), truck (TRK), and external/internal (EI). Trip purposes are used to group similar travel that can be predicted with similar variables.

Trip distribution is the second step in the model. The trip distribution process takes the production and attraction trip ends produced during trip generation, and connects them as origin – destination pairs based on the trip length frequency curves for each trip purpose. The trip length frequency curves are applied through the use of what is referred to as a gravity model. In essence, while the trip generation models estimate "how many trips," the trip distribution models estimate "where the trips go." No changes were made to the distribution model.

The last step in the travel demand process is trip assignment. Trip assignment determines the path a trip will take to reach its destination based on travel time. This model uses TransCAD's User Equilibrium methodology. This method ensures a solution where not all trips use the fastest route based on congested travel times. No changes were made to the model structure or procedure.

External Trips



In addition to traffic counts from points within the MPO study area, data must be gathered regarding trips coming into and leaving the study area. External-external (EE) trips are those trips that pass through the entire study area. External-internal (EI) trips are those trips that start outside the study area and end in the study area. New external-local (external-internal) and external-through (external-external) trip tables were necessary since 2008 external matrices did not exist and the TAZ structure was modified with the addition of twenty-two new zones.

To help estimate the external trips, 2005, 2006 and 2007 counts from LaDOTD and the MPO were utilized where possible. For those external

stations where a count did not exist, a growth factor was developed using the previous forecast model runs. The external count computed from the growth factor was also compared to any existing counts on the internal model roadways so that the external counts could be adjusted, if necessary, to make the total external traffic logical compared to the other counts. Table 4-5 below depicts the 2008 model external volumes.

The proportions of external-local and external-through were kept as they were created during the last model update. This is also true for the external-through origin/destination proportions.

Table 4-5: 2008 External Station Estimates/Counts

ID	Road	2008 Estimate/Count
501	HWY 165 N	15,164
502	Hwy 136	1,650
503	Hwy 139	4,980
504	Hwy 80 E	8,220
505	I 20 E	40,000
506	Winnsboro Rd (Hwy 15)	2,700
507	Prairie Rd (Hwy 841)	1,250
508	Hwy 165 S	5,990
509	Hwy 557	4,900
510	Hwy 34	4,800
511	Hwy 546	2,230
512	I 20 W	40,000
513	Hwy 80 E	3,370
514	Hwy 15	6,500
515	Whites Ferry Rd (Hwy 143)	4,600
516	Old Sterlington Rd	500

MODEL CALIBRATION AND VALIDATION

2008 BASE CALIBRATION

Calibration refers to the process of estimating model variables such as trip rates, friction factors, mean trip length, and trip length frequency distributions. All variables are ideally based on surveyed or observed data. Since a recent survey was not available, the data from the most recent 2000 base year was used as a starting point.

2008 BASE VALIDATION

The ability of travel demand models to forecast future year traffic and other travel behavior are predicated on their ability to estimate "known" traffic volumes and travel patterns under base year conditions for which extensive data is available. There are two components to the process of matching model results to the observed base year travel data. These components are calibration, noted above, and validation.

Validation refers to the process of using a calibrated model to estimate travel assignments for the base year and comparing these travel assignments to observed travel data. The typical comparison, when sufficient data is available, is between highway traffic assignments and actual traffic volumes derived from traffic count data. Extensive traffic counts must be available to validate a model.

Validation of the model to counted traffic flows is important to the model effort in two areas. First, it shows whether the calibration tools used in the model process and assumptions were reasonable. Second, the validation shows what level of confidence the user can have in the forecast results.

Although the principle of comparing traffic assignments to traffic count data is intuitively straightforward, subjective review of the travel demand model results and the observed traffic counts is not adequate. The comparative analysis must be carried out in a structured manner using clearly defined benchmarks or measures of success that allow the results of the validation

analysis to be tabulated, and quantitatively analyzed in a way that provides the user with a degree of confidence in the statistical foundation and structure of the model.

The validation procedure for the Monroe Urbanized Area model is similar to the procedure used by state DOTs and MPOs throughout the country. The locations of traffic counts from 2005-2007 provided by LaDOTD and the MPO are coded to the roadway networks. Traffic assignment results for the validation year (2008) are compared to these traffic counts by two indices: percent of count and percent root mean squared error (RMSE) that was aggregated and tabulated across a variety of categories. Percent of count is used to measure the overall difference between modeled and counted flows. Percent RMSE is used to measure the difference between modeled flows and counted volumes on a link-by-link basis, which gives a better picture of the "closeness" between model flows versus counts. The percent of count and percent RMSE calculation are described by the following equations:

$$Percent\ of\ Count = \frac{\sum_{j=1}^{n} Modeled_j}{\sum_{j=1}^{n} Counted_j}$$

$$\%RMSE = \frac{\sqrt{\sum_{j=1}^{n} \frac{(Modeled_j - Counted_j)^2}{n-1}}}{\frac{\sum_{j=1}^{n} Counted_j}{n}}$$

Where j represents the individual network link with count, n is the total number of links with counts in the network for the specific categories.

When applied to model flows versus counts, RMSE values are usually between 10% and 100%. However, for low volume links the percent error can be quite large but the volume to match can still be considered good. The following tables depict the model's 2008 validation results.

Table 4-6: Percent Count / RMS by Functional Class

Functional Class	% VMT	Count Links	NO Count Links	Count Coverage %	Counted VMT	Model VMT	% RMSE
Rural Interstate (1)	97.79	4	22	15.38	41,497	40,582	3.15
Rural Principal Arterial (2)	98.92	3	7	30.00	13,879	13,729	1.67
Rural Major Collector (7)	99.28	11	64	14.67	38,568	38,289	3.98
Rural Minor Collector (8)	95.95	1	2	33.33	2,327	2,232	4.05
Rural Local (9)	112.63	11	32	25.58	4,697	5,290	42.89
Urban Interstate (11)	105.78	14	148	8.64	361,895	382,828	20.76
Urban Principal Arterial (14)	93.98	48	493	8.87	115,932	108,949	34.32
Urban Minor Arterial (16)	100.20	54	719	6.99	163,313	163,636	26.04
Urban Collector (17)	109.01	40	861	4.44	47,705	52,003	51.20
Urban Local (19)	101.03	14	304	4.40	9,697	9,797	50.43

Table 4-7: Percent Count / RMS by Area Type

Area Type	% VMT	Count Links	NO Count Links	Count Coverage %	Counted VMT	Model VMT	% RMSE
Urban (1)	99.16	30	127	19.11	100,967	100,122	5.52
Rural (2)	102.67	170	2,525	6.31	698,542	717,212	41.15

Table 4-8: Percent Count / RMS by Volume

Volume Range	% VMT	Count Links	Counted VMT	Model VMT	% RMSE
0 to 1,000	157.53	21	7,856	12,375	169.76
1,001 to 2,000	94.59	14	11,461	10,851	41.97
2,001 to 3,000	101.15	18	15,870	16,053	55.93
3,001 to 5,000	107.31	27	63,804	68,465	22.93
5,001 to 7,000	108.82	21	49,326	53,676	21.65
7,001 to 10,000	89.88	16	39,009	35,063	19.54
10,001 to 15,000	104.07	31	92,823	96,599	27.26
15,001 to 20,000	96.81	17	183,229	177,384	8.81
20,001 to 25,000	108.97	20	178,929	194,974	50.31
25,001 to 30,000	92.28	3	23,527	21,710	8.73
30,001 to 35,000	109.90	4	25,959	28,528	14.77
35,001 to 40,000	94.38	8	107,708	101,656	8.90

Table 4-9: Percent Links Within +/- VMT

Counted VMT	% Links
+/- 1,000	87.50
+/- 2,000	95.00
+/- 3,000	98.50
+/- 4,000	99.00
+/- 5,000	99.00

Table 4-10: Count Link Totals

Links Without Counts	Links With Counts	Total Count Volume	Total Model Volume	% Count	% RMS	Total Count VMT	Total Model VMT	% VMT	% RMSE
2,652	200	2,080,943	2,031,175	97.61	27.01	799,510	817,335	102.23	39.04

Table 4-11: VMT / VHT Totals

VMT on Count Links	VMT on Non-Count Links	VMT on Centroid Connectors	Total Model VMT	Total VHT	Network Speed	Total Delay (Hours)	% Delay
799,510	2,627,504	234,465	3,679,303	87,168	39.51	10,958	5.08

The criteria used for validation of the Monroe Urbanized Area travel demand model are based on current FHWA and National Cooperative Highway Research Program (NCHRP) guidance and standards and represent reasonable measures for determining the accuracy and reliability of the model.

The validation of the model described in this section accomplishes two goals. First, it demonstrates that the calibration tools used in the model process and assumptions are reasonable. Second, the validation provides the MPO and transportation professionals in the Monroe Urbanized Area with confidence in the accuracy and reliability of forecast results obtained from the travel demand model.

No travel demand model is ever exact. The model evolves as the region grows, as goals are met, and policy objectives change. As implemented, the Monroe Urbanized Area model is a complete set of planning tools capable of performing the required transportation systems planning analyses. The model will assist the MPO in carrying out all required quantitative

transportation system planning activities, as well as performing implementation scenario analysis for the Monroe study area.

ROADWAY DEFICIENCIES ANALYSIS

This section provides an overview of the forecasted travel patterns within the Monroe Urbanized Model Area and how those travel patterns will affect the efficiency of the Monroe Urbanized Area model network performance. This will be done by applying 2015, 2025, and 2035 demographic data to the Existing Plus Committed (E+C) network. Using the ratio of the assigned volume to the existing capacity (V/C) generated from the model, deficiencies in the model network will be identified.

A deficiencies analysis is the process of identifying future transportation infrastructure needs. To accomplish this task, future traffic is generated and assigned to the existing roadway network. The ratio of the assigned volume to the existing capacity (V/C) signifies whether or not a deficiency is occurring.

For example, link A has an existing volume of 4,000 vehicles and a capacity of 8,000 vehicles. Dividing the volume by the capacity, the resulting V/C ratio for Link A is 0.50. This ratio infers that there is remaining capacity on the sample link. Links that approach or exceed their capacities, showing a V/C ratio of equal to or greater than one, would be identified in the deficiencies analysis and become possible targets for improvement.

When traffic volumes on local roads increase, vehicle flow rates decrease. The quality of the flow rate of a given road is evaluated in terms of Level of Service (LOS). The LOS is a ratio of the volumes on the roadway to its traffic capacity. As the LOS scale is an attempt to rate the quality of flow, different drivers will have different interpretations of the various levels. To avoid this, the initial analysis will use absolute V/C values only.

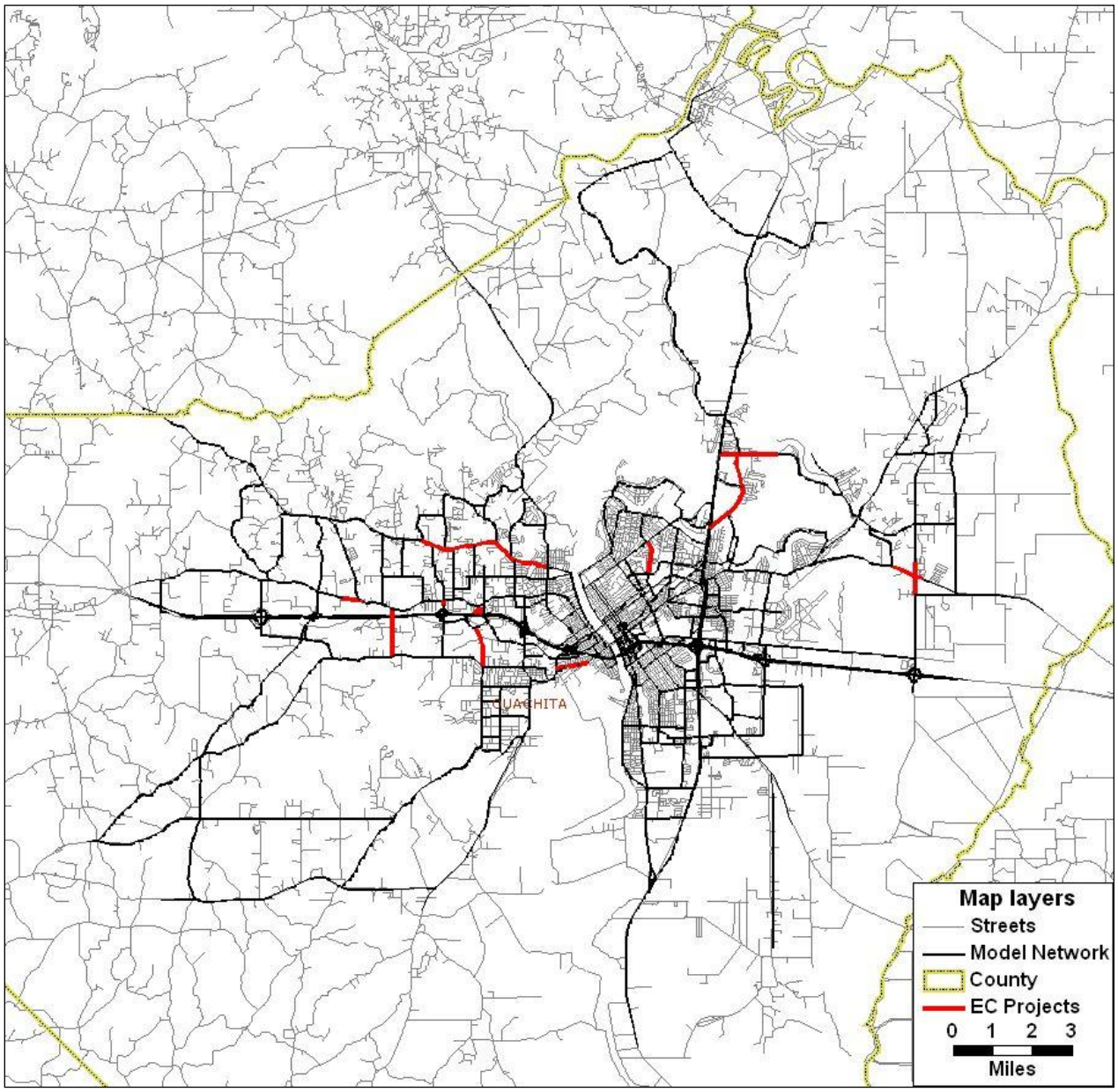
Existing + Committed Network

In order to perform the deficiencies analysis for the MTP update, a roadway network for an existing plus committed (E+C) scenario was developed. An E+C scenario includes all existing roadways and all committed projects (projects that are under construction or have irrevocable funding commitments) that are reasonably expected to be operational in the analysis year. All of the projects that were added to the network are listed in the table and figure below. Those projects that were assumed to be E+C projects are shaded on the map.

Table 4-12: E+C Added Projects

ATGID	Stage	Name	Location	Improvement
1	Completed	I-20	Downing Pines Rd	Westbound entry/exit ramps
2	Committed	Finks Hideaway Rd	US 165 to Holland Dr	Widen to 5 lanes
3	Committed	Finks Hideaway Rd	Holland Dr to Raymond Dr	Widen to 5 lanes
4	Committed	Montgomery St	Coleman St to LA 34	Reconstruction
5	Committed	Old Sterlington Rd	US 165 to Finks Hideaway Rd	Center turn lane
6	Committed	Washington St Ext	New Natchitoches Rd to Pavilion Cir	New 2 lanes
7	Committed	Oliver Rd	Tower Dr to Forsythe Ave	Reconstruct with CTL
8	Committed	US 80	Ole Hwy 15	Realignment/turn lane
10	Committed	Well Rd	US 80	Turn lane
15	Completed	US 80	LA 594	Intersection improvement
16	Committed	LA 616	Caldwell Rd. to LA 143	Widen to 5 lanes
17	Completed	Kansas Ln	US 80	Intersection improvement
25	Committed	Vancil	US 80	Reconstruction

Figure 4-3: E+C Added Projects



The E+C network was then loaded with traffic generated based on the population, household, and employment demographic forecasts for the analysis years of 2015, 2025, and 2035. The volume of traffic assigned from each demographic forecast year was then compared to the capacity of the system to determine any capacity deficiencies and to calculate a numerical level of service being delivered by the transportation system. Table 4-13

shows a comparison between the 2008 Base Year model network and the E+C model network.

Table 4-13: Added Projects Summary

Road Type	Base 08 Lane Miles	E+C Lane Miles	Lane Mile Difference	Base 08 Capacity	E+C Capacity	Capacity Difference
Interstate	115.88	116.43	0.55	3,960,000	4,046,000	86,000
Primary Arterial	177.06	177.06	0.00	8,696,000	8,696,000	0
Minor Arterial	268.65	270.66	2.01	11,082,000	11,133,000	51,000
Collector/Local	420.81	423.68	2.87	11,733,000	11,901,000	168,000
Totals	982.40	986.72	4.32	35,471,000	35,776,000	305,000

The project list above only represents those projects coded into the model networks. Non-added capacity projects or those that do not result in a model network change are not listed. Examples of this would be pavement overlays or a re-alignment that will not affect the model traffic loadings or network coding.

Model Results

The identified projects, which make up the E+C, were coded into the appropriate model network. Traffic was then generated, distributed, and assigned using the current Monroe Urbanized Area travel demand model. The internal structure of the travel demand model remained unchanged as detailed in *Monroe Metropolitan Area Transportation Model, URS April 2005.* The assignment results and deficiencies analysis are detailed below.

Table 4-14 Assignment Summary

Scenario	Flow	VMT	VHT	Avg Speed	Delay (Hrs)	Avg % Delay
2008 Base	20,803,170	3,444,838	87,168	39.51	10,958	5.08
2015 EC	21,405,569	3,599,569	91,967	39.14	12,621	5.20
2025 EC	22,534,902	3,816,849	99,926	38.20	16,011	6.09
2035 EC	23,433,229	4,011,335	107,013	37.48	19,175	6.80

As illustrated in Table 4-14 and Figures 4-4, 4-5, and 4-6 below, the E+C scenarios show the region will experience a relatively small amount of

growth in VMT and VHT while the amount of delay, the difference between congested travel time and free flow travel time, will almost double during that same time period. As shown in Table 4-15 below, this increase in congestion is not uniform across all roadways. However, most roadways show an increase in congestion over time under the No Build (E+C) scenarios.

Figure 4-4: Growth in Total Delay

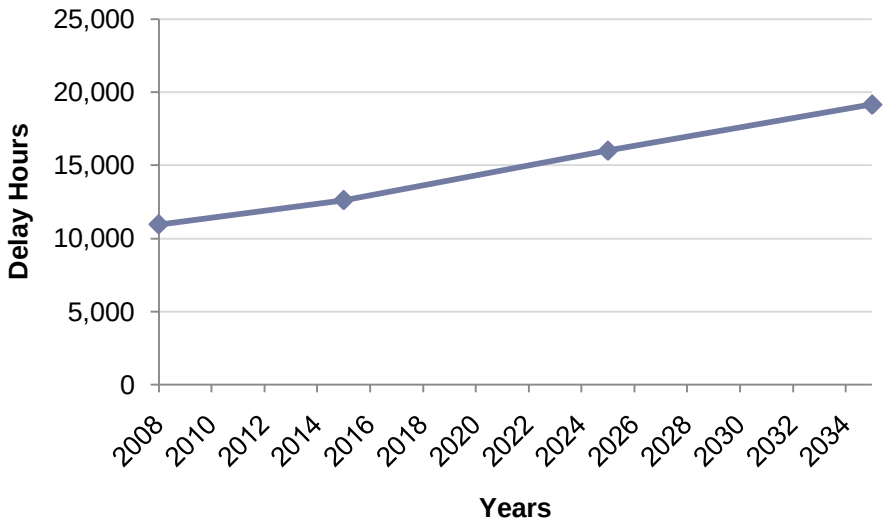


Figure 4-5: Growth in Total Vehicle Hours Traveled

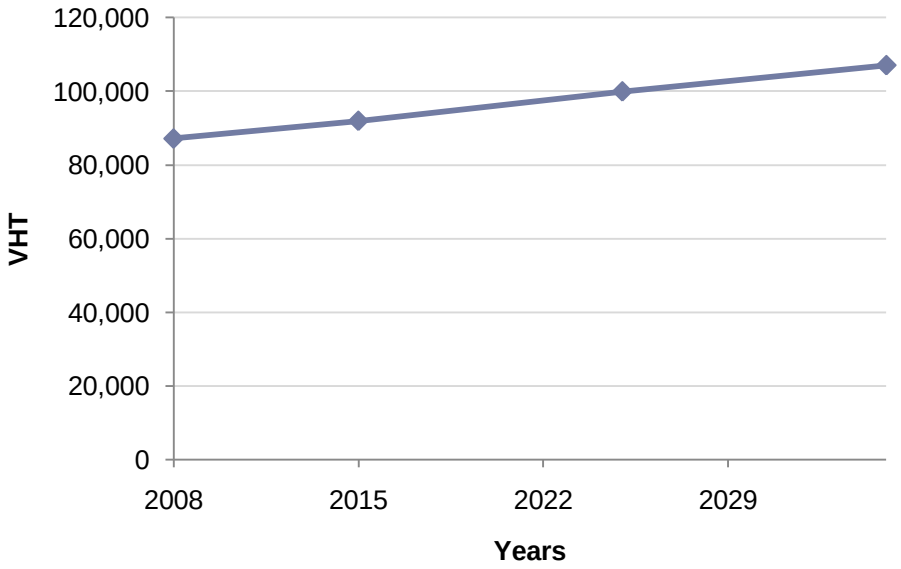


Figure 4-6: Growth in Total Vehicle Miles Traveled

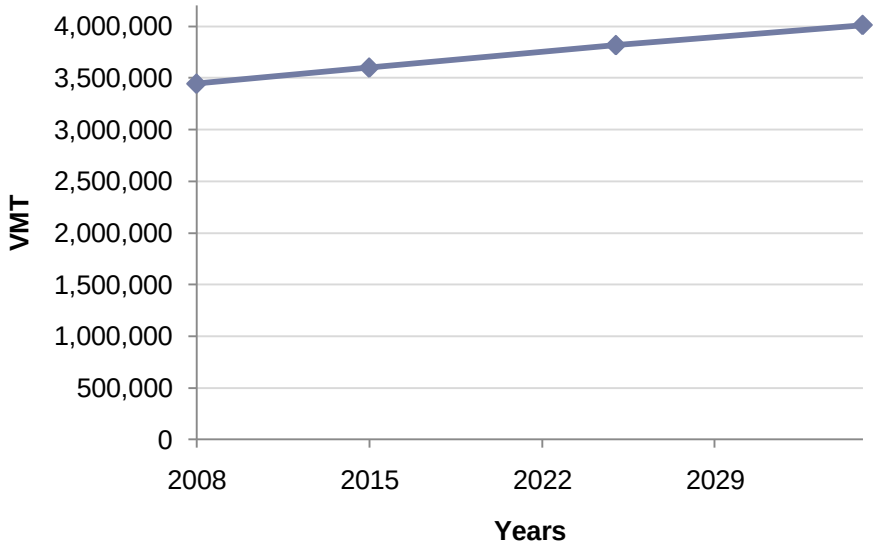


Table 4-15: Congestion by Functional Class

2015				
Road Type	**Lane Miles VC > 1.0**	**% of Region Lane Miles**	**Delay (Hrs) VC > 1.0**	**% of Region Delay**
Interstate	17.25 (14%)	1.75%	2,085 (24%)	16.52%
Primary Arterial	41.61 (34%)	4.22%	3,426 (40%)	27.15%
Minor Arterial	37.51 (30%)	3.80%	1,790 (21%)	14.18%
Collector/Local	27.89 (22%)	2.83%	1,352 (16%)	10.71%
Total	124.26 (100%)	12.59%	8,652 (100%)	68.55%
2025				
Road Type	**Lane Miles VC > 1**	**% of Region Lane Miles**	**Delay (Hrs) VC > 1**	**% of Region Delay**
Interstate	19.96 (12%)	2.02%	2,620 (23%)	16.36%
Primary Arterial	69.18 (41%)	7.01%	4,713 (41%)	29.44%
Minor Arterial	45.56 (27%)	4.62%	2,338 (21%)	14.61%
Collector/Local	34.37 (20%)	3.48%	1,741 (15%)	10.87%
Total	169.08 (100%)	17.14%	11,411 (100%)	71.27%
2035				
Road Type	**Lane Miles VC > 1**	**% Lane Miles VC > 1**	**Delay (Hrs) VC > 1**	**% of Region Delay**
Interstate	22.85 (13%)	2.32%	2,916 (22%)	15.21%
Primary Arterial	66.90 (37%)	6.78%	5,347 (40%)	27.88%
Minor Arterial	50.60 (28%)	5.13%	2,914 (22%)	15.19%
Collector/Local	38.11 (21%)	3.86%	2,162 (16%)	11.28%
Total	178.45 (100%)	18.08%	13,338 (100%)	69.56%

Table 4-15 above and the following Volume-to-Capacity (VC) maps illustrate where most of the congestion in the Monroe Urbanized Area will occur. The interstate and primary arterial links with a VC greater than one make up approximately six to nine percent, depending on the year above, of the regions total lane miles but account for over forty percent of the total delay for the region. Figures 4-7, 4-8, and 4-9 illustrate this graphically.

Figure 4-7: 2015 Assignment

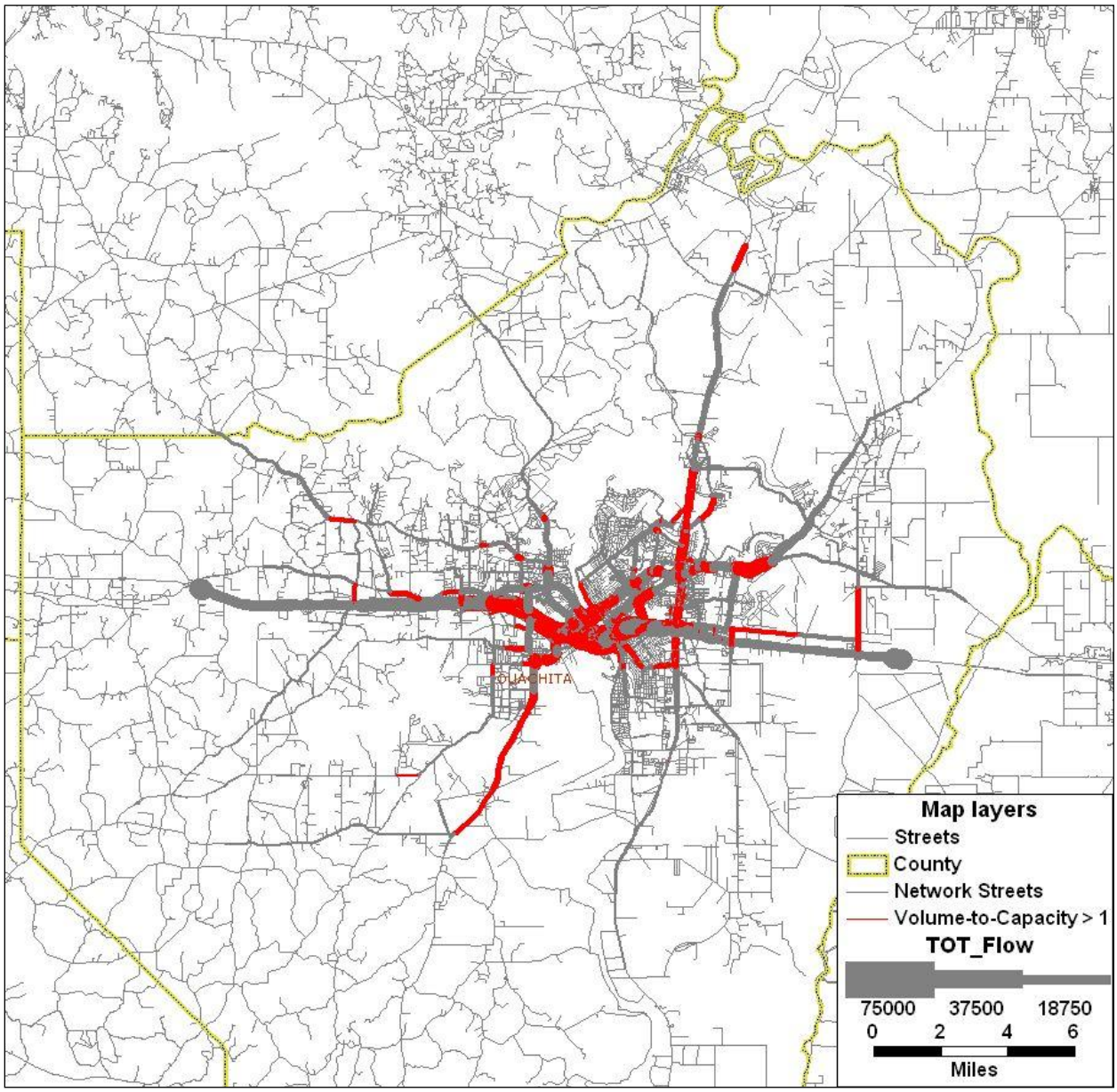


Figure 4-8: 2025 Assignment

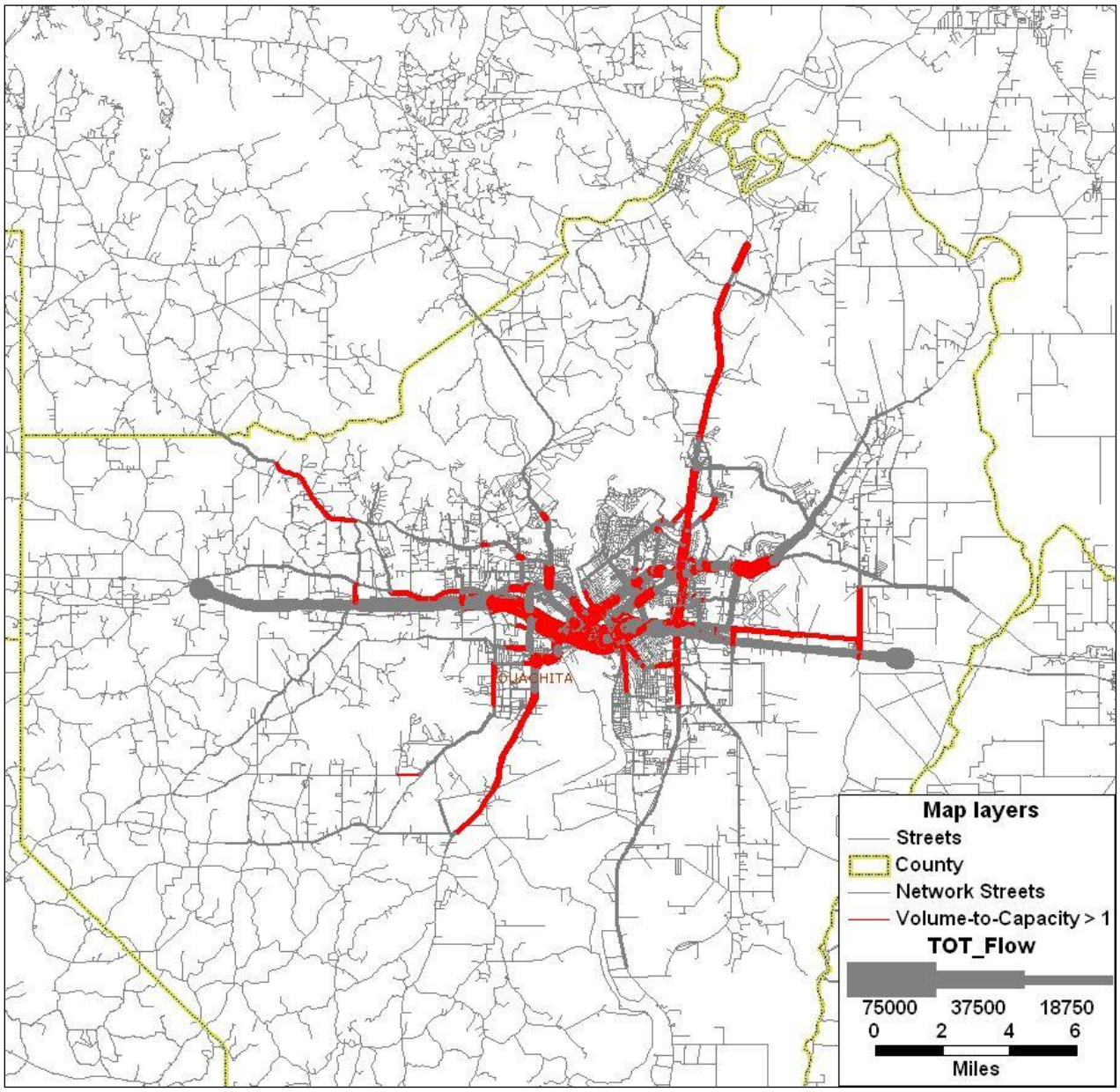
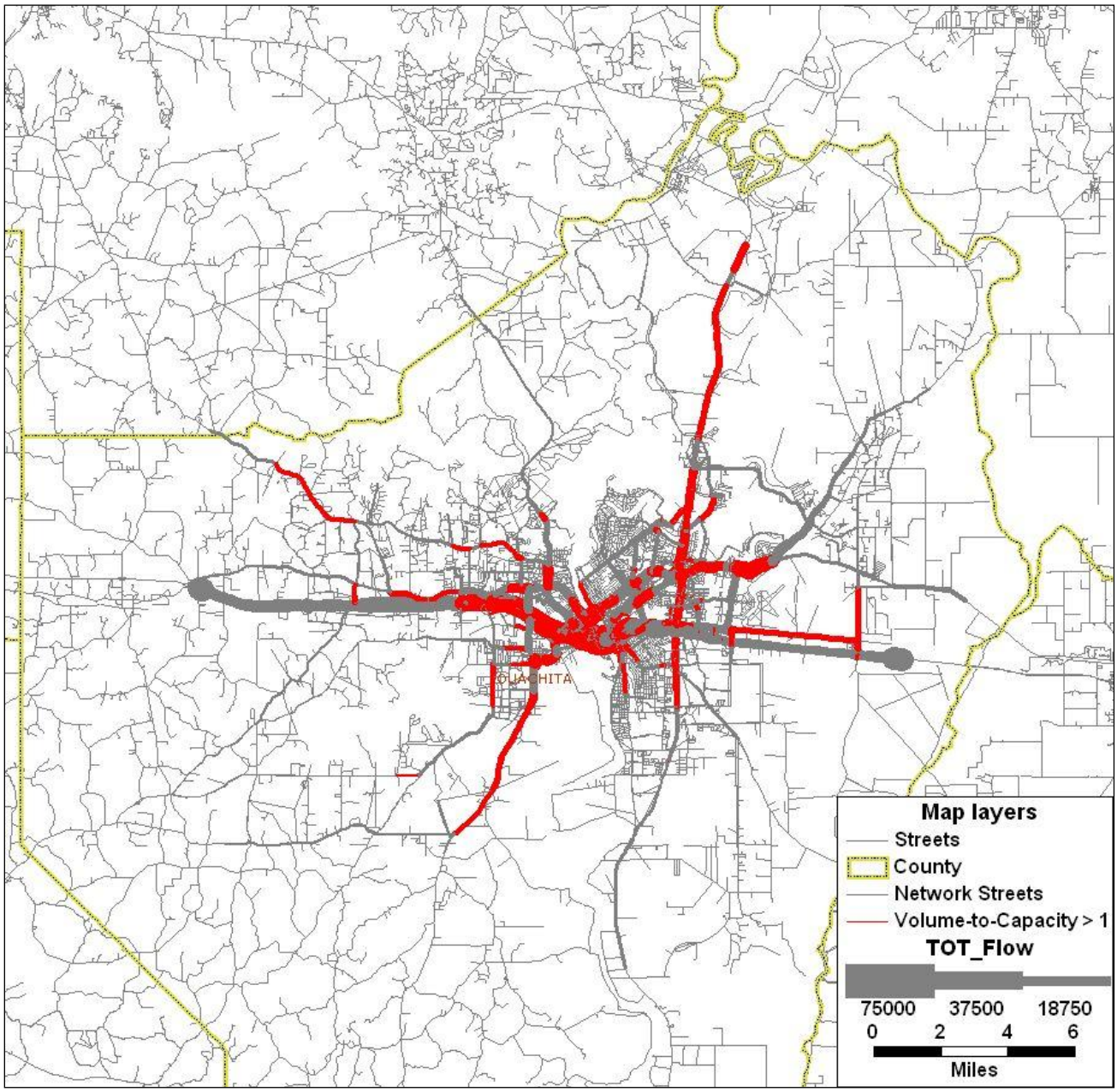


Figure 4-9: 2035 Assignment



The external station locations were forecasted with growth rates developed for each station, and the station-to-station flows were projected using a Fratar methodology. Growth rates between 2000 and 2030 for the original model's external stations were calculated. This growth rate and the growth rate of the study area were taken into consideration when developing the

2015, 2025, and 2035 external trip tables. The external station volumes are listed below in Table 4-16.

Table 4-16: External Stations

ID	Roadway	2015 Volume	2025 Volume	2035 Volume
501	Hwy 165 N	16,319	17,968	19,618
502	Hwy 136	1,731	1,906	2,082
503	Hwy 139	5,359	5,901	6,442
504	Hwy 80 E	8,848	9,743	10,638
505	I 20 E	43,046	47,398	51,749
506	Winnsboro Rd (Hwy 15)	2,905	3,199	3,492
507	Prairie Rd (Hwy 841)	1,345	1,481	1,617
508	Hwy 165 S	6,446	7,098	7,750
509	Hwy 557	5,273	5,806	6,339
510	Hwy 34	5,166	5,688	6,210
511	Hwy 546	2,400	2,643	2,886
512	I 20 W	43,046	47,397	51,748
513	Hwy 80 E	3,627	3,993	4,360
514	Hwy 15	6,995	7,702	8,409
515	Whites Ferry Rd (Hwy 143)	4,950	5,451	5,952
516	Old Sterlington Rd	538	592	647

ROADWAY DEFICIENCIES ANALYSIS CONCLUSION

The results of the deficiencies analysis on the E+C network for the forecast years as depicted above indicate that some important roadway sections are expected to degrade in operation in the future especially IH 20 and US 165. The analysis indicates that anticipated delay will dramatically increase the travel times for these roadways and most primary arterials.

There is a long lead-time required to select, prioritize, design and build transportation infrastructure improvements. However, in selecting projects to mitigate these deficiencies many factors must be considered of which the model result is but one tool to use and consider.

NON-ROADWAY NEEDS ASSESSMENT

As noted in Chapter 2, the MPO study area has three transit operators that receive federal funding: 1) Monroe, which operates fixed route and paratransit service within the city limits of Monroe; 2) West Ouachita Senior Center provides rural transit services in the western portion of Ouachita Parish; and 3) ARCO, which operates a special needs demand response service in the Parish.

Also noted in Chapter 2, Monroe has two officially designated bicycle routes. The current bicycle plan for Monroe is over twenty years old. While the City is interested in updating that document, a firm date has not been set to start that work.

TRANSIT DEFICIENCIES ANALYSIS

Monroe Transit receives both operating and capital funds from the City of Monroe and through the FTA 5307 program - Urbanized Area Formula Grants (40 USC 5307). West Ouachita Senior Center receives both operating and capital funds from the City of West Monroe and through the FTA 5311 program - Section 5311 Rural Public Transportation Program (49 USC 5311). Some of their vehicles were purchased using FTA 5310 program funds – Section 5310 Elderly and Persons with Disabilities Program (49 USC 5310). The Senior Center recently received ARRA funds that allowed them to purchase two new vehicles, install GPS systems and cameras in their vehicles, and build a new terminal/garage. Ouachita Council on Aging (OCOA) is not the Section 5311 provider for the area, but they do provide transportation for older adult clients in Ouachita Parish. ARCO receives operating and capital funding from a variety of public and private sources including the Department of Health and Human Services and the FTA 5310 program - Elderly and Persons with Disabilities Program (49 USC 5310).

MONROE TRANSIT SYSTEM

The one fixed route public transportation service in the Monroe Urbanized Area is the Monroe Transit System. This transit service is operated by the City of Monroe and runs thirteen permanent fixed routes, serving only those areas within the city limits of Monroe. Fixed route service operates Monday through Saturday with some schedules dependent upon college schedules. The Monroe Transit System is seeking funding to provide rural transit service in eastern Ouachita Parish.

In order to analyze the needs and issues facing transit in the study area over the next 25 years an analysis of the fixed route services was conducted. As with most small urban transit systems, the ridership is limited to those who have few choices. Therefore, an analysis of the route system compared to locations of those individuals with limited transportation choices and their likely destinations was appropriate. This type of analysis is accomplished using a Geographic Information Systems (GIS) approach.

Research suggests people will walk up to one-half mile (0.5 mile) to catch a bus. The study team assembled three pieces of information to conduct the analysis: 1) US Census data on households with low income or no car; 2) the route system for the fixed route service; and 3) a list of locations of travel attractors, such as shopping areas, hospitals, employment centers, and governmental offices.

The “buffer zone” or “travel band” analysis creates a zone 1 mile wide (1/2 mile on either side) along each route. The GIS provides information on the number of persons within the target population that live within that “buffer zone.” For this analysis, the base statistic used to represent transit dependent population is “households without an auto.” Other segments usually considered part of transit dependent population are not included (i.e. individuals living with a disability which restricts them from driving, individuals living below poverty, older adults who are 60 and older, youth or those between the ages of 10 to 19). Therefore, the results of the analysis

for transit dependent population reflect a minimum estimate of the number of people who actually rely on transit. To estimate the total number of people in households without an auto, the numbers of households without an auto were multiplied by average household size for each block group. This figure was then divided by the area (in acres) of each block group. This calculation resulted in an approximate density of people without autos per acre.

The analysis revealed that nearly all the major trip generators identified within the Monroe city limits fall within the fixed route capture area. A total of 116 trip generators are located inside the fixed route capture area, including schools, medical centers, multi-family facilities, community centers, and other attractions. There is only one trip generator within the Monroe city limits which is not in the fixed route capture area - Cypress Point Elementary on Mosswood Drive in the northeast.

There are a total of 27 trip generators outside the fixed route capture area. As stated above, one is located in Monroe, a large proportion are located in West Monroe (10), and fewer are located in Claiborne or close to the boundary (5), Swatz or very close to the boundary (3), the Brownsville-Bawomville area (3), and a few others in unincorporated areas of the parish (5). Of these trip generators, nearly all are schools (22) – including elementary, middle and high schools. The others are West Monroe City Court, the U.S. Post Office on Highway 139, the Claiborne Creek multi-family facility, the West Monroe Boys and Girls Club, and the Super 1 Shopping Center on Cypress Street.

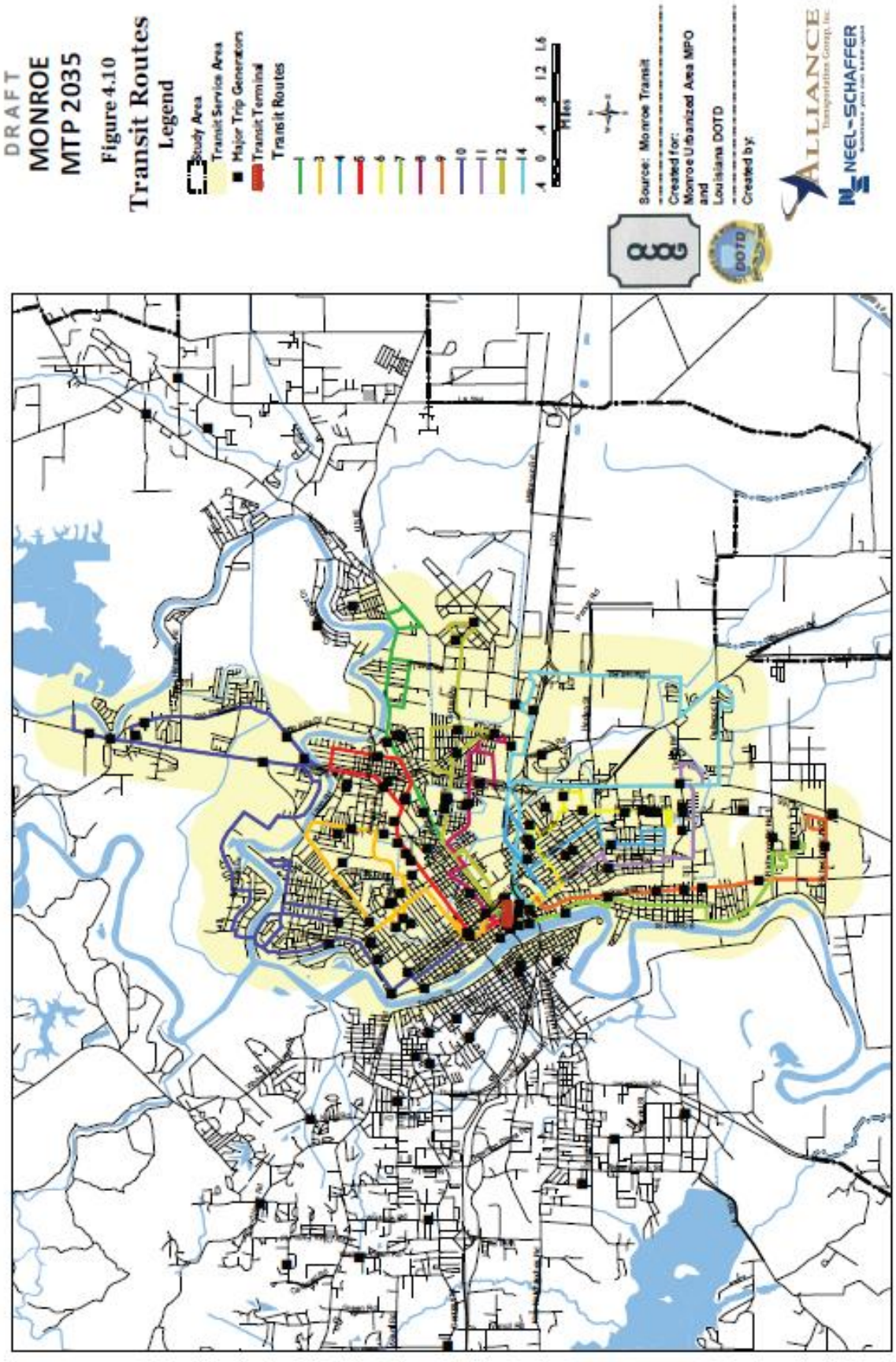

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Figure 4.10
Transit Routes
Legend
Study Area
Transit Service Area
Major Trip Generators
Transit Terminal
Transit Routes
0 .4 .8 1.2 1.6
Miles
Source: Monroe Transit
Created for:
Monroe Urbanized Area MPO
and
Louisiana DOTD
Created by:
ALLIANCE
NEEL-SCHAFFER

The spatial analysis revealed that the existing fixed route system is accessible to most individuals without autos in the City of Monroe. Most block groups with relatively high density of people without an auto fell inside the fixed route capture area. All of the highest density (2.25 – 4.90 people without an auto/acre) were in the City of Monroe and only a sliver of one of these block groups was outside the fixed route capture area – an area south of Richwood Road and west of US 166 in south Monroe. There is one block group south of Monroe and a few in West Monroe which are in the second highest density category (1.04 – 2.24 people without an auto/acre) and not in the fixed route capture area.

Fixed route service does not extend to important destinations in West Monroe and Richwood such as schools, low income housing complexes, and employment centers. The existing local bus service does not serve the Papermill, or new Delta Community College facility and V-Vehicle plant. V-Vehicle is expected to become a major employer in the Monroe urbanized area and has the potential to inject the local community with approximately 1,400 new jobs by the year 2010. Additionally, there are high densities of public transit dependent populations in West Monroe and west Ouachita Parish that have no access to fixed route bus service.

The information from this fixed route capture area analysis is supported by the information gathered during the public visioning process in which participants stressed the need to have transit access from Monroe to West Monroe, expanded service to Delta Community College and the V-Vehicle plant. Participants also expressed the need for more regional transportation to nearby cities such as Sterlington. They also noted that the City of Monroe is expected to grow north towards Sterlington in the next 25 years. Overall, many participants believed that transit would be an essential component in meeting their future transportation needs.

The Monroe Transit System also offers a special mode of transportation to elderly and disabled persons who have met federal eligibility guidelines.

The transit system is equipped with wheelchair accessible vehicles that transport passengers door to door within ¾ mile of fixed routes.

West Ouachita Public Transportation

As noted above, in addition to the fixed route service offered by the City of Monroe, the City of West Monroe operates a demand response public transportation system that serves the western portion of the parish.

West Ouachita Public Transportation has 12 lift-equipped vehicles that operate from 7 am to 5 pm Monday through Friday. Although the operator of this service indicated that any resident of western Ouachita Parish (including the elderly and handicapped who need special accommodations) is eligible to receive service, the number of vans, drivers, and the amount of available funding creates a large unmet demand.

Ouachita Council on Aging (OCOA)

The Ouachita Council on Aging (COA) provides transportation all over the parish to clients 60 and older. However, they are not the 5311 provider for the area. They operate six vehicles. Two of the vehicles serve activity centers and four provide trips to medical services.

ARCO

In addition to the two services described above, the Ouachita Association for Retarded Citizens (ARCO) operates transit service for people with special needs. They have fifteen vehicles – five of these were purchased with federal transit funds (section 5310 – Elderly and Persons with Disabilities Program). There is a great need for additional capital and operating funding due to growing transportation demands from clients in rural areas of Ouachita Parish.

Coordination

In 2009, the North Delta Regional Human Service Transportation Council updated their Human Service Transportation Coordination Plan. The objective of this planning effort is to coordinate the delivery of human

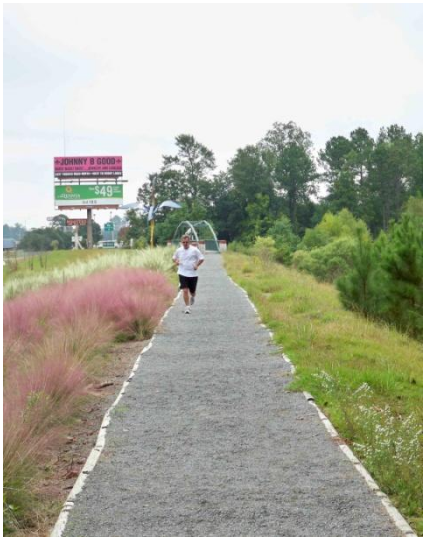
service transportation activities in the larger eleven parish area served by the North Delta Regional Human Service Transportation Council. This is an ongoing coordination process whose goal is the improved quality and quantity of service available to elderly, disabled and disadvantaged populations.

Organizational meetings with service providers in the area produced the following goals:

- To increase capacity to serve unmet needs (by determining the need for transportation services);
- To ensure that the coordination process is comprehensive and sustainable;
- To increase capacity to serve unmet needs (by improving the ability to obtain funding for coordination projects);
- To create a more cost-effective service delivery system;
- To make service more easily understood and accessible by riders; and
- To improve the quality of service provided.

TRANSIT DEFICIENCIES

A deficiencies analysis of the transit systems in the study area revealed the following needs:



- Transit feeder service into and in the downtown West Monroe area,
- Intercity bus service among Calhoun, Swartz, Richwood, Monroe, and West Monroe,
- Improve transit service area to access medical facilities,
- Transit between Monroe and West Monroe,
- Rural transit service in east Ouachita Parish, and
- Increased operation and capital funding for those providing service to the elderly, the disabled, and those trying to reach medical appointments.

PEDESTRIAN AND BICYCLE FACILITIES

Although there was no comprehensive inventory of existing facilities to use as a baseline, the information gathered through the public visioning and consultation processes provided sufficient information to develop the following list of deficiencies for the bicycle and pedestrian facilities in the urbanized area:

- Integrate bicycle and pedestrian planning in future transportation plans,
- Sidewalks throughout city and parish,
- Trails around the bayous and along the river,
- Open Phillips Bridge for pedestrian access,
- More bike paths, and
- Conduct an inventory of ADA-compliant sidewalks.

Once officials are ready to construct bicycle and pedestrian facilities, it is recommended that they follow national standards set for these types of facilities. As the motor vehicle system is made up of various pieces such as roads, signals, signs, and markings, so is the non-motorized transportation system. The elements of the motor vehicle system are standardized due to the work of the American Association of State Highway and Transportation Officials (AASHTO) and these design guidelines are gathered in a volume known as The Green Book. The size and use of signs and markings are disseminated through the Manual of Uniform Traffic Control Devices (MUTCD). The MUTCD has chapters devoted to bicycle facilities and school areas and subsections of other parts devoted to pedestrian facilities. Standardization allows people to travel throughout the U.S. (and in many parts of the world) knowing that signals, signs, and markings will be uniform. Similarly, AASHTO has produced Green Books for pedestrian and bicycle transportation systems. The following section describes the basic elements of the pedestrian and bicycle system. More detailed information, including design guidelines, is presented in Appendix B.

Pedestrian and Bicycle Facilities Standards

The elements of the pedestrian transportation system are:

- Trails (described in a separate subsection below),
- Sidewalks (including ramps),
- Crossings (including crosswalks, midblock crossings and grade-separated crossings),
- Pedestrian-friendly signals,
- Signs, and
- Lighting and other amenities.

AASHTO recommends sidewalks be at least four feet wide with periodic portions that are five feet wide to allow wheelchairs to safely pass. They also recommend a minimum two foot wide landscaped buffer be provided between a sidewalk and a street.

The elements of the bicycle transportation system are:

- Trails (described in subsection 4.3 below),
- Bicycle lanes,
- Shared lanes,
- Bicycle-friendly intersections,
- Signs, and
- Parking.

AASHTO recommends bicycle lanes be at least four feet wide if there is no parking lane, and five feet wide if there is a parking lane. Sometimes it is appropriate to offer a wide outside lane for use by motorists and bicyclists. In these instances, AASHTO recommends a minimum 14 foot wide lane. See Appendix B for further details regarding bicycle and pedestrian infrastructure and criteria for choosing different types of projects.

One way for areas to begin to address pedestrian and bicycle infrastructure is through the Safe Routes to School program. One element of this program is the inventory and assessment of bicycle and pedestrian facilities in the

catchment area of an elementary or middle school. In the past grants have been made available for the Safe Routes to School planning process.

PORTS, AIRPORTS, PASSENGER RAIL, AND OTHER INTERMODAL TERMINALS

A deficiencies analysis relative to intermodal terminals was conducted based on the public visioning process and consultation with intermodal terminal and transit operators. Recommendations based on identified deficiencies include:

- Identify local matching funds for a grant to extend the rail spur that goes to the V-Vehicle plant, and
- Build a new rescue and firefighting station at the airport.

SAFETY AND SECURITY SHORTFALLS

SAFETY DEFICIENCIES

Within the study area, there were 61 fatal crashes and 4,200 injury crashes. The last factor that was taken into consideration was the involvement of alcohol. About 4% of the crashes that occurred in the study area involved alcohol; therefore, alcohol is not assumed to be a main cause of crashes. The three highest collision types, making up nearly 71% of the accidents in the study area, were:

1. Rear end collisions
2. Non-collision with motor vehicle (NCWMV)
3. Right angle collisions

Recommendations of how to reduce these types of crashes are outlined below:

Rear End Collisions

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

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 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 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 red-clearance interval, providing progression, and providing signal actuation with dilemma zone protection.

- Verify that a signal is warranted at the given intersection.

NON-COLLISION WITH MOTOR VEHICLE

Approximately 38% of the fatal crashes that occurred are non-collision with motor vehicle (NCWMV) crashes. Almost 41 % of the NCWMV crashes occur at night and 70% of the fatal crashes occur during the same hours. A number of factors could play a role in NCWMV crashes including speeding, pavement surface conditions, lighting and markings, roadway geometry, and signal timing.

The recommendations for reducing NCWMV 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 the condition of signal head indications (i.e. 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.

RIGHT ANGLE COLLISIONS

Right angle crashes are the second most prevalent crashes that occur in the study area. 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, and large traffic volumes.

The recommendations for reducing right angle crashes include:

- At all intersection approaches, verify that the sight distance is not restricted. Options for alleviating restricted sight distance include removing the sight obstruction and 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 the roadway and surroundings.
- Check the visibility of the traffic signal from 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 red-clearance interval, providing progression, and providing 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 or lanes and retiming the signal.

Other Collision Types

In the study area, there are a number of other collision types that are prevalent, including left turn angle, left turn opposite, left turn-same, right turn- same, right turn opposite, sideswipe same, and sideswipe opposite. There are a number of recommendations that can be made to improve the safety of all intersections in the study area and reduce the number of crashes.

The recommendations for increasing the safety of all the study 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 the crashes and make drivers more attentive to their surroundings, thus reducing collisions.
- Verify the clearance intervals for all 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 signage around the intersection, 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.

SECURITY DEFICIENCIES

No major security deficiencies were identified that pertain to this planning process.

5. Development of Unconstrained Project List

Once the deficiencies in the transportation system have been identified through the processes described in Chapter 4, a list of projects is developed to address the various deficiencies. Also, any projects recommended as the result of consulting local stakeholders, or as a result of the public visioning meetings are added to the project list. At this time every project is included without regard to price. This may include infrastructure investment projects such as new roads or bridges, or lanes added to existing roads. They may also include projects that improve the efficiency of the system without adding capacity such as traffic light synchronization or travel information services. Potential projects may address safety or security issues or multiple modes, such as the installation of a multi-use trail, bicycle lanes, or a roadway with sidewalks.

Besides building new projects to address forecast needs, the plan must address the preservation of the existing system by considering strategies such as preventive and rehabilitative maintenance; institution of a transportation system management plan; inclusion of an access management plan; development of a pavement management plan; and incorporation of travel demand management strategies.

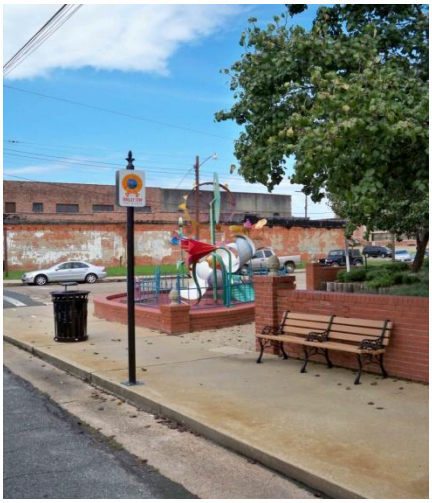
This chapter describes the different types of projects considered to address the deficiencies identified in Chapter 4. Appendix C presents a complete list of projects considered in this MTP update process. Appendix C shows the projects after the application of the ranking process described in Chapter 3, the assessment of effectiveness process described in the next chapter, and the federally-mandated fiscal constraint process.

INFRASTRUCTURE INVESTMENT STRATEGIES

CAPACITY-ADDING PROJECTS

Sometimes the best solution is to add new capacity to the transportation system. Capacity can be added to two different parts of the roadway system – along the roadway itself, or at the intersection. One way to add roadway capacity is to build a new road. This can be a brand new road opening up new land for development (such as a loop around a city), the extension of an existing road, or the building of a new bridge. Another capacity-building roadway project is the addition of extra lanes. Typically a roadway grows by two lanes at a time (one in each direction). A roadway widened to five lanes is typically two lanes in each direction and then includes a continuous center turn lane. The addition of turn lanes also adds capacity to a roadway by removing turning traffic out of the main travel lanes.

Turn lanes added at intersections improve mobility along the roadway as well as through the intersection. The most advanced intersection improvement is grade separation where traffic in one direction is separated either above or below traffic in the opposite direction. Grade-separated intersections may separate people and cargo traveling via the same mode (as in a highway overpass), or different types of traffic (such as a railroad underpass or a pedestrian tunnel or walkway).



Non-motorized capacity-adding projects include the building of sidewalks, bicycle lanes, bicycle trails, and shared-use paths. Figure 5-1 presents an example of what a path on top of a levee might look like. The purchase of new public transportation vehicles that increase the fleet size of a service provider adds capacity to the public transportation system. Public transportation providers may also require the addition of operating funds in order to hire new drivers to operate additional vehicles.

Figure 5-1: Example of Multi-Use Pathway Added to Levee

Adding gates and cargo facilities at the airport would be another type of capacity-adding project – which is in fact underway. At the water port, projects to speed up cargo loading and unloading increases the capacity of the port. In addition, adding a new terminal, extending the dock, or adding berths increase the number of vessels that can use the port. Dredging can also increase capacity at a port to accommodate larger vessels.

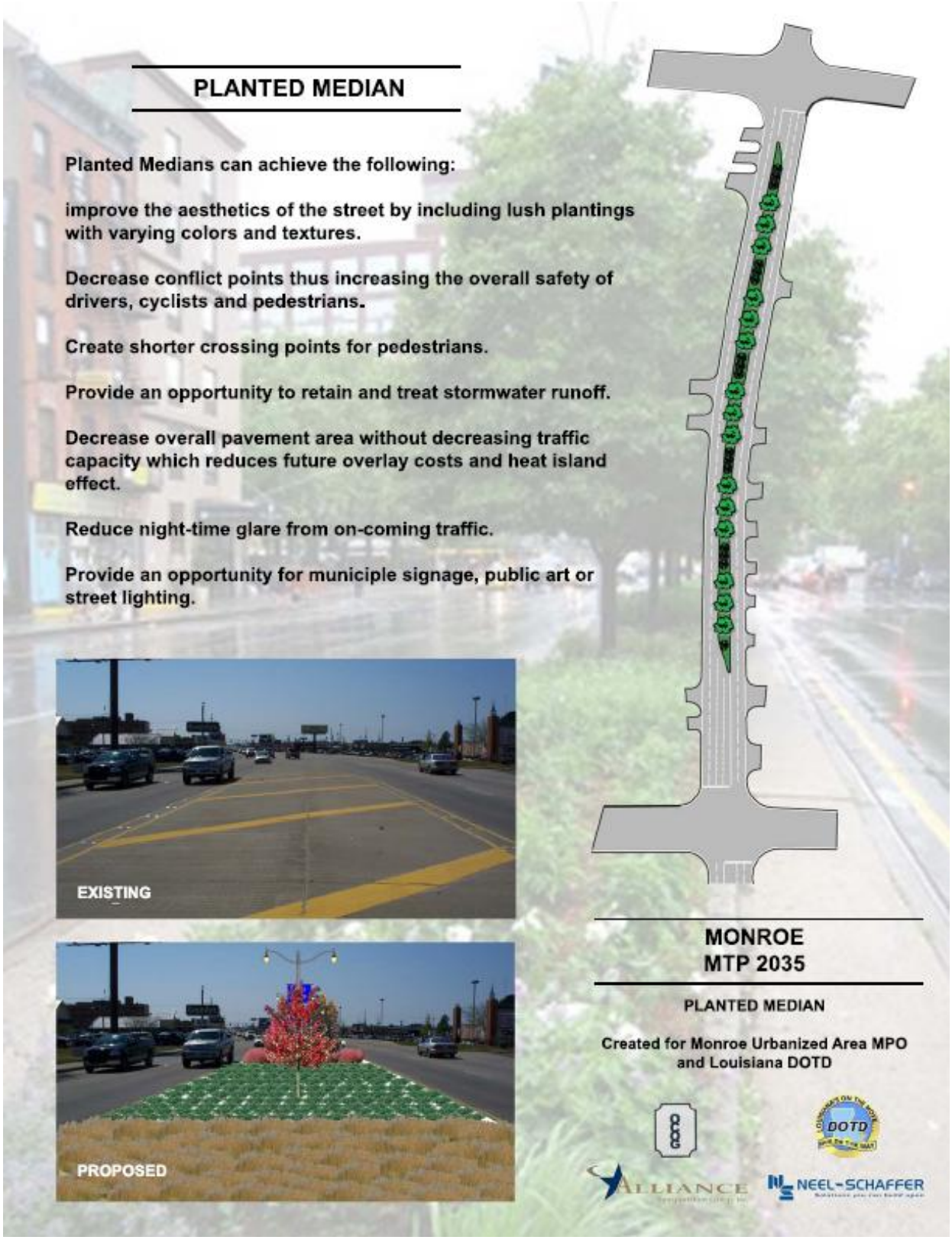
System Maintenance and Standard Compliance Projects

Infrastructure investments may need to be made to the transportation system without increasing the capacity of the system. For example, when a road needs to be reconstructed it may cost millions of dollars resulting in a smooth surface that will last many years, but if no lanes have been added, there is no increase in capacity.

Another infrastructure improvement that can be made to the transportation system is the addition of Intelligent Transportation System (ITS) projects. These projects may include traffic cameras or variable-message signs for motorists. Traffic cameras allow someone at a central location to see where traffic may be backing up – and why. Variable-message signs can alert motorists to potential delays ahead or warn them of potentially dangerous road conditions.

Intersections may also be improved in ways that do not increase capacity. These improvements may include the addition or upgrade of signals or realignment to create turns close to a right angle. Also, as signal standards change (for example pedestrian signals that indicate how much crossing time is left) areas must invest in new equipment that does not necessarily increase the capacity of the transportation system. The addition of medians do not add capacity, but they can act as a safety feature and be aesthetically pleasing. See Figure 5-2 for an example of how this might look on Thomas Road.

Figure 5-2: Example of Planted Median



Beyond adding to the transportation system infrastructure, the existing system may need improvements to operate more efficiently. SAFETEA-LU requires MPOs to address these types of issues. The next section provides information related to the efficient operation of the transportation system.

TRANSPORTATION SYSTEM MANAGEMENT AND OPERATIONS STRATEGIES

The study team recommended adoption of the following strategies to address the unmet transportation needs of the community without the necessity of expanding the existing transportation system.

TRANSPORTATION SYSTEM OPERATIONS AND MANAGEMENT

SAFETEA-LU added the responsibility of management and efficient operation of the transportation system to the list of items that MPOs must address in their MTPs. The list of activities that make up management and efficient operation of the existing transportation system include:

- Traffic incident management;
- Travel information services;
- Roadway weather information;
- Freeway management;
- Automatic vehicle location;
- Traffic signal coordination;
- Work zone management;
- Electronic payment/toll collection;
- Transit priority/integration;
- Emergency response and homeland security;
- Freight management;
- Transportation demand management; and

- Transit fleet management and dispatching.

By their nature, many of these tasks are outside the direct control of the MPO, which is acknowledged by the interim draft guidance developed by the Federal Highway Administration. Additionally, not all of these elements are applicable in every region, and every element is not a matter of concern in every region. Six of these elements are not applicable to the Monroe Urbanized Area; they are:

- Traffic incident management;
- Automatic vehicle location;
- Transit priority/integration;
- Freight management;
- Transportation demand management; and
- Electronic payment/toll collection.

The table below indicates which agencies are responsible for the relevant items on the above list. Below this table are brief descriptions of the activities carried out during each element. Each of the agencies involved in management and efficient operation of the transportation system are members of one or more of the MPO's committees.

Table 5-1: Responsibilities for Transportation System Management and Operations Activities

	Office of Emergency Preparedness	LaDOTD	State Police	North Delta Regional Planning District	City government	Local Transit Agencies
Travel information services	-	√	-	-	-	-
Roadway weather information	√	-	√	-	-	-
Freeway management	-	√	-	-	-	-
Traffic signal coordination†	-	-	-	-	√	-
Work zone management	-	√	-	-	-	-
Emergency response and homeland security	-	√	-	√	-	-
Transit fleet management and dispatching	-	-	-	-	-	√

Travel Information Services

LaDOTD sends subscribers weekly e-mails identifying the locations of existing and upcoming lane and roadway closures due to construction or maintenance.

Roadway Weather Information

During severe weather events, the Governor's Office of Emergency Preparedness (OEP) releases weather information for motorists. During emergency events, the OEP directs the response of state government, including information flows to the public. The North Delta Regional Planning District disseminates information locally and maintains a liaison with the OEP. Information from the OEP Office is provided to the public

through local media outlets (television, radio, and newspaper) for dissemination to the public. Additionally, the 211 phone system can give the public information. Representatives from United Way/211 regularly attend meetings of the Region 8 Office of Homeland Security & Emergency Preparedness and stay in contact with the OEP Directors. The emergency alert system would be utilized in the case of an imminent event in which the public needed to be notified quickly.

Freeway Management

The LADOTD is responsible for freeway management along IH 20 in Ouachita Parish.

Traffic Signal Coordination

The City of Monroe addresses traffic signal progression efforts within Monroe. The two roadways within the City of Monroe with traffic signals synchronization are US 165 and Louisville Avenue. At present, Ouachita Parish and the other municipalities do not incorporate traffic signal coordination into their normal operations.

Work Zone Management

LaDOTD handles work zone management for all state roadways. Work zone management on parish and city roadways is handled by the respective level of local government.

Emergency Response and Homeland Security

The process of disseminating information to the public during an emergency event is identical to the process described earlier in this section. In addition to notifying the public, each parish has an Emergency Operations Plan for that parish, which includes specifics about the chain of command and the resources that are available in the event of an emergency. The plans also address four homeland security mission areas (prepare, protect, respond,

and recovery). During the preparation of this MTP update, the North Delta Regional Planning District, on behalf of the Office of Homeland Security and Emergency Preparedness Region 8 Board, was in the process of hiring a consultant to re-write all 12 parish Emergency Operations Plans for the Region 8 parishes and one overall Emergency Operations Plan for Region 8. The process for preparing all 13 plans was expected to be completed within an 18 month period.

Transit Fleet Management and Dispatching

Transit fleet management and dispatching in Ouachita Parish are handled by Monroe Transit, which provides transit services within the City of Monroe, and the West Ouachita Senior Center, which provides transportation services to residents within western Ouachita Parish.

Transportation Demand Management

An alternate view in considering the safe and efficient operation of the transportation system, is considering the demand upon the system and how that might be managed. Transportation Demand Management (TDM) strategies typically target the journey to work since that is a regular, predictable trip. In addition, there are generally a large number of people going to the same place at the same time (such as a school or manufacturing facility).

In the Monroe Urbanized Area there are only a few major areas in which employment is concentrated. These areas are:

- The Industrial parks,
- Downtown Monroe and downtown West Monroe
- Regional medical facilities,
- Higher education centers (University of Louisiana at Monroe and Delta Community College),

- Manufacturing Centers (such as the papermill and the V-Vehicle plant), and
- Commercial corridors.

Over the next 25 years, it is anticipated that these will remain the largest areas of concentrated employment.

The vast majority of these commuting trips are made in single occupancy vehicles. Therefore, finding ways to reduce the number of these vehicles on the road will reduce congestion without the necessity of increasing the capacity of the roadways. There are two basic ways to reduce single occupancy vehicle trips. The first is to increase the number of non-auto trips through the use of transit, bicycle or pedestrian trips and the second is to increase the number of multiple occupancy vehicle trips.

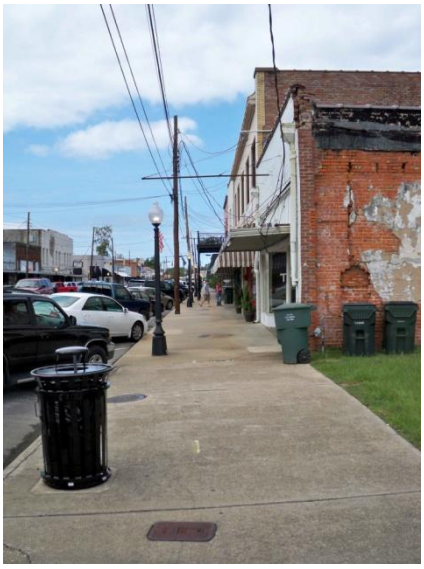
There are several barriers to reducing the number of non-auto trips. Geography, existing roadway infrastructure, limited transit options, and an auto culture create barriers to changing the traveling habits of commuters.

The major barrier to east/west travel in the region is the Ouachita River and its accompanying lakes and wetlands. This geological water barrier is crossed by only three east/west bridges, the I-20 Bridge, the US 80/Lisa Joyner Memorial Bridge, and the Coleman Ave/Desiard Bridge.

With fixed-route transit service only available only in Monroe, public transportation options are also limited. As is common in the majority of cities, the existing fixed-route service does not operate 24 hours. However, this can be problematic for people who work jobs outside regular operating hours or in manufacturing facilities that operate three shifts.

There are several possible methods for decreasing the number of commuters using single occupancy vehicles. Implement rideshare, carpool, and/or vanpool programs. These programs are usually most effective when they are sponsored by employers. The MPO can work with employers to

provide technical encouragement, technical expertise, and coordination to facilitate the development of these rideshare programs.



- Build or establish Park and Ride facilities near residential areas. The MPO can help coordinate the location of park and rides sites that utilize existing parking facilities that are underused during prime commuting times, e.g. church parking lots, recreation areas, or other public facilities.
- Create new transit service from park and ride facilities or other collection points to large employment centers that operate for extended hours 7 days a week.
- Add bicycle amenities within the City of Monroe and the City of West Monroe, such as bike racks on transit vehicles, and bike racks in public parking facilities.
- Add pedestrian amenities within the Cities in the urbanized areas – such as sidewalks linking commercial areas, shelters at stops, and signage for tourist pedestrian routes.
- Encourage employers to create programs that either 1) increase the number of employees in multiple occupancy vehicles, or 2) reduce the number of trips employees must make to the employment centers. Employers could receive both technical support and/or financial incentives to try innovative strategies such as:
    - Allowing employees to telecommute for some portion of the work week
    - Creating a compressed work week – 4x10, or work nine hour days for eight days, then an eight hour day and take the tenth day off (over a two week period); 4 ten hour days per week; or other creative scheduling processes
    - Guaranteeing a Ride Home for people experiencing emergencies – generally available for people in rideshare programs
    - Providing close-in parking for rider sharers, vanpools, etc.
    - Working cooperatively with transit providers to reduce barriers to transit use

- Providing a community education program on the costs and benefits of non-single occupancy auto/truck travel and the options available to the public

By establishing the reduction of single occupancy vehicle commuting trips as a priority for the community, many low cost options can be implemented that can have a substantial impact on the congestion level of the major roadways during peak commuting times, as well as improving the access of many residents to job opportunities.

SAFETY

One of the criteria used in this MTP planning process is Improved Safety. Safety needs can be addressed in a variety of ways that do not require building new or expanded facilities. This plan recommends the following no-build measures be implemented:

- Coordinate closely with the Louisiana State Highway Safety Plan. As a result of increasing highway fatalities during the rapid expansion of the federal highway system following World War II, Congress enacted The Highway Safety Act of 1966. The Act created a Federal Highway Safety Program and required that states accepting federal transportation funds implement a state highway safety program. As a result, Louisiana has a well established Highway Safety Plan. Working closely to coordinate local activities with state activities will help ensure improved safety in the Monroe Urbanized Area.
- Establish a coordination process with the Office of Emergency Preparedness, Emergency Management System, and other local stakeholders involved in the management of emergency response efforts after severe accidents, hazardous materials incidents, and natural disasters.
- Implement the Demand Management and Operations and Maintenance recommendations above.

SECURITY

Another criteria used in this MTP planning process is Improved Security. Security needs can be addressed in a variety of ways that do not require building new or expanded facilities. Since security is currently not an issue adversely affecting public transportation in Monroe, it is recommended that the transit authority continue to monitor the situation.

6. Effectiveness of Staged Improvement Program

Systems level analyses are used to look at how the proposed slate of candidate projects will impact community issues that are system wide concerns. This is a holistic evaluation of systemic impacts. This chapter describes the process of looking at environmental, social justice, and other system level issues that should be taken into consideration in the development of the MTP.

QUANTITATIVE ANALYSIS

ANALYSIS NETWORKS

As described in Chapter 4, the E+C network includes only those projects that are either under construction and will be open and operational by the first analysis year, or have irrevocable funding commitments. The Build Network added all of the projects remaining in the existing MTP and those projects that were locally funded and regionally significant. Table 6-1 below describes the projects added to the E+C network to create the Build Analysis Network.

Table 6-1: Build Projects

Name	Location	Improvement
US 165-B Connector	US 165 to LA Purchase Gardens	Reconstruction
Kansas Lane Connector	US 80 to US 165	New 4 Lane & Bridge
I-20	Thomas Rd (EB on ramp)	Interchange Improvement - Add Ramp
Finks Hideaway Rd	Raymond Rd to LA 139	Widen to 5 Lanes, New 2 Lane & Bridge
Parker Rd Ext	Parker Rd to Wagon Wheel Rd	New 2 Lane
Caples Rd	Marion Sims Rd to Risher Rd	Reconstruction (included with 46)
Old Natchitoches Rd	Thomas Rd to Stella St	Reconstruction
Dellwood Dr	US 165 to Tanglewood Dr	Reconstruction
Forty Oaks Farm Rd	LA 616	Intersection Improvement
Garrett Rd	I-20 to Kansas Ln	Widen to 4 Lanes, realignment
US 80	Well Rd to Ole Hwy 15	Widen to 5 Lanes
US 165-B Connector	LA Purchase Gardens to US 165-B	Reconstruction and New 2 Lane
LA 3033	Cheniere Dam to LA 838	Reconstruct with CTL
I-20	Ouachita River to Garrett Rd	Reconstruct & Widen to 6 Lanes
Garrett Rd	I-20 to LA 15	Widen to 4 Lanes, New 4 Lane
Tichelli Rd	US 165 to Garrett Rd	Widen to 4 Lanes, realignment
Elm St/Central St	Roger St to Kansas Ln	Realignment with CTL
Coleman Ave	Montgomery St to Ouachita River	Reconstruction
LA 594 (Texas Ave)	I-20 to US 165-B	Center Turn Lane
Mill St/Stella St Couplet	N 7th St to I-20	Widen to 3 Lanes each direction
US 80	Kansas Lane to LA 139	Widen to 4/5 Lanes
LA 616 (Arkansas Rd)	Harrell Rd to Caldwell Rd	Widen to 4 Lanes
LA 15 (Winsboro Rd)	Nutland Rd to Prairie Rd	Widen to 4 Lanes
I-20	LA 546 to Ouachita River	Widen to 6 Lanes
I-20	Garrett Rd to LA 594	Widen to 6 Lanes
Ouachita River Bridge	LA 143 to US 165	New River Crossing
Ouachita Loop East	I-20 to LA 139	New 4 Lane and Widen to 4 Lanes
Ouachita Loop	US 165 to I-20	New 2 Lane and Widen to 4 Lanes
Ouachita Loop South	LA 34 to US 165	New 2 Lane and Bridge
Ouachita Loop Southwest	I-20 to LA 34	New 2 Lane and Widen to 4 Lanes
Ouachita Loop Northwest	LA 616 to LA 143	New 2 Lane
Ouachita Loop West	I-20 to LA 616	Widen to 4 Lanes
LA 15	Cheniere-Drew Dr to study area boundary	Widen to 4 Lanes
LA 34	Sandal St to study area boundary	Widen to 4 Lanes
I-20	between Garrett and LA 594	New Interchange/connector road
I-20	Vancil Rd	New Interchange ramps
US 80	Gilbert St to Kansas Lane	Widen to 4/5 Lanes
Loop Rd	Forsythe Ave to US 165	Center Turn Lane
Natchitoches Rd	Commerce St to LA 34	Reconstruction

Downing Pines Rd	Thomas Rd to US 80	Reconstruction
US 165-B(Jackson St)	Lee St to Standifer St	Center Turn Lane
Parkview Dr/S 12th St	Winnsboro Rd to Orange St	Center Turn Lane
Well Rd	US 80 to LA 838	Widen to 4 Lanes
US 80 (Louisville Ave)	Ouachita River to US 165	Widen to 6 Lanes
LA 34/US 80	18th St to US 165, I-20 to Kansas Ln	ITS
N & S 18th St	Forsythe Ave to Texas Ave	ITS
N 4th St	RR	Underpass
US 165	LA 15 to Finks Hideaway Rd	ITS Corridor
US 80 (Louisville Ave)	Ouachita River to N 18th St	ITS Corridor
US 80 (Desiard St)	US 165 to Kansas Ln	ITS Corridor

As noted in Chapter 4, the interstate and primary arterial links with a V/C greater than one (1.0) make up approximately six to nine percent, depending on the forecast year, of the regions total lane miles but account for over forty percent of the total delay for the region. These deficiencies (areas of congestion) may be addressed, in large part, by a combination of those projects already included in existing plans shown above. However, as in all urbanized areas, there are deficiencies identified in the future year networks that may not easily be solved with the application of a roadway widening or building a new roadway. These deficiencies will need to be the subject of transportation system demand techniques such as access management and channelization at intersections.

MODEL RESULTS

Table 6-2 below summarizes the model assignment results. For comparison purposes all previous assignment results have been included as well. Analysis results are evaluated using the following measures:

- Flow – number of vehicles in a 24-hour period,
- VMT – Vehicle Miles Traveled (representing mobility),
- VHT – Vehicle Hours Traveled (representing quality of travel),
- Average speed,
- Delay, and
- Average percent delay.

Table 6-2: Assignment Results

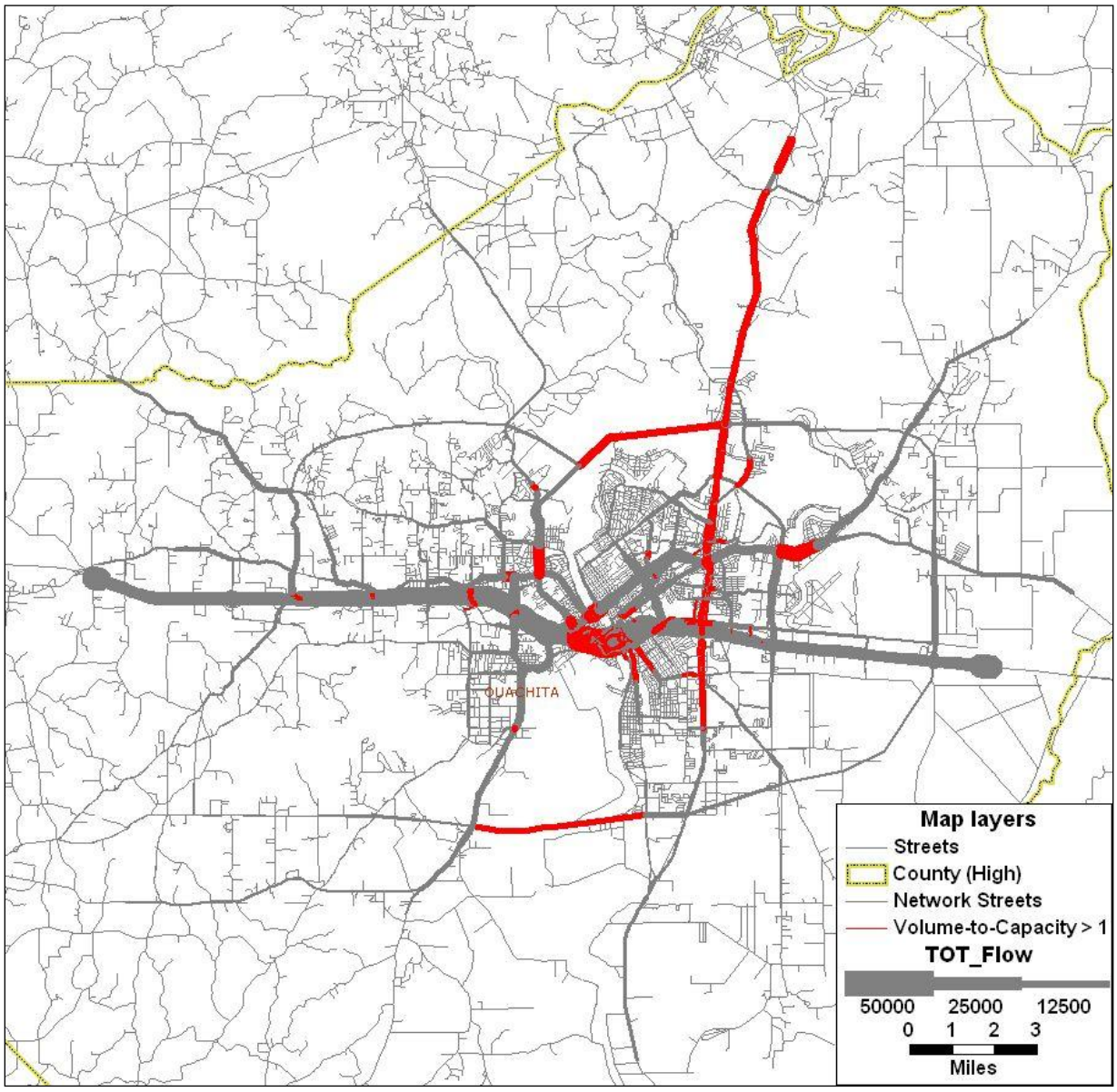
Scenario	Flow	VMT	VHT	Avg Speed	Delay (Hrs)	Avg % Delay
2008 Base	20,803,170	3,444,838	87,168	39.51	10,958	5.08
2015 EC	21,405,569	3,599,569	91,967	39.14	12,621	5.20
2025 EC	22,534,902	3,816,849	99,926	38.20	16,011	6.09
2035 EC	23,433,229	4,011,335	107,013	37.48	19,175	6.80
2035 Build (All Projects)	21,581,813	4,018,739	95,610	42.03	10,253	3.84

Not surprisingly, the Build Scenario shows a large positive effect in terms of VHT, speed, and delay. Despite an overall increase in VMT, VHT drops to less than 2025 and only slightly more than 2015. Average speed shows a significant increase even above the 2008 speed. This results in a significant drop in average delay in 2035 with all proposed projects built, compared to the scenario where no projects are built.

However, because of budgetary constraints, project feasibility, and other issues, not every project is likely to be built. In order to choose the best projects, other criteria, which are discussed below, will be used to rank individual projects. The addition of these evaluation criteria will give policy-makers additional information to make the best transportation decisions possible.

Figure 6-1 below shows the assignment results for the Build Analysis Network.

Figure 6-1: Build Assignment



QUALITATIVE ANALYSIS

The model results shown above are only one way to evaluate the effectiveness of proposed projects. Some projects cannot be modeled, and some projects that can be modeled may have additional effects that cannot be modeled. In particular, projects may negatively affect the environment or they may disproportionately affect low income or minority neighborhoods. This section provides a general analysis of the potential effects of the staged improvement program on the environment and low income and minority neighborhoods.

ENVIRONMENTAL JUSTICE

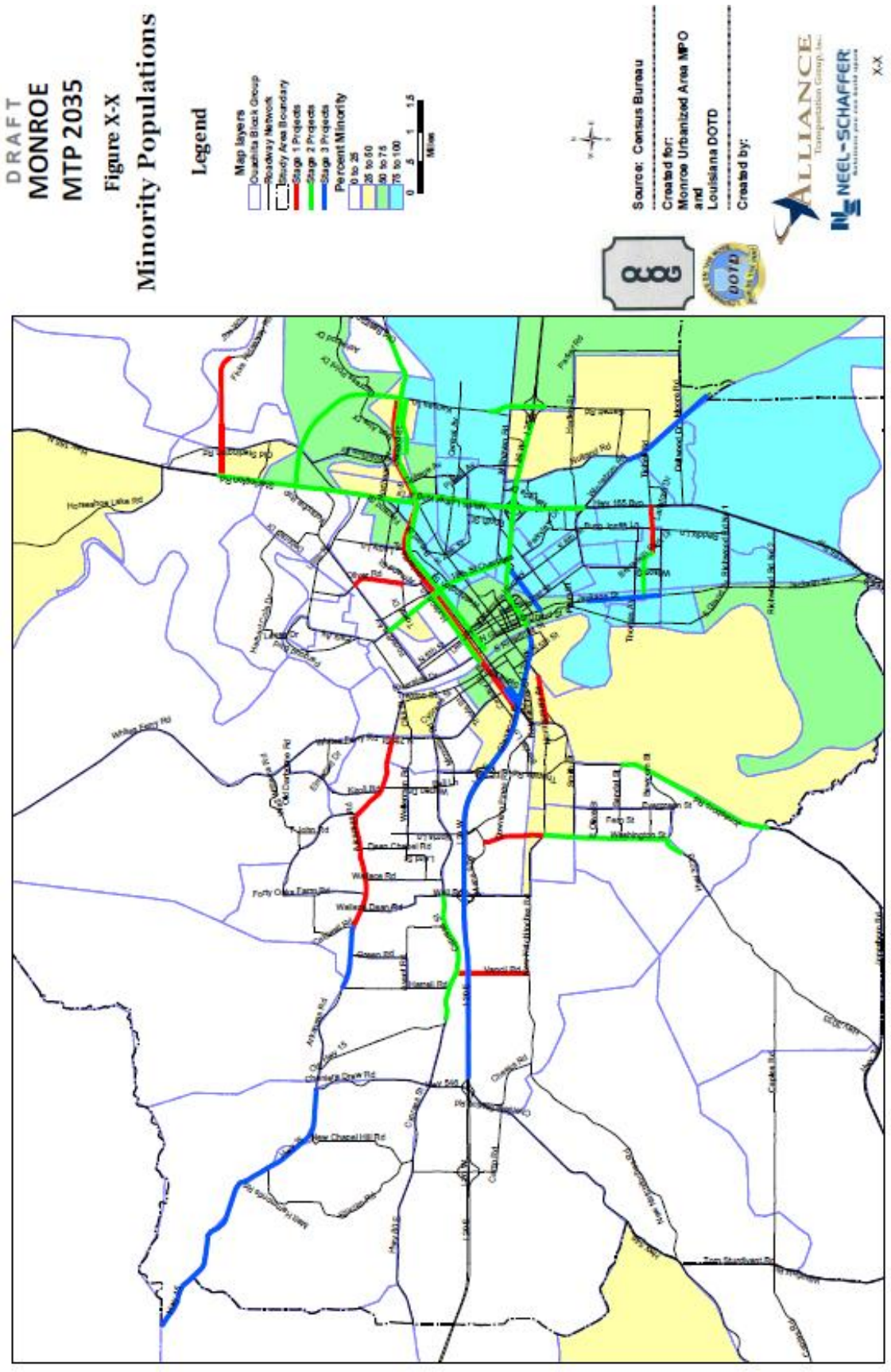
The term environmental justice first entered the discussion of metropolitan transportation planning in 1994 with the issuance of Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. The executive order was based upon Title VI of the Civil Rights Act and required that all federal actions comply with three primary principles. These principles are:

- To avoid disproportionate adverse effects on minority and low-income populations;
- To ensure the full and fair participation by all potentially affected communities in the transportation decision-making process; and
- To prevent the denial of the benefits of the transportation system to minority and low-income populations.

The passage of the SAFETEA-LU transportation legislation in 2005 codified the environmental justice goal of including low income and minority populations in the decision-making process. Using the guidance contained in the Metropolitan Planning Regulations, the study team incorporated environmental justice considerations into the development of the Monroe Urbanized Area 2035 MTP through the following steps.

1. Worked with MPO staff to identify and map locations of minority and low-income populations (see Figures 6-2 and 6-3 on following pages).
2. Provided opportunities for low income and minority populations to participate in and learn about the process. Public participation meetings were advertised in a variety of local publications including the Monroe News-Star, the Monroe Free Press, ULM's Hawkeye, and the Ouachita Citizen. During the consultation process (which preceded the public visioning meetings) the study team approached transportation-related organizations that serve low income or minority populations. One organization that was identified during the public visioning meetings was later interviewed to provide input to this process.

3. Held the public meetings in the Monroe Civic Center and the West Monroe Convention Center. This seemed to be "neutral" ground compared to holding the meetings at a high school that might be predominantly attended by students of one race that might reduce turn out by parents of the other race.
4. Made copies of the plan available on the Internet and at the public libraries during the public comment period for those that might not have computer access, or those that might be mobility-constrained and prefer electronic access.
5. Designed and implemented an early and meaningful public participation program that provided an opportunity for the public to be partners in the planning process. This included advertisement in a variety of publications in the community.
6. Worked with the public to develop performance measures that allowed assessment of the outcomes of transportation investments in terms of community values and quality of life impacts.
7. Insured that public transportation providers, upon which the environmental justice community is most dependent, were strong partners in the planning process.


DRAFT
MONROE
MTP 2035
Figure X-X
Minority Populations
Legend
Map layers
Quachita Block Group
Roadway Network
Study Area Boundary
Stage 1 Projects
Stage 2 Projects
Stage 3 Projects
Percent Minority
0 to 25
25 to 50
50 to 75
75 to 100
0
.5
1
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Miles
Source: Census Bureau
Created for:
Monroe Urbanized Area MPO
and
Louisiana DOTD
Created by:
ALLIANCE
NEEL-SCHAFFER
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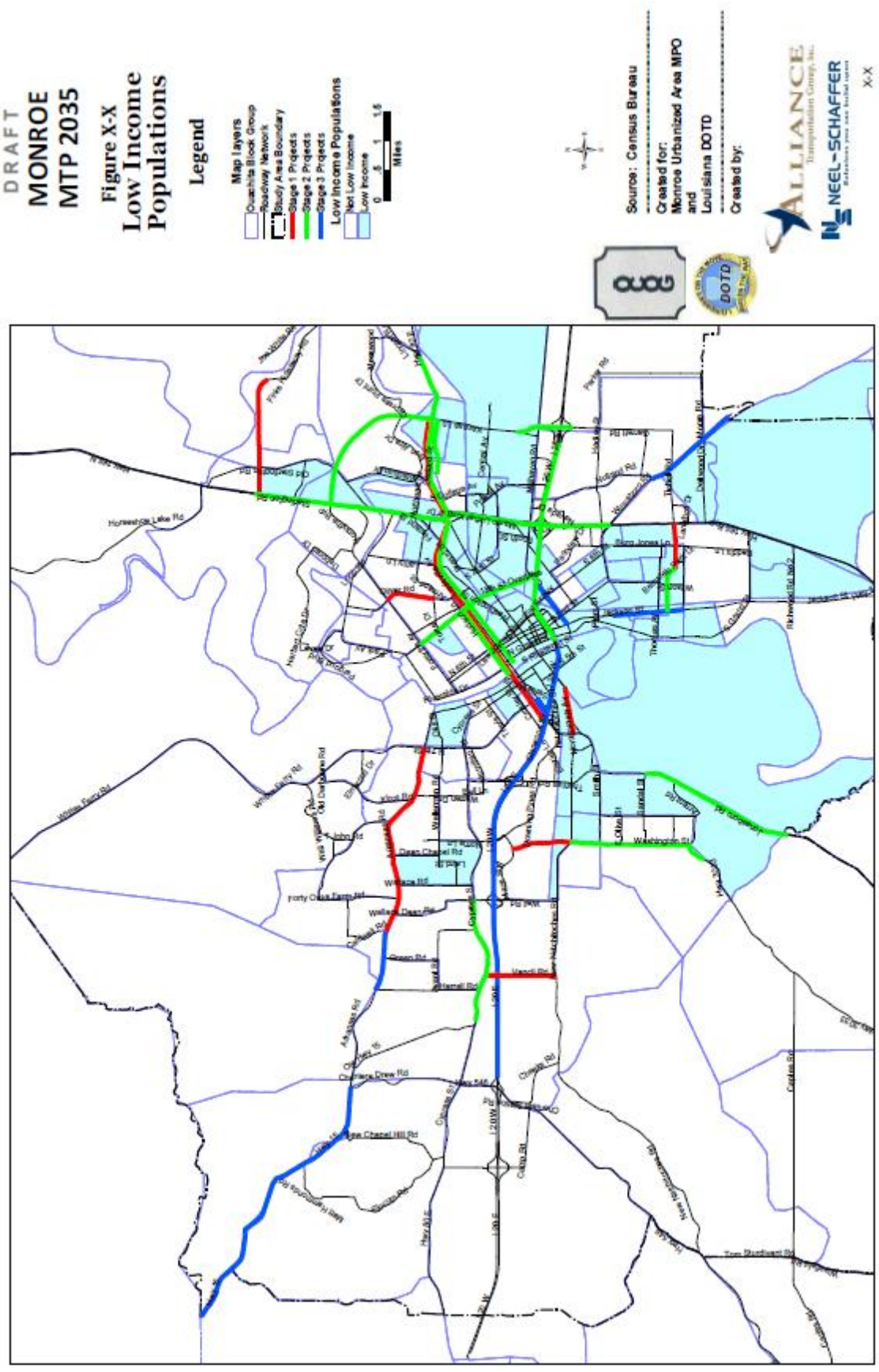
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Low Income
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Stage 3 Projects
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Miles
Source: Census Bureau
Created for:
Monroe Urbanized Area MPO
and
Louisiana DOTD
Created by:
ALLIANCE
NEEL-SCHAFFER
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8. Focused on developing a multimodal transportation system that served diverse travel markets and supported the trip purposes of various transportation consumers, including the identified environmental justice population.

The analysis of the plan projects in the study area shows that there is no disproportionate affects to any of the environmental justice populations. Even though some the planned projects are enclosed within the areas with predominant environmental justice populations, the projects many not affect these populations because of the right-of-way requirements and/or actual location of these populations with respect to the project corridor. Quite often, the planned projects were located in one of the environmental justice population areas by a relatively small amount compared to areas that are not.

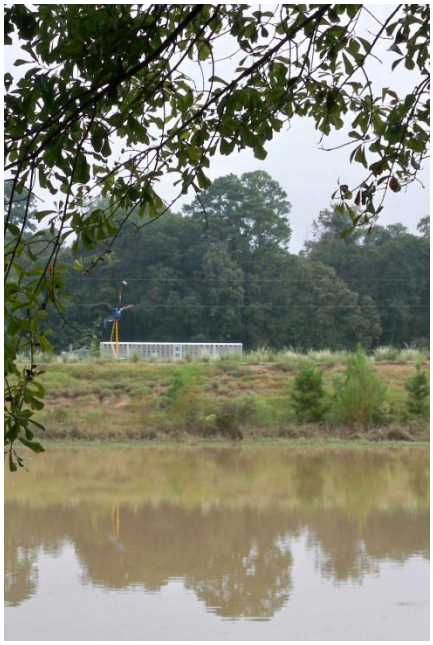
There are several projects that traverse through these environmental justice population areas and have no affect on the populations at all. This is due to the fact that either the population is away from the project corridor or the area is mostly commercial or industrial in nature along the roadway.

The MPO is operated by OCOG which is part of the North Delta Regional Planning & Development District. North Delta also operates the Area Agency on Aging which administers programs to assist senior citizens. As sister agencies, staff work closely on these programs. Because members of the environmental justice community are not always able to participate in the planning process and personally articulate their needs, the study team undertook additional consultation efforts and conducted GIS-based travel market analysis to identify potential transportation needs of the environmental justice community. These efforts included, but were not limited to the following activities:

- The study team worked with MPO staff to integrate the goals and objectives of the Human Services Transportation Coordination Committee into the plan development process.

- The study team used GIS analytical tools and resources - including socio-economic data layers from the US Census, transit system route layers from local transit providers, and geographic layers with the locations of major trip destinations for various trip purposes (particularly community travel such as medical trips) to perform a spatial analysis of the market coverage provided by the current transit systems. This approach allowed the study team to identify gaps and duplication in current service and to make recommendations regarding future transportation system strategies and investments to address deficiencies in service, particularly with regard to the environmental justice community's travel patterns and needs.
- For each of the transportation investments proposed in the 2035 MTP, the study team assessed the likely impacts – positive and negative – on environmental justice communities. The outcomes of these analyses are summarized in the project descriptions in Chapter 8.

Environmental Mitigation Analysis



An environmental mitigation analysis was conducted on the study area to identify any potential environmentally sensitive areas that should be considered during the MTP planning process. This was a high level conceptual analysis conducted with the intent to identify any obvious environmental constraints that would impact the plan's implementation. This analysis was applied to the list of identified projects to ascertain where further investigation would be necessary. Once individual projects reach implementation stage, a more detailed environmental evaluation will be done as a part of the National Environmental Protection Act (NEPA) process.

The data and information used to conduct the environmental mitigation analysis included Federal Emergency Management Agency's (FEMA) flood plain maps, Louisiana's wetlands maps, and consultation with state and federal wildlife and environmental protection agencies.

The following environmental mitigation issues have been identified for consideration when developing future projects for this metropolitan transportation plan update:

- Maintenance of wetland and floodplain
- Threatened and endangered species
- Section 4(f) properties
- Crossing navigable waterways
- Air quality

During the public visioning workshops, citizens expressed concern regarding the certification of a levee by the Army Corps of Engineers. They indicated if the levee was not certified, then people would have insurance difficulties, as well as not being confident about protection from flooding. Over the long term, the performance of the levee could greatly affect growth patterns in the area.

The plan appears to have only modest environmental impacts and no fatal flaws were identified. However, a map of the plan projects was overlaid on flood plain and wetlands geographic layers to identify any project specific environmental issues. The analysis indicated that the following projects listed in Table 6-3 have potential issues that will require more detailed examination prior to project implementation.

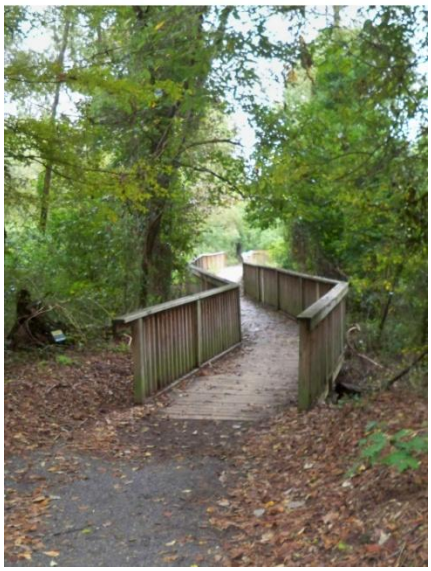
These projects will be flagged for further review as they approach implementation. If further environmental review indicates that that there are conflicts with environmentally sensitive areas, there is potential to resolve them through strategic alignment shifts or through wetlands offsets such as the Louisiana Land Bank system or other off set mechanisms such as purchase of mitigation property adjacent to the National Wildlife Refuges in the study area.

Table 6-3: Projects Requiring Closer Scrutiny Regarding Potential Environmental Impacts

Name	Location	Improvement	Comment
Finks Hideaway Rd (Ph 1)	US 165 to Holland Dr	Widen to 5 Lanes	Project is located in proximity to the Black Bayou Lake National Wildlife Refuge.
Finks Hideaway Rd (Ph 2)	Holland Dr to Raymond Dr	Widen to 5 Lanes	Project is located in proximity to the Black Bayou Lake National Wildlife Refuge.
Washington St Ext	New Natchitoches Rd to Pavilion Cir	New 2 Lane	Route study required. Project may require grade separation with the Kansas City Southern Railroad.
Kansas Lane Connector	US 80 to US 165	New 4 Lane and bridge	This is a new roadway with bridge over Bayou DeSiard; concerns would include potential impacts to undocumented cultural resources, potential impact to wetlands and natural environment features.
US 80 (Louisville Ave)	Ouachita River to US 165	Widen to 6 Lanes	Widening would occur within the boundaries of the Louis Alexander de Breard Historic District. This project would require consultations with SHPO regarding potential impact to Section 106 properties.
US 165-B Connector	LA Purchase Gardens to US 165-B	Reconstruction and New 2 Lane	If reconstruction requires additional ROW, this would be a 4(f) impact.
US 165-B(Jackson St)	Lee St to Standifer St	Center Turn Lane	Needed ROW may be within the view shed of a historic site.
LA 594 (Texas Ave)	I-20 to US 165-B	Center Turn Lane	Widening that may pass within the Henry Bry Historic District.

Impacts on threatened and endangered species habitats are not included as part of the MTP. However, it is expected that projects will be developed in consultation with US Fish & Wildlife Service and Louisiana Department of

Natural Resources, and to the extent practicable, actions which impact critical habitats will be avoided.



Section 4(f) has been part of Federal law since 1966. It was enacted as Section 4(f) of the Department of Transportation (DOT) Act of 1966. Briefly, Section 4(f) affords protection to historic sites, publicly owned parks, recreation areas, and wildlife or waterfowl refuges when USDOT funds are invested in a project. SAFETEA-LU made a substantive revision to the 4(f) requirements by simplifying the process. However, the need to identify any obvious constraints or fatal flaws relative to 4(f) properties still exists.

As the projects move through LaDOTD project delivery process, consultations must be held with the U.S. Coast Guard in accordance with the Coast Guard Authorization Act of 1982. Structures located in navigable channels must be designed to mitigate potential effects on navigation.

AIR QUALITY

The Clean Air Act Amendments of 1990 require that all MPOs be in attainment of national ambient air quality standards. These standards are tied to federal funding for transportation related funding.

The Monroe Urbanized Area is an attainment area for air quality and recent reports indicate that the area is likely to remain in attainment for the near future. However, issues surrounding greenhouse gas production are relevant nationwide. In the transportation system, these issues can be addressed by the reduction in vehicle miles traveled, idling time, and the improved access to transit and non-motorized modes of transportation. Strategies related to air quality improvement were part of the criteria included in the project selection process, and no further adjustments were deemed necessary by the study team.

HUMAN SERVICE TRANSPORTATION COORDINATION EFFORTS

An analysis was conducted to determine whether the MTP adequately supports the goals and objectives of the regional human services transportation coordination plan. The study area is in a region that has an adopted coordination plan. Although this plan covers a much broader geographic area than the MPO study area, the coordination plan was designed to improve the quality and quantity of services available to the elderly, handicapped and disadvantaged populations of the region. North Delta provides regional coordination for the Human Services Transportation Coordination Analysis and hosts the MPO.

PROJECT EVALUATION RESULTS

While the model results are an important tool for testing "build" and "no build" roadway alternatives, the model is merely another tool in the transportation planning arsenal. To ensure that the right set of project alternatives are selected, it is important to consider the mobility needs and desires of all stakeholders including the public. During the visioning meetings conducted in October 2009 transportation stakeholders and public participants ranked a set of project selection criteria (see Chapter 3). These criteria were developed by the study team and incorporate the US DOT mandated planning factors for use in project selection.

The goal of the project selection process is to achieve a fair, easy-to-understand, and systematic evaluation of all projects based on evaluation criteria deemed important by users of the local transportation system. To accomplish this goal, each project must be evaluated based on criteria designed to measure the project's ability to achieve the desired effects.

To facilitate the project selection process, a spreadsheet tool was developed to accommodate both the model results (quantitative) and the more subjective (qualitative) community based ranking criteria. The spreadsheet:

1. takes the outputs from the various model runs and organizes the data by project;
2. provides a mechanism for adding the qualitative evaluation measures to each project that reflect local goals and objectives;
3. allows each quantitative and qualitative measure to be weighted to reflect its importance to the overall process; and
4. generally provides an easy to use tool for conducting a project selection process that combines both quantitative and qualitative information.

As noted above, projects are evaluated based on the model outputs (volume, V/C ratio, speed, etc.), and the qualitative measures that reflect the local goals derived from outreach to local transportation stakeholders and the public.

Quantitative measures are those that can have a value determined directly from the model output. These included the traffic volume, the volume to capacity ratio (V/C), speed, vehicle hours traveled (VHT), vehicle miles traveled (VMT) and the increase or improvement in the value between runs for different years or roadway configurations. Volume provides a measure of the intensity or importance of the roadway but not the level of congestion. Volume to capacity ratio (V/C) is a common level of congestion performance measure and is widely used in plan development and transportation studies. Vehicle-miles traveled (VMT) and Vehicle-hours traveled (VHT) reflect mobility and the quality of travel. Specifically, the quantitative measures include:

- the increase in volume between runs,
- the average volume of traffic on the project,
- the increase in V/C between runs,
- the improvement in speed along the project,
- the VHT along the project, and
- the VMT along the project.

The weighting for each individual quantitative measure noted above are set to one. This effectively gives all quantitative measures the same importance; however, this to can be modified if deemed appropriate.

The qualitative measures used for the project evaluation are those developed and ranked during the Monroe Urbanized Area Visioning process. The fourteen planning measures developed from the visioning process reflect the recommended criteria in the new SAFETEA-LU legislation. Table 6-3 presents the list of qualitative criteria with weighting factors employed for the Project Evaluation spreadsheet.

Table 6-4: Final Weighted Score for Project Criteria

Criteria	Weighted Score
Improve Quality of Life	2.0
Reduce Congestion	1.9
Improve Safety	1.8
Support Economic Development Goals	1.7
Improve Access	1.6
Increase Connections	1.5
Conserve Energy	1.4
Protect Environment	1.3
Promote Efficiency	1.2
Connect Modes of Travel	1.1
Support Land Use Goals	1.0
Increase Multi Modal Options	0.9
Preserve Rights-of-Way	0.8
Improve Security	0.7
Cost Sharing	1.0

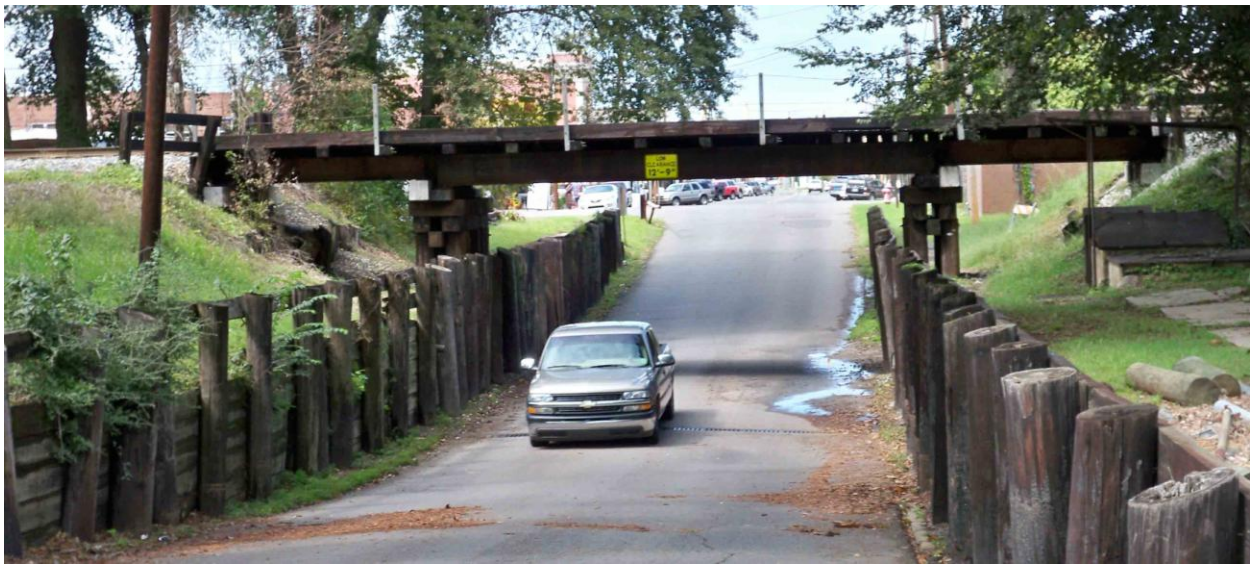
As noted earlier, each of the quantitative measures were individually weighted as one (1) and a final score for those measures was calculated. However, overall, the modeling results were incorporated into the selection

process under the "Reduces Congestion" criteria. During the Visioning process, "reduces congestion" was ranked number two (2) and as such, the modeling results are incorporated as the second highest priority in the criteria.

The relative importance of the other qualitative criteria with respect to each project was determined by the MPO Technical Advisory Committee and input to the spreadsheet. The final project listing was determined by calculating each of the individual scores for each criteria and then multiplying that by the relative weighting of each criteria.

One additional criterion was added to the overall project evaluation - Cost Sharing. This criterion reflects LaDOTD's desire to increase local participation in project funding and thereby "stretching" Louisiana's federal funding. If a project has greater than the standard 80/20 (80% federal and 20% state or local) cost share from a local entity, the project received credit for cost sharing.

Appendix G lists all the funded and unfunded projects in this plan. The projects are presented by funding stage. The table of projects includes the rank and average score for each project.



7. Financial Analysis and Fiscal Constraint

The Monroe 2035 Metropolitan Transportation Plan is fiscally constrained in compliance with the requirements of SAFETEA-LU and the Metropolitan Planning Regulations. This chapter describes the process of fiscally constraining the project list described in previous chapters. By federal regulation, the final MTP project list must be fiscally constrained. This simply means that, after making projections about future costs and revenues, the anticipated amount of revenue that will be available for transportation projects will be equal to (or greater than) the anticipated cost of the MTP projects.

These costs and revenues also have to take into account the change in the value of the dollar due to inflation. Therefore, project costs are calculated in year-of-expenditure dollars. This means that the cost of the project is calculated based on the value of the dollar in the year that it is spent. For example, if a roadway is overlaid with a new surface in 2010, the work is anticipated to cost $400,000 per mile to complete the project, but if the project is put off until 2011 the project cost is projected to increase to $412,000 dollars. This 3% increase in the cost from one year to the next takes into account a 3% inflation rate. The 3% figure was calculated from historic Consumer Price Index (CPI) data for South Urban areas in the last twenty years.

The chapter will explain how the anticipated total program of highway and transit revenues was calculated to be $857 million and the total program cost (in year-of-expenditure dollars) was calculated to be $787 without nonrecurring costs thus making the Monroe 2035 MTP fiscally constrained.

In the Monroe Study Area, the amount of state and federal funding for transportation projects is determined by LaDOTD, in consultation with the MPO, on an annual basis. LaDOTD has a statewide pool of transportation funds that is used for doing all small urban transportation projects in the state. The money in this fund is not allocated by any formula; rather it is distributed to best address the unmet needs in any of the six small urban areas (under 200,000 in population) of the state, at the discretion of LaDOTD, in consultation with the small urban MPOs. This means that the actual amount of state and federal funds spent in any single small urban area can vary widely from year to year. For this reason, revenue forecasts are based on averages. First a historic average amount of funding is calculated, and then a future average amount of funding is projected based on these historical trends.

CALCULATING ROADWAY REVENUES

The following describes the step-by-step process by which future revenues for roadways were forecast for the Monroe Study Area.

Step 1 Gather historic data on the amount of money spent on transportation projects constructed in the Monroe MPO area over the last twenty eight years.

Data was obtained from LaDOTD on all of the transportation projects that were let in the Monroe Study Area over the last 19 years. This data included the type of project (overlay, reconstruction, new construction, etc.) and the actual dollar amount spent on the project. When the project list was summed by year, it gave the total amount of revenue that was expended in the Monroe Study Area for that year. This resulted in a list of transportation revenues by year (and funding category) for the last 19 years, but the amounts could not be accurately compared until all of the revenue figures were converted into a constant year dollar amount. For the purposes of this study, historical amounts were converted into equivalent 2008 dollars.

Step 2 Convert the dollar costs of the historic projects into 2008 dollars.

The revenue figures for each of the last 19 years were converted into 2008 dollars by applying the federal Consumer Price Index. This resulted in a list of annual revenue amounts, but the revenue figures included both recurring and non-recurring funds.

Step 3 Deduct non-recurring revenue.

Some transportation projects are funded through special programs or as a result of a competitive grant process, these funds are non-recurring funds. In order to accurately project the amount of revenues that can be expected in the future, these non-recurring (or one time) funds were subtracted for each year's total revenues. The results was a list of annual revenue amounts that included only fund sources that could be reasonably be expected to recur in the future.

Step 4 Determine an historic average amount of available revenue.

From this list of annual recurring revenues, an average was calculated in order to establish a baseline for projecting future revenues. The total revenues were summed and divided by the number of years to obtain an historic average of $15 million per year of revenue that was available to the Monroe over the last 19 years. However, because of an anomaly in years 2001 and 2002 which saw very few projects implemented in the Study Area, only the last 6 years (2003-2008) were used to calculate the annual average of $19 million per year.

Step 5 Project future revenues by year.

Based on this historic average of $19 million dollars per year in available revenues, an inflation factor of 3% per year (compounded annually) was applied to each year out to the plan horizon year of 2035.

Step 6 Combine the revenue projections into three stages.

As stated earlier, annual transportation revenues in the small urban areas of the state can vary widely. Therefore, revenue projections were calculated

for three time periods, or stages. The following table contains the revenue projections for state and federal recurring funds calculated for this MTP.

Table 7-1: Revenue Projections for State and Federal Recurring Funds

Stage	Years	Revenue Projection
I	2010 - 2015	$129,000,000
II	2016 - 2025	$273,000,000
III	2026 – 2035	$366,000,000
Total	2010 - 2035	$768,000,000

Step 7 Adding in Future non-recurring revenues.

The figures in the table above represent recurring revenues. In the case of projects with special dedications of non-recurring funds (such as American Recovery and Reinvestment Act funds) the amount of funding dedicated to individual projects is added on top of the recurring revenue forecast on a case-by-case basis.

CALCULATING TRANSIT REVENUE

Transit revenues were calculated using a process similar to the process described above. Historic funding revenues were obtained from LaDOTD Public Transportation Section. The historic funding in actual year dollars for the two public transit systems is listed below:

Table 7-2: Transit Systems Historic Funding

	Monroe Transit	West Ouachita Senior Center	West Ouachita Council on Aging	ARCO
2006-2007	$1,147,923	$173,156	$0	37,816
2007-2008	$1,623,712	$122,874	$44,752	$0
2008-2009	$1,639,919	$167,261	$92,706	$82,814
2009-2010	$2,445,616	$101,204	$0	$0
2010-2011*	$3,298,186	$189,330	$0	$0
Annual Average	$2,031,071	$141,124	$27,492	$24,126

These revenue figures were then converted into 2008 dollars by applying the CPI inflation factor,

When these revenues are averaged over the five-year period, they produce an estimate of annualized transit revenues in 2008 dollars. The results of this calculation are shown below.

Annual average historic transit funding

- Monroe Transit: $2,031,071
- West Ouachita Senior Center: $141,124
- West Ouachita Council on Aging: $27,492
- ARCO: $24,126

These two baseline figures were then used to calculate the anticipated transit revenues over the 25-year life of the MTP. The results are listed below.

Table 7-3: Projected Transit Revenues

	Monroe Transit	West Ouachita Senior Center	West Ouachita Council on Aging	ARCO
2010-2015	$13,531,935	$1,004,466	$183,162	$160,739
2016-2025	$28,636,328	$2,125,654	$387,608	$340,156
2026-2034	$38,484,830	$2,856,701	$520,912	$457,141
Total	$80,653,093	$5,986,820	$1,091,681	$958,035

CALCULATING THE COST OF ROADWAY PROJECTS

In keeping with SAFETEA-LU guidelines, Cost is defined as the total project cost, which includes: planning elements (e.g. environmental studies and functional studies); engineering costs (e.g. preliminary engineering and design); preconstruction activities (e.g. line and grade studies, right-of-way acquisition and corridor preservation); construction activities, and contingencies.

The following describes the step-by-step process by which the cost of the roadway projects included in the MTP was determined. Transit project costs were calculated in a similar manner, however there is less historic data available. The description of the process for calculating transit costs follows the roadway discussion.

Step 1 Gather historic project costs by type of project.

As stated earlier, data was obtained from LaDOTD on all of the transportation projects that were let in southern Louisiana urban areas over the last 28 years. This data included the type of project (overlay, reconstruction, new construction, etc.) and the actual dollar amount spent on the project. This data was then sorted by project type so that costs could be calculated based on project type.

Step 2 Using 2008 dollars; determine a unit cost per project.

Using the historic cost for each project, translated into 2008 dollars, a unit cost was calculated for each project. The total project cost was divided by the number of units completed in that project, e.g the number of miles of roadway overlaid or reconstructed, or the number of intersections reconfigured. This calculation resulted in a unit cost per project in 2008 dollars.

Step 3 Determine the average cost per unit in 2008 dollars.

The unit costs within each category of projects was then summed and divided by the number of projects. This calculation resulted in the average historic unit cost per category, as displayed in the table below.

Table 7-4: Typical Improvement Costs by Type

Type	Cost ($)	Per unit
New 4 Lane Freeway	$15,000,000	Mile
New 2 Lane Roadway	$2,500,000	Mile
New 4 Lane Arterial	$4,250,000	Mile
Interstate Widening	$8,500,000	Mile
Interstate Rehab	$1,750,000	Mile
Arterial Widening	$4,000,000	Mile
One Way Couplet	$3,500,000	Mile
Center Turn Lane	$2,300,000	Mile
Reconstruction	$2,000,000	Mile
Overlay	$400,000	Mile
ITS	$700,000	Mile
Intersection Improvement	$750,000	Each
Interchange Improvement	$5,250,000	Each
New Interchange	$20,500,000	Each
Underpass	$10,000,000	Each
RR Overpass	$5,750,000	Each

Step 4 Apply historic unit costs to MTP project list to determine construction costs.

A base construction cost was calculated for each project in the MTP project list by multiplying the appropriate average cost per unit by the number of units to be completed in each project. For example, a project that called for overlaying 3 miles of roadway would cost $1,200,000 ($400,000 unit cost * 3 units).

Step 5 Calculate the total project cost for each MTP project.

As stated above, SAFETEA-LU requires that the MTP contain a 'total project cost' for each project. In addition to actual construction costs, the following costs were added in order to determine the total cost of each project: planning elements (e.g. environmental studies and functional studies); engineering costs (e.g. preliminary engineering and design); preconstruction activities (e.g. line and grade studies, right-of-way acquisition and corridor preservation); construction activities, and contingencies. Although not all of these costs were appropriate for every project (e.g., right-of-way acquisition may not be necessary for an overlay project). Estimates of these costs for each project were added to the construction cost to determine the total project cost.

Step 6 Calculate Project Costs in Year-of-Expenditure Dollars.

The projects in the Monroe 2035 MTP are scheduled to be completed over the 25-year life of the plan. Many of these projects will take multiple years to complete. Therefore, the total cost for each project was calculated based on the year in which funds were anticipated to be spent to complete that project. The costs calculated in 2008 dollars must be adjusted to account for inflation. Therefore, as projects were assigned to stages of the plan, the total project cost was inflated to the implementation year accordingly. As noted earlier, a 3% annual compounded inflation rate was used.

A project implementation schedule was determined by the Study Team in consultation with LaDOTD and the MPO Policy Committee. This schedule

placed projects in one of three stages in correlation with the three stages for which revenues were calculated.

- Stage I : 2010 to 2015
- Stage II: 2016 to 2025
- Stage III: 2026 to 2035
- MTP Life: 2010 to 2035

Projects in the Transportation Improvement Program are reported in total cost and are identified for implementation in specific years. The 3% inflation factor was applied to the current cost to calculate the probable cost of the project in that year.

Because of the uncertainty regarding a projects exact year of implementation within stages II and III, an average cost per unit was calculated for each of the two out year stages (using the mid stage year). This resulted in one set of unit costs for each of those two stages. The unit cost schedule was then applied to projects depending on which stage the project was anticipated for implementation.

Based on this schedule, a total project cost for all roadway projects was calculated for each project in year-of-expenditure dollars. (See table of projects in Appendix C) The cost of all projects was then summed, and the result was $443,824,180, which are the anticipated expenditures for all identified roadway projects over the 25-year life of the MTP.

CALCULATING TRANSIT COSTS

Transit total project costs were developed in consultation with the transit providers in 2008 dollars. These costs were then inflated to year-of-expenditure dollars using the same 3% compounded inflation rate, as was done for roadway projects. Those total costs equaled $88,689,629.

The anticipated total program (highway and transit) revenues was calculated to be $857 million and the total program costs (in year-of-expenditure dollars) was calculated to be $787 - thus making the Monroe 2035 MTP fiscally constrained.

Chapter 8 Fiscally Constrained Plan Project Descriptions

The following is a description of the projects that have been included in this fiscally constrained long-range plan. The projects have been grouped into logical categories based on the type of project or the type of transportation deficiency being addressed. In addition to a physical description of the each project, the purpose and need; limits and scope; community issues and concerns; and sources of funding for each category are also included. Projects that add capacity to the system or large projects with the potential for community or regional impacts receive some additional individual discussion.

Widening or Extension of Existing Roadways

Description

Although the primary emphasis of SAFETEA-LU is on maintaining and improving the operation of the existing transportation system, there are situations in which construction of a new roadway or expansion of an existing one is the most logical solution to a transportation problem. New capacity is warranted when it completes a logical component without which the transportation system cannot operate properly; when it eliminates bottlenecks or safety hazards; or finally, when all reasonable Operations and Management efforts have not proven effective in dealing with the problem.

The projects listed below are typically highway projects that include lane additions in one or more sections or minor extensions to provide better connectivity.

Limits and Scope

The limits and scope of each individual project are identified in the project line items shown below.

Purpose and Need

In addition to being necessary to meet the market objectives and travel purposes of consumers, these projects require additional action to meet existing or projected demand due to intense growth in land use in the surrounding areas or to provide alternate access routes to relieve congestion on adjacent arterials.

Community Issues

The primary community issues related to these projects are impacts on adjacent land uses and the potential for increased traffic through adjacent neighborhoods. The MPO will need to work closely with neighborhood groups to address these issues.

Financing

Financing for capacity increases depends on the designation of the roadway in question. Roadways on the state system are usually funded with state or federal funds controlled by LaDOTD and matching state funds. Collectors and arterials off the state system are typically financed with federal formula funds from the statewide Small Urban Pool with local matching funds from the jurisdiction in which the facility is located.

Stage 1 Projects

- Widen Finks Hideaway to five lanes. In phase 1 the project limits are from US 165 to Holland Dr. In phase 2 the project limits are from Holland Dr. to Raymond Dr.
- Widen LA 616 (Arkansas Rd.) to five lanes from Caldwell Rd. to LA 143.

- Extend Washington St. as a two lane road from New Natchitoches Rd. to Pavilion Cir.

STAGE II AND III PROJECTS

- Build the Kansas Lane Connector as a new four lane road with a bridge from US 80 to US 165. (This project also fits in the bridge category below.)
- Widen US 80 to four to five lanes from Kansas Lane to LA 139.
- Widen to four lanes and realign Garrett Rd. from I-20 to Kansas Ln.
- Widen LA 34 to four lanes from Sandal St to the study area boundary.
- Widen US 80 (Louisville Ave.) to six lanes from the Ouachita River to US 165.
- Widen US 80 to four to five lanes from Gilbert St. to Kansas Ln.
- Widen US 80 to five lanes from Well Rd. to Ole Highway 15.
- Reconstruct I-20 and widen it to six lanes from the Ouachita River to Garrett Rd.
- Reconstruct LA 3033 and add a center turn lane from Cheniere Dam to LA 838.
- Reconstruct the US 165B Connector and add a two lane portion from the Louisiana Purchase Gardens to US 165B.
- Widen LA 15 to four lanes from Cheniere-Drew Dr. to the study area boundary.
- Widen LA 15 (Winsboro Rd.) to four lanes from Nutland Rd. to Prairie Rd.
- Widen LA 616 (Arkansas Rd.) to four lanes from Harrell Rd. to Caldwell Rd.
- Widen I-20 to six lanes from LA 546 to the Ouachita River.
- Add a center turn lane on US 165B (Jackson Ln.) from Lee St. to Standifer St.
- Widen each portion of the Mill St./Stella St. couplet to three lanes from N. 7th St. to I-20.
- Add a center turn lane to LA 594 (Texas Ave.) from I-20 to US 165B.

TRANSPORTATION SYSTEM MANAGEMENT AND OPERATIONS

DESCRIPTION

The SAFETEA-LU metropolitan transportation regulations encourage and promote the safe and efficient management and operation of integrated, intermodal surface transportation systems to serve the mobility needs of people and freight and foster economic growth and development. During development of the MTP, the projects of this type identified were mainly intersection improvements that could greatly enhance the operational aspects of the system. However, while none were identified during this study it will be important for the MPO to identify future corridors where land use constraints may make them poor candidates for capacity increase. Those types of projects will require studies to identify corridor operation and management strategies.

LIMITS AND SCOPE

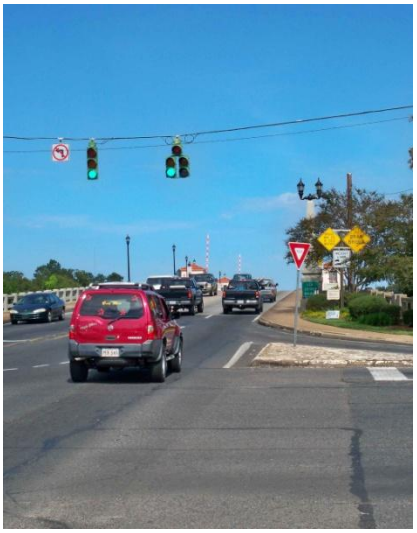
The projects in this section are intersection improvements and are listed below.

PURPOSE AND NEED

In many cases transportation problems are related to outmoded design or operation of an existing facility and do not require major capacity improvements to address the community's mobility needs. In other cases, the transportation problems may be capacity issues, but the corridor in question defies capacity-based solutions due to constraints caused by existing development, sensitive land uses or neighborhood integrity issues. In these cases, a substantial portion of the problem may be addressable through improved operation and management of the transportation system.

COMMUNITY ISSUES

The intersection projects normally take little time, but exacerbate congestion during construction. Good operations management planning



will need to accompany each intersection channelization project to try to maintain adequate flows through the intersection during construction. Regarding any future corridor studies, the outcomes of these projects will be of great concern to the community since they will address how the traveling public interacts with certain corridors. Community involvement will need to be a component of each study.

Financing

Financing for any access management and corridor operations studies needed would typically come from FHWA Planning (PL) funds and/or FTA Section 5303 funds administered through the MPO Unified Planning Work Program (UPWP) in collaboration with LaDOTD.

Stage I Projects

- At US 80 and Ole highway 15 realign the intersection and add a turn lane. At US 80 and LA 3249 (Well Rd.) add a northbound turn lane.
- ITS project at LA 34/US 80 from I-20 to Kansas Ln.

Stage II & III Projects

- At I-20 and Thomas Rd. improve the interchange.
- Add new interchange ramps at I-20 and Yancil Rd.
- Install an ITS project on North and South 18th St. from Forsythe Ave. to Texas Ave.
- Create an ITS corridor on US 165 from LA 15 to Finks Hideaway Rd.
- Create an ITS corridor on US 80 (Louisville Ave.) from the Ouachita River to N. 18th St.
- Create an ITS corridor on US 80 (Desiard St.) from US 165 to Kansas Ln.

Roadway Overlay Projects

Description

Overlay is the process of putting down a thin protective surface (usually asphalt) over a roadway that has begun to deteriorate from traffic and

weather exposure, thus preserving the surface, roadway base, and improving drivability.

Limits and Scope

Overlay projects are an ongoing maintenance item and are included in the plan on a recurring basis. Locations are chosen based on data from LaDOTD highway needs assessment and from parish pavement management programs. Because overlay projects are preventive in nature, identification of projects is a short-term process. Specific sites are to be determined through the TIP development process on a bi-annual basis.

Purpose and Need

Overlay projects are a critically important tool in the effort to maintain existing roadways in a condition of peak operating efficiency. These projects are quick and relatively inexpensive, taking only a few weeks or months to complete. More importantly, if maintenance is delayed until the roadbed is seriously deteriorated and reconstruction is required, then the direct construction costs may be as much as six times the cost of a timely overlay - even without adding in the cost in user delay during the lengthier reconstruction process. Overlays are one of the most cost-effective of transportation infrastructure maintenance projects.

Community Issues

Roadway overlay projects normally take little time, but exacerbate congestion during construction. Good operations management planning will need to accompany each project to try to maintain adequate flows through the corridor during construction.

Financing

It is anticipated that all of the overlay projects in the Metropolitan Transportation Plan will be funded using federal formula funds with match coming from LaDOTD on state routes and from local entities on major roadways that are not state routes. Some roadways may qualify for categorical programs that provide 100% federal funding.

Stage 1 Projects

No specific overlay projects are identified at this time. However, circumstances may arise where overlay is needed. Therefore, funding for this category is included in the plan in order to be prepared for unplanned needs.

Stage II and III Projects

Stage II and III overlay projects will be identified collaboratively by the MPO and LaDOTD on a bi-annual basis through the ongoing LaDOTD Highway Needs Assessment and from parish and city pavement management programs.

Reconstruction / Rehabilitation Projects

Description

Reconstruction involves the demolition of the existing road surface that is beyond repair, re-stabilizing or replacing the roadbed and foundation, and rebuilding the road surface with appropriate materials (e.g. concrete). Reconstruction is usually undertaken when overlay is inadequate to meet the problem, and further deferral of maintenance would result in the road reaching the limits of drivability.

Limits and Scope

Reconstruction / Rehabilitation projects can often be lengthy, rivaling the time necessary for actual construction of the road.

Purpose and Need

The roadways identified in this section have deteriorated beyond the point where simple overlay or light rehabilitation would be useful. Projects are identified from the LaDOTD Highway Needs Assessment and local parish maintenance evaluations.

Community Issues

The primary community issue related to reconstruction projects is the mitigation of construction impacts through use of sound management and operations principles.

Financing

Reconstruction projects are funded from multiple sources as individual construction projects. Most funds come from federal formula funds with state or local match depending upon whether or not the road is on the state maintenance system.

Stage I Projects

- Reconstruct Yancil Rd. from US 80 to LA 838. (This project is also listed below as an ARRA-funded project).
- Reconstruct the US 165B connector from US 165 to the Louisiana Purchase Gardens.
- Reconstruct Montgomery St. from Coleman St. to LA 34.

Stage II and III Projects

Several of the widening projects listed above include a reconstruction component.

Highway Safety / Hazard Eliminations

Description

Safety and Hazard Elimination Projects address several aspects of safety, including accident prevention, crime prevention, accident response, and investigation. Many of these types of projects are low cost efforts to improve visibility at critical locations; provide advisory and warning signs to aid motorists in negotiating difficult or confusing roadway segments; and mechanisms for reducing the delays, congestion, and secondary accident potential after an accident has occurred.

Limits and Scope

Many of the projects that fall in this category deal with either system wide or location specific safety issues. Location specific safety issues include railroad crossings that need signalization or other reconstructive actions.

Purpose and Need

In addition to the financial and human costs of accidents to individuals, the cost to the state and the region from accident claims can be excessive. Reducing accident potential is necessary from a risk management standpoint. From a systems standpoint, delays and economic impacts associated with accidents have been identified nationally as one of the most serious impediments to goods movement and other commerce. The economic health of the region can also be affected by high insurance rates due to an extraordinary claim rate on auto accidents.

Community Issues

Continuing improvements in hazard elimination and safety projects are always in the best interest of the community and while construction can cause delays, the results provide for a better quality of life throughout the community.

Financing

Most of the financing for this category of projects comes from either federal interstate maintenance funds, or from state and local sources.

Stage I Projects

- Reconstruct Oliver Rd. with a center turn lane from Tower Dr. to Forsythe Ave. (This project is also listed below as an ARRA-funded project.)

Stage II and III Projects

These projects will be decided cooperatively between LaDOTD, the MPO, and local authorities.

TRANSIT SYSTEM MAINTENANCE AND OPTIMIZATION

DESCRIPTION

This section describes the various transit projects, initiatives and strategies included in the fiscally constrained plan to support operation of area transit service. Services are provided through several operators including urban area fixed route and paratransit service within the city limits of Monroe provided by Monroe Transit; rural transit service in western Ouachita Parish provided by the West Ouachita Senior Center; service for senior citizens throughout Ouachita Parish provided by the Ouachita Council on Aging; and additional transit service for the elderly and persons with disabilities provided by the Ouachita Association for Retarded Citizens (ARCO).

LIMITS AND SCOPE

Transit initiatives can include capital assistance for replacement of buses and maintenance of facilities, rural and urban operating funds to support current transit service and some strategic service expansions and planning funds to assist with service improvements and regional coordination.

PURPOSE AND NEED

Both the public participation process and the geographic information system (GIS) analysis of the transit system indicated some system gaps in transit service market coverage. Of particular concern was the lack of fixed route service throughout the urbanized area, without which, transit is not truly a viable alternative mode choice.

COMMUNITY ISSUES

Primary community issues are related to the trade-off between gaps in transit service and funding. However, many of the participants at the visioning meetings expressed a desire for improved transit service to meet future needs.

FINANCING

Transit improvements are financed through a combination of Federal Transit Administration (FTA) funding programs including Section 5311 rural operating and capital assistance, Section 5307 Small Urban operating and capital assistance, Section 5317 Job Access/Reverse Commute program funding and Section 5316 New Freedom funding.

STAGE I, II AND III PROJECTS

Operating Assistance – The fiscally constrained plan includes operating assistance for both the urban fixed route and rural transit services being provided in the study area. The MPO will also work with the DOTD public transportation section to secure supplemental operating funds to support the need for strategic service expansions proposed by the transit providers .

Job Access/Reverse Commute Plan – The Job Access/Reverse Commute program provides funds to address journey-to-work issues such as expansion of service hours or additional routes that service work related trips.

ENVIRONMENTAL ASSESSMENTS

DESCRIPTION

Environmental Studies are planning efforts carried out under guidance from the National Environmental Policy Act (NEPA). In the context of transportation policy and planning, the NEPA process is designed to help a community create a climate for open public dialogue using objective technical data in order to reach a consensus on the most environmentally sound and cost effective means of accomplishing community goals in a transportation corridor. Environmental Impact Studies consider multiple alternative travel modes at varying expenditure levels and attempts to build a community consensus on a preferred alternative.

Limits and Scope

In the current plan, environmental studies may be necessary for several projects and potential cost of those studies have been included in the estimate of total project costs discussed in Chapter 7.

Purpose and Need

Each of the corridors for which an environmental assessment would be considered, will exhibit significant, long term, traffic problems or some other deficiency in transportation service.

Financing

Financing for environmental studies typically comes from the same funding category e.g. (Federal Bridge Replacement, STP Flex funds) as that of the proposed implementation project.

Stage I, II & III Projects

No environmental-only projects have been identified.

Transportation Enhancements

Description

SAFETEA-LU sets aside a percentage of the formula funds allocated to each state for use on projects that improve the functionality of non-motorized modes such as bicycles and pedestrians as well as improve the aesthetic appearance of roadways and other transportation facilities. These projects are developed primarily by citizens' groups and proposed for funding by LaDOTD from the available enhancement funds on a competitive basis. The MPO assists with project identification and development.

Limits and Scope

Transportation enhancement projects include bike paths and sidewalks, landscaping, transit shelters and passenger facilities and other amenities that support quality of life and non-motorized travel objectives.

Purpose and Need

At some point everyone is a pedestrian. Enhancement projects may be used to facilitate the pedestrian portion of a motorized trip, or to extend the existing non-motorized system. In addition, other factors may influence the experience of the traveling public. These factors include amenities such as landscaped medians and rest areas on highways.

Community Issues

The enhancement program is a major tool for promoting non-motorized travel that reduces VMT, improves air quality and promotes quality of life.

Financing

Projects of this type are funded on a 95% federal, 5% local basis with the match coming from the local sponsor.

Bridge Replacement / Inspection

Description

Bridge replacement is a specific SAFETEA-LU funding category that is administered by LaDOTD. The projects are identified primarily through LaDOTD's preventive maintenance program. Many of the items identified are funding categories that will be applied to multiple bridges for either inspections or a particular repair.

Purpose and Need

With several nationally publicized and tragic structure failures defining the debate, bridge maintenance and safety has been identified as a significant infrastructure challenge facing transportation planners.

Limits and Scope

Limits and scope are described in the discussion are defined on a case-by-case basis.

Community Issues

When bridges are being repaired, they significantly disrupt traffic flow on major arteries. Efforts must be made in the construction plan to provide adequate operation and management planning and resources to maintain corridor capacity and mitigate disruptions to the transportation market shed. Because of the dense development around bridges in this area, and the scarcity of alternate routes, land use and environmental impacts are of critical concern.

Financing

Most of the funding for this category comes from federal bridge replacement funds provided under SAFETEA-LU with some supplement from other state and federal sources.

Stage I Projects

One of the widening projects listed above includes a bridge.

Stage II and III Projects

Stage II and III bridge replacement and inspection projects will be identified collaboratively by the MPO and LaDOTD on a bi-annual basis through the ongoing LaDOTD Highway Needs Assessment and from parish and city pavement management programs.

American Recovery and Reinvestment Act Projects

The American Recovery and Reinvestment Act (ARRA) of 2009 (i.e., the Federal Economic Stimulus Bill), provides $5.5 million in highway funding and $2,545,000 million in transit funding for the Monroe Urbanized Area. The projects approved for funding have been included in the Fiscally Constrained Plan, but represent a non-recurring source of revenue.

- Reconstruct Yancil Rd. from US 80 to LA 838. (This project is also listed above as a Reconstruction project).

- Reconstruct Oliver Rd. with a center turn lane from Tower Dr. to Forsythe Ave. (This project is also listed above as a Hazard Elimination project.)

Figure 8-1: Louisville Street Corridor

Figure 8-2: Monroe Transit Center

Appendix A.

Committee Members Monroe Urbanized Area Metropolitan Planning Organization Transportation Policy Committee and Technical Advisory Committee

Ouachita Council of Governments/Transportation Policy Committee	
Honorable James E. Mayo	Mayor, City of Monroe
Honorable Dave Norris	Mayor, City of West Monroe
Mr. James Bennett	Alderman, City of West Monroe
Honorable Shane Smiley	President, Ouachita Parish Police Jury
Mr. Arthur Gilmore, Jr.	Council Member, City of Monroe
Honorable Vern Breland	Mayor, City of Sterlington
Honorable Steve Hunter	Mayor, City of Richwood
Honorable Walt Caldwell	Member, Ouachita Parish Police Jury
Technical Advisory Committee	
Ms. Sinyale Morrison	City Engineer, Monroe
Mr. Bruce Fleming	Planning Director, West Monroe
Mr. Robbie George	City Engineer, West Monroe
Mr. Tom Holtzclaw	Engineer, Ouachita Parish Police Jury
Ms. Lori Reneaux	Monroe Chamber of Commerce
Mr. Ricky Moon	Louisiana Department of Transportation & Development
Mr. R. Kirk Gallien	Louisiana Department of Transportation & Development
Mr. Dan Broussard	Louisiana Department of Transportation & Development
Mr. Jamie Setz	Federal Highway Administration
Mr. Gene Smith	Federal Highway Administration
Mr. Cleve Norrell	Monroe Regional Airport
Dr. Dwight Vines	City of Monroe
Mr. John Tom Murray	Public Works, Ouachita Parish
Ms. Valerie McElhose	General Manager, Monroe Transit

Appendix B: Bicycle and Pedestrian Standards

INTRODUCTION

With passage of SAFETEA-LU in 2005 the needs and safety of the non-motorized segment of the transportation system were specified for inclusion in metropolitan transportation plans. Guidance from FHWA suggests the following elements of a non-motorized transportation plan:

- Vision and goal statements,
- Assessment of current conditions and needs,
- Identification of activities required to meet the vision and goals developed above,
- Implementation of bicycle and pedestrian elements in the Statewide and MPO transportation plan and transportation improvement program,
- Evaluation of progress, and
- Public involvement.

Prior to the development of an areawide Plan, it is possible to include infrastructure for bicyclists and pedestrians. This appendix summarizes information from national standards regarding bicycle and pedestrian infrastructure. As the motor vehicle system is made up of various pieces such as roads, signals, signs, and markings, so is the non-motorized transportation system. The elements of the motor vehicle system are standardized due to the work of the American Association of State Highway and Transportation Officials (AASHTO) and these design guidelines are gathered in a volume known as The Green Book. The size and use of signs and markings are disseminated through the Manual of Uniform Traffic Control Devices (MUTCD). The MUTCD has chapters devoted to bicycle facilities and school areas and subsections of other parts devoted to pedestrian facilities. Standardization allows people to travel throughout the U.S. (and in many parts of the world) knowing that signals, signs, and markings will be uniform. Similarly, AASHTO has produced Green Books for pedestrian and bicycle transportation systems.

The Non-Motorized Transportation System: Elements and Design Guidelines

As the motor vehicle system is made up of various pieces such as roads, signals, signs, and markings, so is the non-motorized transportation system. The elements of the motor vehicle system are standardized due to the work of AASHTO and these design guidelines are gathered in a volume known as The Green Book. The size and use of signs and markings are disseminated through the Manual of Uniform Traffic Control Devices (MUTCD). The MUTCD has chapters devoted to bicycle facilities and school areas and subsections of other parts devoted to pedestrian facilities. Standardization allows people to travel throughout the U.S. (and in many parts of the world) knowing that signals, signs, and markings will be uniform. Similarly, AASHTO has produced Green Books for pedestrian and bicycle transportation systems. This section describes the general elements of the bicycle and pedestrian system and presents design guidelines as recommended in AASHTO.

Elements of the Pedestrian Transportation System

The elements of the pedestrian transportation system are:

- Trails (described in a separate subsection below),
- Sidewalks (including ramps),
- Crossings (including crosswalks, midblock crossings and grade-separated crossings),
- Pedestrian-friendly signals,
- Signs, and
- Lighting and other amenities.

AASHTO recommends a landscaped buffer be provided between a sidewalk and a street. The minimum recommended width of the buffer varies depending on the type of street as shown in Table 1.

Table 1: AASHTO Recommendations for Landscaped Buffer Widths

Type of Road	Recommended Buffer Width
Local or collector	2 -4 feet
Arterial or major street	5 -6 feet

The minimum recommended specifications for other elements of the pedestrian system are summarized in Table 2. The elements of a curb ramp are shown in Figure 1 and the allowed types of crosswalks are shown in Figure 2.

Table 2: Summary of AASHTO Minimum Standards for Elements of the Pedestrian Transportation System

Sidewalks	Effective width	4 feet, 5 feet periodically for passing
	Shy distance	2 feet from buildings, less for less massive objects
	Buffer width	2-4 feet from local or collector road 5-6 feet from arterial or major street
	Grade	No more than 5% Cross slopes should not exceed 2%
Stairs		Minimum width of 42" with handrail on one side that extends 12" beyond top and bottom stair
Ramps		Minimum 4 foot clear path ending in at least 2 feet of tactile warning
Grade-separated Crossings	**Bridges**	Open bridge for pedestrians only - 8 feet minimum width Open bridge for pedestrians and bicyclists – 14 foot minimum width Enclosed bridge – 14 feet minimum width
	Tunnels	Rural tunnels – 12 feet minimum width Urban tunnel less than 60 feet long – 14 feet minimum width 8 feet minimum height Urban tunnel longer than 60 feet – 16 feet minimum width 10 feet minimum height
Pedestrian-friendly Signals		Standard is moving to "countdown" signals
Signs		Should provide timely information to motorists and pedestrians where and when pedestrians may be present – should not impede clear path for pedestrians
Lighting and Other Amenities		All elements should be scaled for pedestrians and not impede the clear path

Figure 1: Elements of a curb ramp

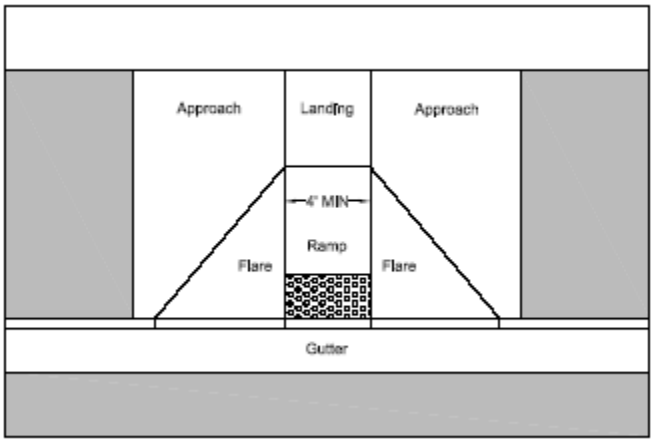
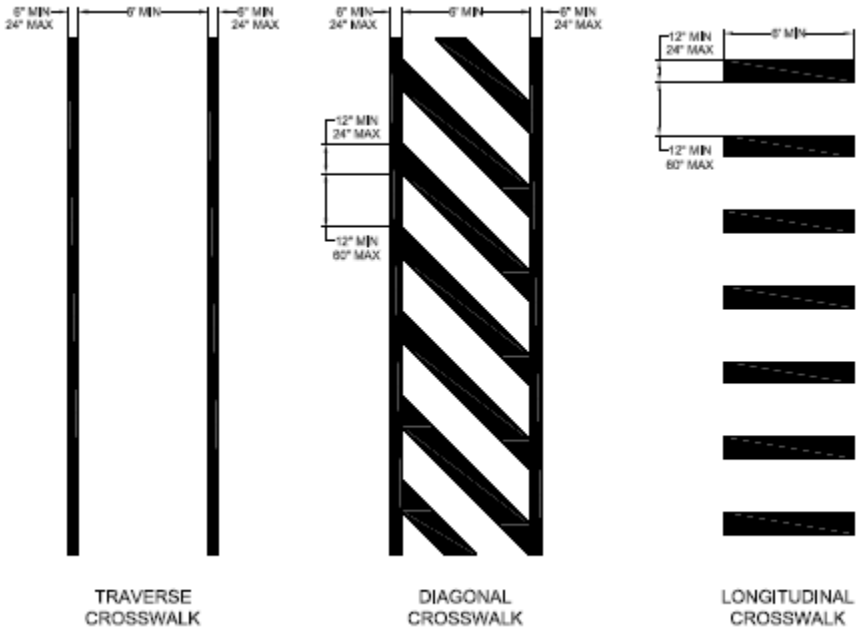


Figure 2: Crosswalks types allowed in the MUTCD



CRITERIA FOR CHOOSING PEDESTRIAN PROJECTS

The first step is to determine project prioritization. Some projects are new and easily incorporated into a project built on undeveloped land. Sometimes the project may be a change to existing conditions, a retrofit.

The AASHTO Green Book for pedestrians proposes the following criteria for developing priorities on retrofitting streets:

- Existing pedestrian volumes,
- Presence of major pedestrian generators,
- Traffic speed,
- Street classification (with priority for arterial streets),
- Crash data,
- School walking zones,
- Transit routes,
- Urban centers/Neighborhood commercial areas,
- Disadvantaged neighborhoods,
- Missing links,
- Neighborhood priorities,
- Activity type (such as rollerblading, scootering, etc.),
- Transition plan improvements,
- Citizen requests, and
- Street resurfacing programs (taking advantage of planned rebuilding and rehabilitation).

An alternate way to consider the implementation of a sidewalk policy is a phased approach. In this case an area may specify setting aside right-of-way for future sidewalks. The area may then adopt a "trigger" for when the sidewalk must be built. For example, sidewalks may be required when the road is rebuilt from open swales to curb and enclosed drainage. Other triggers include distance from a school, availability of transit, and a certain residential density. Funding for the future sidewalk is also an important element of a sidewalk policy. An area may require developers that are not required to build sidewalks to pay into a future sidewalk fund.

Figure 3: Pedestrian crossing marked with crosswalk and signs

ELEMENTS OF THE BICYCLE TRANSPORTATION SYSTEM

The elements of the bicycle transportation system are:

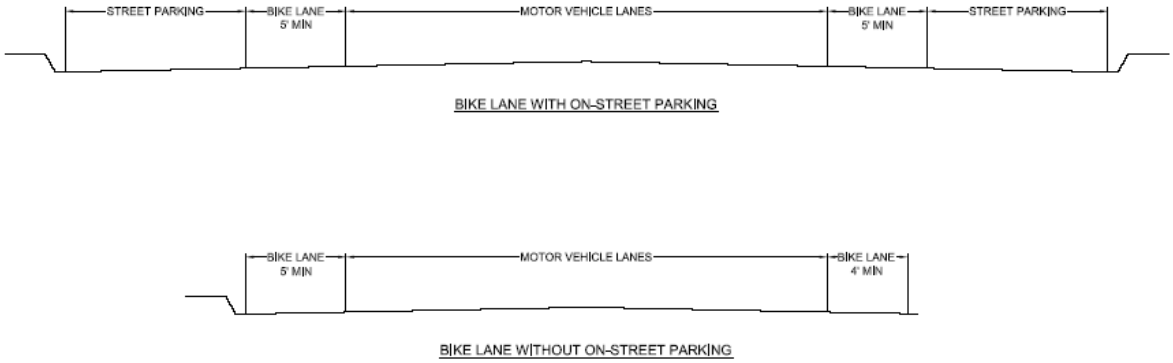
- Trails (described in subsection 4.3 below),
- Bicycle lanes,
- Shared lanes,
- Bicycle-friendly intersections,
- Signs, and
- Parking.

A summary of the minimum standards recommended by AASHTO for elements of the bicycle transportation system are presented in Table 3. Figure 4 shows the profiles of streets with bicyle lanes with and without on-street parking.

Table 3: Summary of AASHTO Minimum Standards for Elements of the Bicycle Transportation System

Bicycle Lanes	4 feet clear width to lip of gutter pan 5 feet clear width between travel lane and parking lane
Shared Lanes	14 feet minimum outside lane
Signs	Should provide timely information to motorists and bicyclists where and when bicyclists may be present – should not impede clear path for bicyclists
Parking	Bicyclists should be able to secure the frame and front and back tires

Figure 4: Profiles of streets with bicycle lanes – with and without on-street parking



The different elements of the bicycle transportation system combine in various ways with the motorized transprotation system. Table 4 offers some criteria to use in determining which elements may be most appropriate.

Table 4: Criteria for Choosing Bicycle Transportation System Elements

Avg. No. of Vehicles per Day	Transportation Element Traffic Classification	Recommended Bikeway Facility
≤3,000	local service street	street as is unless specified as bicycle boulevard or signed
>3,000	local service street	bicycle lanes or traffic calming
≥3,000 <10,000	neighborhood collector	bicycle lanes or traffic calming
≥10,000 <20,000	neighborhood collector and higher classifications	bicycle lanes or traffic calming
≥20,000	neighborhood collector and higher classifications	bicycle lanes or facility parallel to roadway

Figure 5: Bicycle racks can be a local amenity

TRAILS

These facilities are open to pedestrians, joggers, and walkers, usually in close proximity to a larger recreational facility, such as a park or athletic field. The anticipated volume of pedestrians using these facilities is low; otherwise, conflict between bicyclists, joggers, and pedestrians may become an issue. One solution regarding access management to mixed-use trails is

to institute a standard protocol for the facility. For example, inform pedestrians to yield to bicyclists, or vice versa, and place instructional signs informing users how to announce the intention to pass. Multi-use trails are recommended to be a minimum of 10 feet wide to accommodate both bicyclists and pedestrians.

INTERSECTIONS/CROSSINGS

A good intersection is essential in order to encourage use by pedestrians and others. AASHTO recommends the following qualities of a good intersection:

- Clarity – easy for motorists and pedestrians to see one another,
- Predictability – crosswalks should be predictable,
- Visibility – the crosswalk should be easily visible to motorists and while in use the motorist and pedestrian should be easily visible to one another,
- Short wait – studies show after approximately 30 seconds pedestrians will try and cross,
- Adequate crossing time for all users,
- Limited exposure – minimize potential conflict points between motorists and pedestrians, and
- Clear crossing – no barriers or obstacles in the crosswalk.

Appendix C.

Staged Improvement Program

Monroe Urbanized Area MTP 2035 Update
Staged Improvement Program

Stage I (2010-2015)
Stage II (2016-2025)
Stage III (2026-2035)
Unfunded Needs

ATGID	Average Score	Rank	Name	Location	Improvement	Length (miles)	Eng/Design (000)	ROW/Util (000)	Construction (000)	2009 Total cost (000)	Stage I Total cost (000)	Stage II Const cost (000)	Stage III Const cost (000)	Funding Source
7		0	Oliver Rd	Tower Dr to Forsythe Ave	Reconstruct with CTL	0.84	0	0	2,243	2,243	2,310			ARRA
8		0	US 80	Ole Hwy 15	Realignment/Turn Lane	NA	85	0	850	935	963			STPHAZ
10		0	LA 3249 (Well Rd)	US 80	Turn Lane (NB)	NA	30	0	300	330	340			STPFLEX
25		0	Vancil Rd	US 80 to LA 838	Reconstruction	1.40	280	0	2,800	3,080	3,172			ARRA
9	1.607	43	US 165-B Connector	US 165 to LA Purchase Gardens	Reconstruction	0.80	160	0	1,600	1,760	1,867			Cap Outlay
2		0	Finks Hideaway Rd (Ph 1)	US 165 t0 Holland Dr	Widen to 5 Lanes	0.82	600	3,076	6,500	10,176	10,796			STP<200K
3		0	Finks Hideaway Rd (Ph 2)	Holland Dr to Raymond Dr	Widen to 5 Lanes	0.64	650	2,900	4,600	8,150	8,646			STP<200K
16		0	LA 616 (Arkansas Rd)	Caldwell Rd to LA 143	Widen to 5 Lanes	3.40	1,000	16,650	25,000	42,650	46,605			STPFLEX
4		0	Montgomery St	Coleman St to LA 34	Reconstruction	0.80	703	790	4,295	5,788	6,514			STP<200K
6		0	Washington St Ext	New Natchitoches Rd to Pavilion Cir	New 2 Lane	0.60	370	628	7,820	8,818	10,529			STP<200K
1000		0	LA 34/US 80	I-20 to Kansas Ln	ITS	5.75	408	0	4,075	4,483	5,353			NHS
			Line Item - Enhancement								1,934			
			Line Item - Hazard								1,911			
			Line Item - FBR								19,281			
			Line Item - Overlay								6,115			
			Line Item - Maintenance								2,448			
			Transit Capital - Operations								14,880			
			Stage I Total								**143,665**			
1001		0	N & S 18th St	Forsythe Ave to Texas Ave	ITS	2.25	120	0	1,190	1,310		1,697		STPFLEX
1003		0	US 165	LA 15 to Finks Hideaway Rd	ITS Corridor	4.80	350	0	3,360	3,710		4,791		NHS
1004		0	US 80 (Louisville Ave)	Ouachita River to N 18th St	ITS Corridor	1.25	100	0	875	975		1,248		NHS
1005		0	US 80 (Desiard St)	US 165 to Kansas Ln	ITS Corridor	1.75	125	0	1,225	1,350		1,747		STPFLEX
11	3.204	5	Kansas Lane Connector	US 80 to US 165	New 4 Lane and bridge	2.50	1,250	1,250	12,625	15,125		18,000		Demo
37	3.141	9	US 80	Kansas Lane to LA 139	Widen to 4/5 Lanes	1.10	450	1,100	4,400	5,950		6,273		STPFLEX
26	3.082	10	Garrett Rd	I-20 to Kansas Ln	Widen to 4 Lanes, realignment	1.00	1,200	2,000	12,000	15,200		17,109		STPFLEX
50	3.051	11	LA 34	Sandal St to Study Area boundary	Widen to 4 Lanes	2.65	1,000	1,000	10,600	12,600		15,113		STPFLEX
61	2.974	13	US 80 (Louisville Ave)	Ouachita River to US 165	Widen to 6 Lanes	2.90	1,160	3,000	11,600	15,760		16,539		NHS
53	2.885	16	US 80	Gilbert St to Kansas Lane	Widen to 4/5 Lanes	0.70	280	700	2,800	3,780		3,992		STPFLEX
27	2.816	17	US 80	Well Rd to Ole Hwy 15	Widen to 5 Lanes	2.10	840	2,100	8,400	11,340		11,976		STPFLEX
30	2.578	22	I-20	Ouachita River to Garrett Rd	Reconstruct & Widen to 6 Lanes	3.75	150	0	24,300	24,450		34,646		IM
12	2.408	24	I-20	Thomas Rd	Interchange Improvement	NA	230	0	2,000	2,230		2,852		NHS
29	1.936	34	LA 3033	Cheniere Dam to LA 838	Reconstruct with CTL	3.20	750	750	7,360	8,860		10,494		STPFLEX
28	1.819	37	US 165-B Connector	LA Purchase Gardens to US 165-B	Reconstruction and New 2 Lane	0.50	250	500	2,500	3,250		3,564		Cap Outlay
			Line Item - STP<200K									28,281		
			Line Item - Enhancement									4,093		
			Line Item - Hazard									4,044		
			Line Item - FBR									40,802		
			Line Item - Overlay									12,940		
			Line Item - Maintenance									5,181		
			Transit Capital - Operations									31,490		
			Stage II Total									**276,871**		

Monroe Urbanized Area MTP 2035 Update
Staged Improvement Program

Stage I (2010-2015)
Stage II (2016-2025)
Stage III (2026-2035)
Unfunded Needs

ATGID	Average Score	Rank	Name	Location	Improvement	Length (miles)	Eng/Design (000)	ROW/Util (000)	Construction (000)	2009 Total cost (000)	Stage I Total cost (000)	Stage II Const cost (000)	Stage III Const cost (000)	Funding Source
49	3.038	12	LA 15	Cheniere-Drew Dr to Study Area boundary	Widen to 4 Lanes	4.50	1,800	1,800	18,000	21,600			34,490	STPFLEX
39	2.888	15	LA 15 (Winsboro Rd)	Nutland Rd to Prairie Rd	Widen to 4 Lanes	1.75	700	1,000	7,000	8,700			13,413	STPFLEX
38	2.789	18	LA 616 (Arkansas Rd)	Harrell Rd to Caldwell Rd	Widen to 4 Lanes	1.00	400	1,000	4,000	5,400			7,664	STPFLEX
40	2.714	20	I-20	LA 546 to Ouachita River	Widen to 6 Lanes	7.30	6,200	0	62,000	68,200			118,798	IM
52	2.449	23	I-20	Vancil Rd	New Interchange ramps	NA	525	500	5,250	6,275			10,060	IM
57	2.099	28	US 165-B(Jackson St)	Lee St to Standifer St	Center Turn Lane	1.00	230	0	2,300	2,530			4,407	STPFLEX
36	1.984	31	Mill St/Stella St Couplet	N 7th St to I-20	Widen to 3 Lanes each direction	0.45	180	200	1,800	2,180			3,449	STPFLEX
35	1.976	32	LA 594 (Texas Ave)	I-20 to US 165-B	Center Turn Lane	1.00	230	200	2,300	2,730			4,407	STPFLEX
			Line Item - STP<200K										38,007	
			Line Item - Enhancement										5,501	
			Line Item - Hazard										5,435	
			Line Item - FBR										54,834	
			Line Item - Overlay										17,390	
			Line Item - Maintenance										6,962	
			Transit Capital - Operations										42,320	
			Stage III Total										367,137	

Monroe Urbanized Area MTP 2035 Update
Staged Improvement Program

Stage I (2010-2015)
Stage II (2016-2025)
Stage III (2026-2035)
Unfunded Needs

ATGID	Average Score	Rank	Name	Location	Improvement	Length (miles)	Eng/Design (000)	ROW/Util (000)	Construction (000)	2009 Total cost (000)	Stage I Total cost (000)	Stage II Const cost (000)	Stage III Const cost (000)	Funding Source
5		0	Old Sterlington Rd	US 165 to Finks Hideaway Rd	Center Turn Lane	2.27	500	500	4,500	5,500		6,416	8,622	STP<200K
1002		0	N 4th St	RR	Underpass	0.25	1,000	1,000	10,000	12,000		14,258	19,161	STP<200K
21		0	Caples Rd	Marion Sims Rd to Risher Rd	Reconstruction	1.60	320	0	3,200	3,520		4,562	6,132	STP<200K
42	3.601	1	Ouachita River Bridge	LA 143 to US 165	New River Crossing	5.50	15,000	6,000	150,000	171,000		213,864	287,416	
45	3.440	2	Ouachita Loop South	LA 34 to US 165	New 2 Lane and Bridge	4.80	3,600	3,000	36,000	42,600		51,327	68,980	
43	3.345	3	Ouachita Loop East	I-20 to LA 139	New 4 Lane and Widen to 4 Lanes	6.00	2,500	5,000	24,600	32,100		35,074	47,136	
48	3.264	4	Ouachita Loop West	I-20 to LA 616	Widen to 4 Lanes	2.50	1,000	2,500	10,000	13,500		14,258	19,161	
44	3.169	6	Ouachita Loop Southeast	US 165 to I-20	New 2 Lane	6.90	1,750	2,000	17,500	21,250		24,951	33,532	
47	3.169	6	Ouachita Loop Northwest	LA 616 to LA 143	New 2 Lane	7.40	3,000	5,000	30,000	38,000		42,773	57,483	
46	3.155	8	Ouachita Loop Southwest	I-20 to LA 34	New 2 Lane and Widen to 4 Lanes	10.80	4,000	8,000	40,000	52,000		57,030	76,644	
51	2.915	14	I-20	between Garrett and LA 594	New Interchange/connector road	0.75	2,300	1,000	23,000	26,300		32,793	44,070	IM
31	2.757	19	Garrett Rd	I-20 to LA 15	Widen to 4 Lanes, New 4 Lane	2.40	975	1,000	9,750	11,725		13,901	18,682	STP<200K
59	2.622	21	Well Rd	US 80 to LA 838	Widen to 4 Lanes	1.40	560	1,000	5,600	7,160		7,984	10,730	STP<200K
41	2.395	25	I-20	Garrett Rd to LA 594	Widen to 6 Lanes	3.75	3,200	0	31,875	35,075		45,446	61,076	IM
18	2.318	26	Finks Hideaway Rd (Ph 3)	Raymond Rd to LA 139	New 2 Lane and Bridge	2.10	585	600	5,850	7,035		8,341	11,209	STP<200K
32	2.174	27	Tichelli Rd	US 165 to Garrett Rd	Widen to 4 Lanes, realignment	1.50	600	1,500	6,000	8,100		8,555	11,497	STP<200K
54	2.035	29	Loop Rd	Forsythe Ave to US 165	Center Turn Lane	1.10	250	200	2,530	2,980		3,607	4,848	STP<200K
33	2.031	30	Elm St/Central St	Roger St to Kansas Ln	Realignment with CTL	1.10	250	200	2,530	2,980		3,607	4,848	STP<200K
56	1.971	33	Downing Pines Rd	Thomas Rd to US 80	Reconstruction	1.80	360	0	3,600	3,960		5,133	6,898	STP<200K
34	1.898	35	Coleman Ave	Montgomery St to Ouachita River	Reconstruction	0.72	150	0	1,440	1,590		2,053	2,759	STP<200K
22	1.857	36	Old Natchitoches Rd	Thomas Rd to Stella St	Reconstruction	0.90	180	0	1,800	1,980		2,566	3,449	STP<200K
58	1.814	38	Parkview Dr/S 12th St	Winnsboro Rd to Orange St	Center Turn Lane	1.10	250	0	2,500	2,750		3,564	4,790	STP<200K
55	1.757	39	Natchitoches Rd	Commerce St to LA 34	Reconstruction	1.31	250	0	2,620	2,870		3,735	5,020	STP<200K
20	1.730	40	Parker Rd Ext	Parker Rd to Wagon Wheel Rd	New 2 Lane	1.40	350	350	3,500	4,200		4,990	6,706	STP<200K
24	1.694	41	Forty Oaks Farm Rd	LA 616	Intersection Improvement	0.86	75	75	750	900		1,069	1,437	STP<200K
23	1.624	42	Dellwood Dr	US 165 to Tanglewood Dr	Reconstruction	1.10	220	0	2,200	2,420		3,137	4,215	STP<200K

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MONROE MTP 2035

Stage III (2026-2035)

Legend

- Parish Lines
- Study Area

Projects

- Widen Add 2 Lanes
- Center Turn Lane
- New Interchange

1 0 1 2 3 4

Miles

N

W E

S

Source: ATG, NSI

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MONROE MTP 2035

Stage II (2016-2025)

Legend

- Parish Lines
- Study Area

Projects

- Widen Add 2 Lanes
- New Roadway
- Reconstruction
- Center Turn Lane
- ITS Corridor
- Interchange Improvement
- New Bridge

0 1 2 3 4

Miles

N

W E

S

Source: ATG, NSI

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MONROE MTP 2035

Stage I (2010-2015)

Legend

- Parish Lines
- Study Area

Projects

- Widen Add 2 Lanes
- New Roadway
- Reconstruction
- Center Turn Lane
- ITS Corridor
- Intersection Improvement

0 1 2 3 4 Miles

N W E S

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MONROE MTP 2035

Unfunded Needs

Legend

- Parish Lines
- Study Area

Projects

- Widen Add 2 Lanes
- New Roadway
- Reconstruction
- Center Turn Lane
- ITS Corridor
- Intersection Improvement
- New Interchange
- Underpass
- New Bridge

1 0 1 2 3 4

Miles

N

W E

S

Source: ATG, NSI

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