Alexandria/Pineville Urbanized Area | MTP 2040

RAPC DOTD

Alexandria/Pineville
Metropolitan Planning Organization
September 2016

This document was prepared in cooperation with:

The Alexandria/Pineville Metropolitan Planning Organization
and
The Louisiana Department of Transportation and Development

The document was reviewed and approved pending public comment by the
Alexandria/Pineville MPO Policy Committee
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ALEXANDRIA/PINEVILLE MPO TRANSPORTATION PLAN UPDATE

RAPIDES PARISH

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The contents of this report do not necessarily reflect the official views or policy of the U.S. Department of Transportation."

ALEXANDRIA/PINEVILLE
METROPOLITAN PLANNING ORGANIZATION
TRANSPORTATION POLICY COMMITTEE

RESOLUTION #RAPC-160920

(Adopting the Metropolitan Transportation Plan 2040)

"WHEREAS, the Rapides Area Planning Commission (RAPC), designated by the Governor of Louisiana, is the Metropolitan Planning Organization (MPO) responsible for the metropolitan transportation planning and programming process for the Alexandria/Pineville Urbanized Area in accordance with 23 U.S.C. 134 and 49 U.S.C. 5303 and applicable federal and state regulations;

WHEREAS, the Transportation Policy Committee (TPC), composed primarily of elected officials, is the regional transportation policy body associated with RAPC and continues to be regional forum for cooperative decisions on transportation; and,

WHEREAS, the Fixing America's Surface Transportation Act (FAST Act) assigns the MPO responsibility for developing and maintaining the Metropolitan Transportation Plan (MTP); and,

WHEREAS, the RAPC in partnership with TPC, Technical Advisory Committee, MTP Steering Committee and the public developed the fiscally constrained MTP 2040 based on a collaborative process to identify, prioritize, and seek transportation funding for needed investments in order to address the region's transportation and associated challenges;

WHEREAS, the RAPC provided early and continuous opportunities for public participation throughout the one-year development of the MTP 2040 including the public comment period from September 2 through September 15, 2016 at the ten locations as per RAPC's Public Participation Plan;

WHEREAS, the RAPC is in attainment for all National Ambient Air Quality Standards; and,

WHEREAS, the Alexandria/Pineville Urbanized Area MTP 2040 fully complies with the requirements of 23 C.F.R 450.

BE IT RESOLVED that the Transportation Policy Committee does hereby approve and adopt the Metropolitan Transportation Plan 2040 and directs staff to submit said document to the appropriate federal and state agencies."

ADOPTED by the Transportation Policy Committee at its meeting on the 17th day of August, 2016.

Signed and executed on the 20th day of September, 2016

Mayor Clarence Fields, Chairman
Metropolitan Planning Organization
Transportation Policy Committee

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CHAPTER 1

Introduction & Transportation Planning Process

1.1 Introduction

The 2040 Metropolitan Transportation Plan (MTP) is the long range transportation plan for the Alexandria/Pineville Metropolitan Planning Area (MPA), replacing the 2035 MTP.

The 2040 MTP is a blueprint that guides development of the transportation system that will best suit the projected travel needs of the public over the next generation. The MTP recommendations are the result of public input, technical analysis and close coordination between the local jurisdictions and Parishes, the Louisiana Department of Transportation & Development (LADOTD), and other members of the Alexandria/Pineville Metropolitan Planning Organization (APMPO).

The multimodal aspect of the plan takes into account the projected needs and desires of the various sectors of the public for mobility; whether by car, public transit, truck, rail, or bicycle. The plan also accounts for mobility needs according to purposes, i.e. work, school, commerce, or pleasure. The target phased improvement plan years for this plan are 2020 for the short-range, 2030 for the intermediate range, and 2040 for the long-range phases.

The 2040 MTP gauges current demographic and land use conditions; forecasts possible future travel demand; identifies potential improvements through the goals and objectives captured through public engagement and member entity consultation and; explores potential funding availability through historical trends analysis.

This document constitutes the latest update to the MPO's long-range transportation plan and fulfills the Federal planning requirements (23 CFR 450.324) necessary to receive transportation funds through the Fixing America's Surface Transportation Act (FAST Act) which was signed into law on December 4, 2015, to provide long term guaranteed Federal funding for highways, highway safety, and public transportation.

This chapter introduces the purpose of the MTP and general guidelines of the transportation planning process. The chapter illustrates the concept and core functions of MPOs, elaborates on the functioning of Alexandria/Pineville MPO and summarizes the federal legislative framework governing metropolitan transportation planning. Further, the chapter highlights the process of MTP development, adoption and basis for ensuring equity, consistency with other plans, performance based planning. In the end, the chapter outlines the current trends affecting transportation planning including demographics, technology and funding. The next chapter showcases the thought process in developing the MTP 2040.

1.2 MPO: At a Glance

Purpose and Primary Functions

To facilitate a continuous, cooperative, and comprehensive planning process, federal law requires states to establish MPOs for urban areas with more than 50,000 residents.

An MPO is a federally-mandated (23 CFR.450) transportation policy-making body made up of representatives from local government and transportation agencies who have authority and responsibility within the MPAs.

MPOs are established for each census designated urbanized area with the purpose of involving local governments in transportation decisions involving Federal highway and/or transit funds.

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

Figure 1.1: MPO Core Functions

Source: https://www.planning.dot.gov/documents/briefingbook/bbook_07.pdf

1.3 Alexandria/Pineville Metropolitan Planning Organization

The US Census Bureau identifies 486 urbanized areas throughout the United States comprising of 71% of the country's population. Urban areas, by definition, contain a population greater than 50,000.

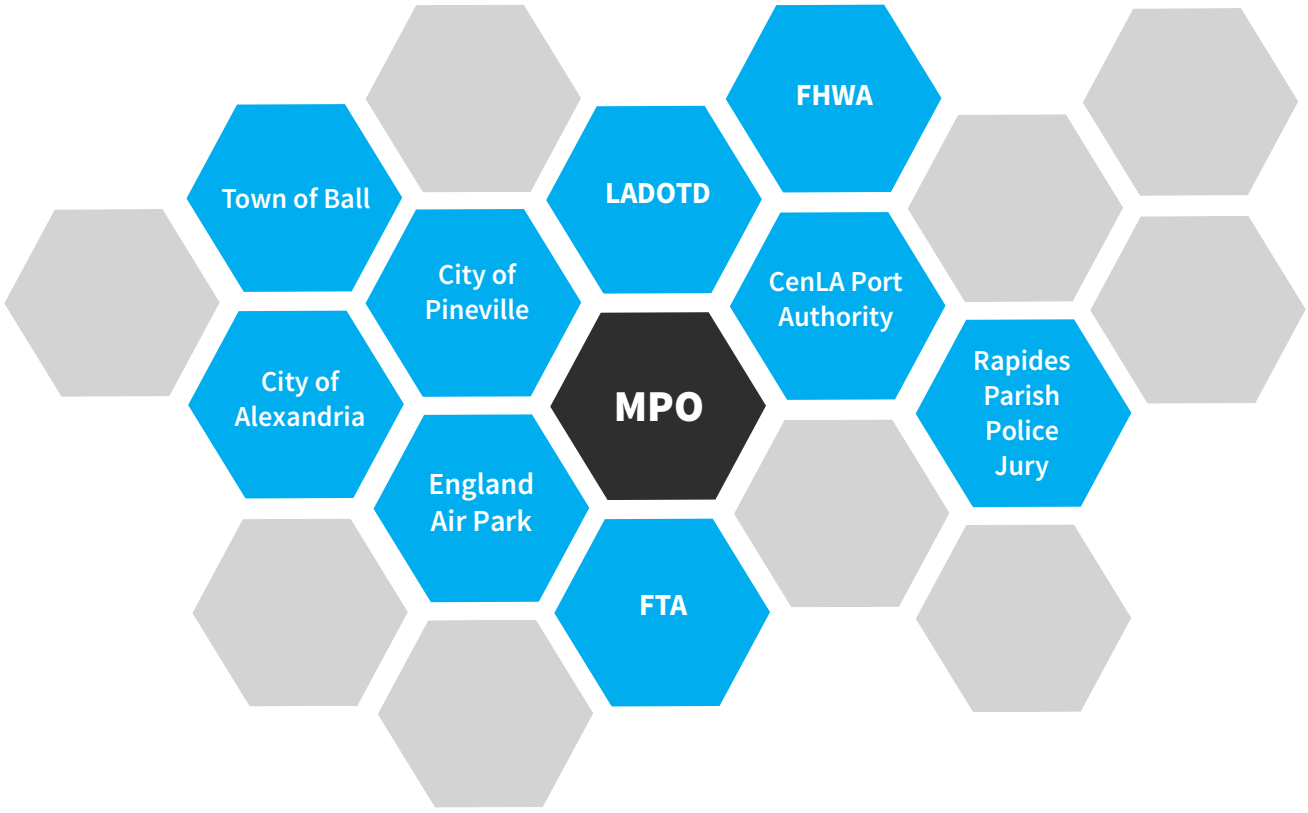
Since 1975, the Rapides area Planning Commission (RAPC) has served as the MPO as well as the fiscal agent for the Alexandria/Pineville Metropolitan Planning Area (MPA). The Transportation Policy Committee (TPC) comprising of elected representatives from local member entities and transportation agencies within the MPA is the decision making body of the MPO. The TPC relies on the Transportation Advisory Committee (TAC) comprising of staff from member entities along with representatives from LADOTD, the Federal Highway Administration (FHWA), and the Federal Transit Administration (FTA) to review, comment on, and prepare recommendations for transportation improvements. The TPC oversees how federal transportation dollars are spent within the MPA. The RAPC provides support and staff assistance to all the relevant Committees. See Appendix D for a member listing of TPC and TAC.

The Alexandria/Pineville urbanized area (UZA) encompasses the City of Alexandria, the City of Pineville, the Town of Ball, portion of the Town of Woodworth and the unincorporated community of Tioga. The MPA is comprised of the 2010 census designated Alexandria/Pineville urbanized area plus contiguous areas likely to become urbanized in the next 25 years. The majority of the MPA is within Rapides Parish along with a small portion of southern Grant Parish. In addition to the entities within the UZA, the MPA constitutes portion of the Town of Boyce. Figure 1.3 shows the current boundaries of the UZA as well as the MPA.

In addition to local governments, FHWA, FTA, LADOTD, CenLA Regional Port Authority, England Airpark and other stakeholders participate in the MPO transportation planning process.

The MPO organizational structure is designed to allow it to operate as an entity separate from the participating jurisdictions, so that no single entity dominates the organization's decision-making.

Figure 1.2: MPO Member Entities

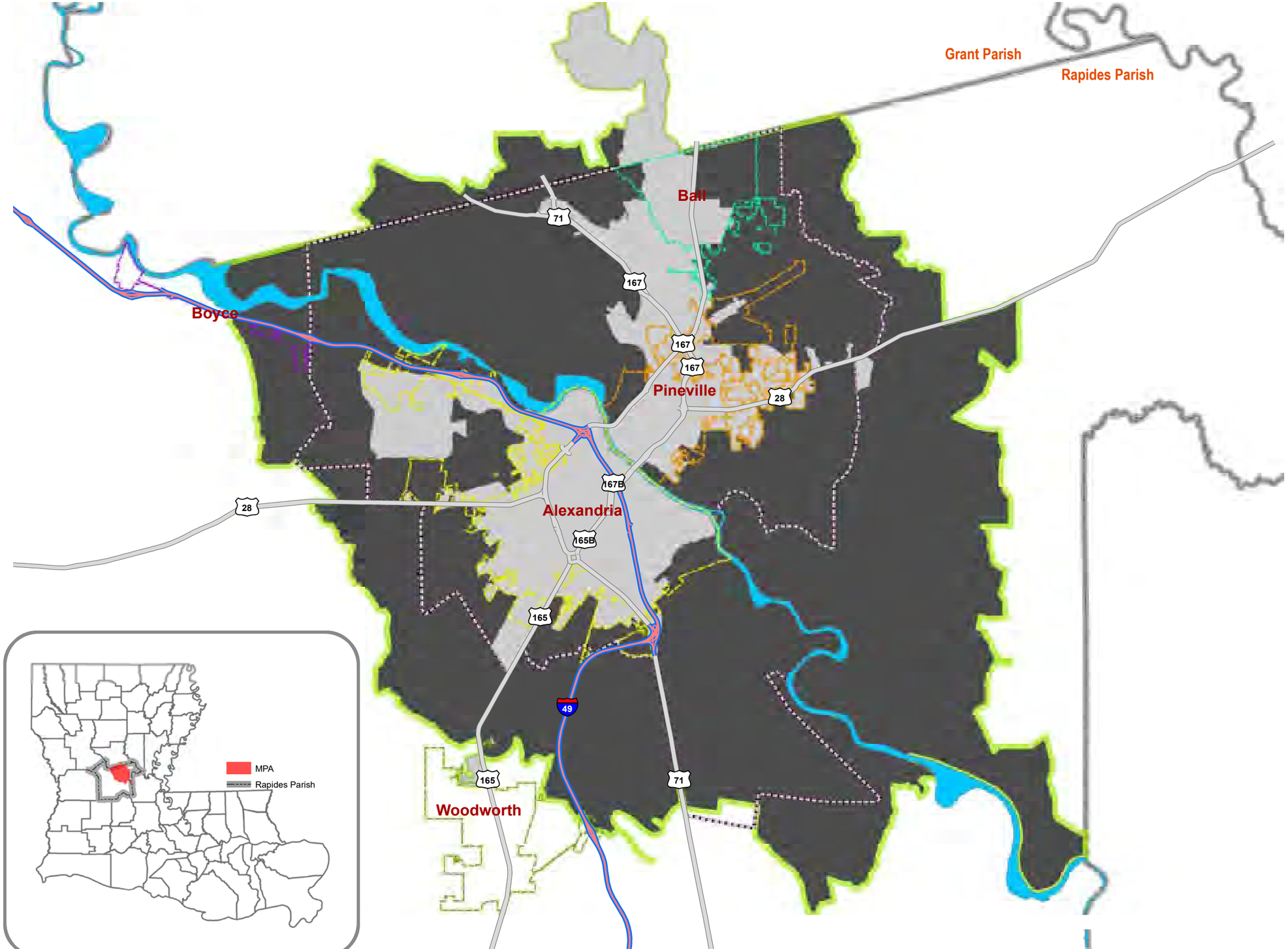


Alexandria/Pineville

Metropolitan Transportation Plan 2040

Figure 1.3

Metropolitan Planning Area



LEGEND

- City of Alexandria
- City of Pineville
- Town of Woodworth
- Town of Boyce
- Town of Ball
- Red River
- UZA
- Old MPA (2010)
- New MPA (2015)
- Rapides Parish

The MPA is spread across 326 sq. miles and divided by the Red River along the center.

0 1 2 4 Miles

N

PREPARED BY:

RAPC POTD

Source:RAPC, US Census Bureau

Date:08/16/2016

Federal and State transportation planning responsibilities for the MPO are generally summarized as follows:

- Develop and maintain a MTP and Transportation Improvement Program (TIP) consistent with state and Federal planning requirements;
- Review specific transportation and development proposals for consistency with the MTP;
- Coordinate transportation decisions among local jurisdictions, State agencies, and area transit operators;
- Develop an annual work program (known as the Unified Planning Work Program (UPWP); and
- Maintain the regional travel-demand model for the purposes of assessing, planning, and coordinating regional travel demand impacts.

1.4 Legislative Framework

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 a population of 50,000 or more. The legislation encouraged a continuing, comprehensive transportation planning process carried on cooperatively by the states and local communities. The governor in each state designated MPOs to carry out this legislative requirement. Following the initial federal legislation, the Congress has passed a series of Acts that have continued to fund transportation projects, the most recent being FAST Act.

In 1991, the Intermodal Surface Transportation Efficiency Act (ISTEA) legislation was authorized creating a major shift in metropolitan transportation planning. In accordance with the Clean Air Act Amendments (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, expansion of transit, and bicycle/pedestrian options. In addition, ISTEA recognized the growing changes in cultural and economic diversity within urban areas and provided MPOs with greater control of transportation systems in each region.

In 1998, Transportation Equity Act for the 21st Century (TEA-21) was authorized to succeed ISTEA. TEA-21 incorporated many of the same regulatory requirements as the previous legislation. However, various additions were implemented, 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, Safe, Accountable, Flexible, Efficient Transportation Equity Act (SAFETEA-LU) succeeded TEA-21 and provided funding for a five-year period from 2005 to 2009. This legislation maintains the core considerations of mobility, accessibility, quality of life, safety, security, environmental protection, air quality, economic development, and operations management. This legislation also established a metropolitan planning process that is a cooperative, continuous, and comprehensive framework for making transportation decisions in metropolitan areas.

In 2012, Moving Ahead for Progress in the 21st Century (MAP-21) was signed into law. MAP-21 focused on streamlining the country's surface transportation programs and establishing performance based metrics for the many facets of the transportation system.

MAP-21 made a number of reforms to the statewide and metropolitan transportation planning processes, including incorporating performance goals, measures, and targets into the process of identifying needed transportation improvements and project selection.

In December 2015, Congress passed a new five-year transportation legislation called Fixing America's Surface Transportation Act or FAST Act (PL 114-94). This legislation includes provisions to support and enhance MAP-21 reforms and public involvement remains a hallmark of the planning process.

The FAST Act continues requirements for a long-range plan and a short-term transportation improvement program, with the long-range statewide and metropolitan plans now required to add facilities that support intercity transportation, including intercity buses. The statewide and metropolitan long-range plans must describe the performance measures and targets that States and MPOs use in assessing system performance and progress in achieving the performance targets.

Source: https://www.fhwa.dot.gov/fastact/summary.cfm

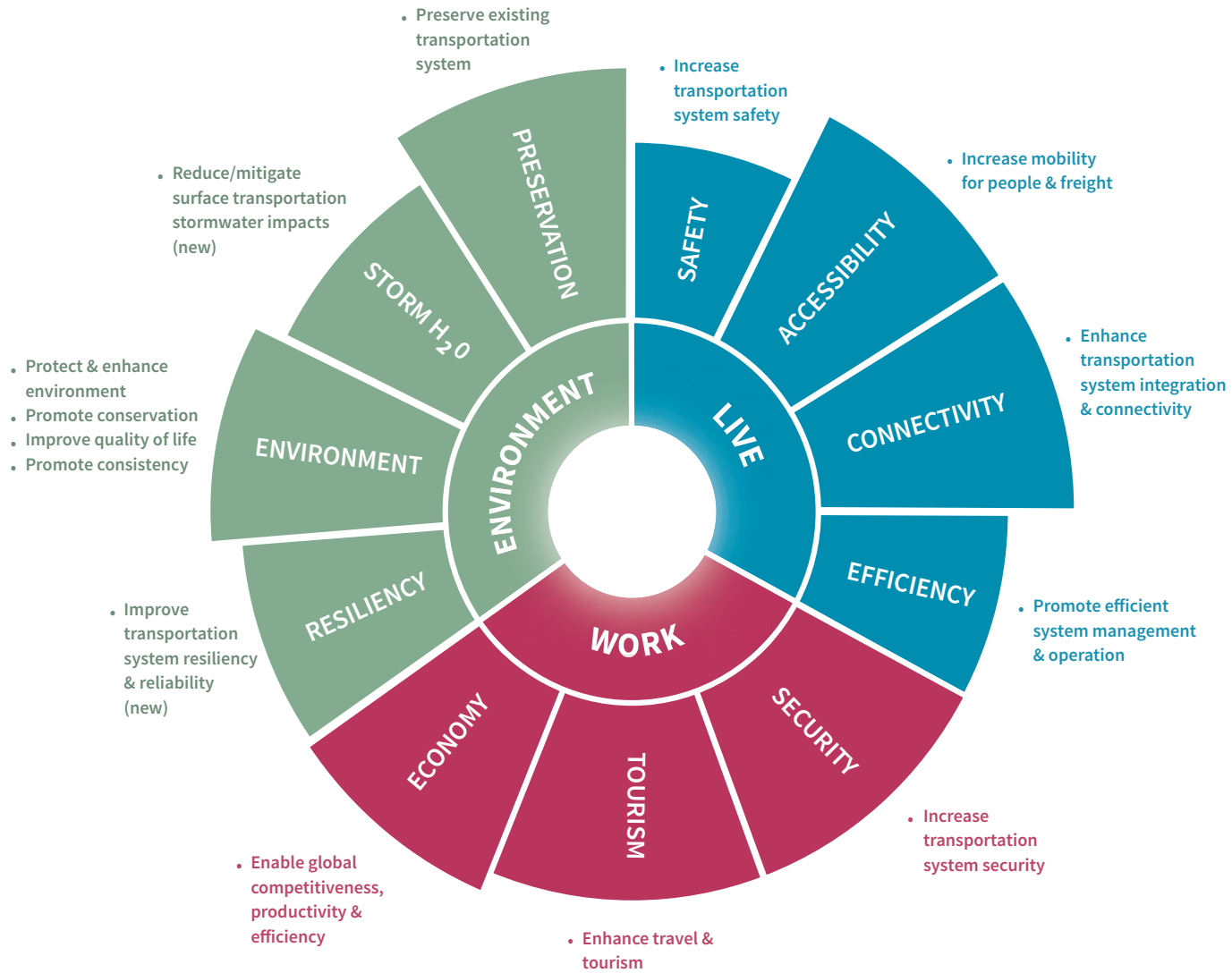
Figure 1.4 illustrates the expanded scope of consideration for the metropolitan planning process, including two additional planning factors added by FAST Act.

Finally, in an effort to engage all sectors and users of the transportation network, the FAST Act requires that the planning process include public ports and private transportation providers, and further encourages MPOs to consult during this process with officials of other types of planning activities, including tourism and natural disaster risk reduction. MAP-21 and the FAST Act also change criteria for MPO officials to provide transit provider representatives with equal authority and allow the representative to also serve as the representative of a local municipality.

The MPO currently has the local transit agency Atrans, the regional airport England Airpark and the Central Louisiana Regional Port Authority as members of the TPC. Also, the Bike and Pedestrian Advisory Committee (BPAC) includes membership of officials from the Convention and Visitor's Bureau and Kent House Plantation representing the tourism industry.

The MPO interacts and provides transportation planning updates on a regular basis with various other agencies such as the Central Louisiana Economic Development Alliance, the Central Louisiana Chamber of Commerce and the North Rapides Business & Industry Alliance.

Figure 1.4: FAST Act MPO Planning Factors



1.5 MTP Purpose, Goals, and Objectives

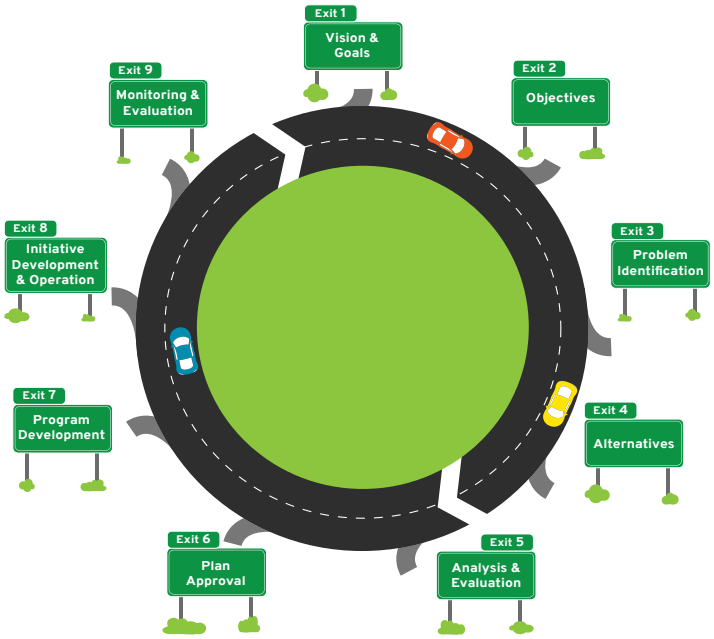
Purpose

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

Federal Requirements

Every MPO must prepare and update a transportation plan for its MPA in accordance with the federal requirements set forth in federal law (23 U.S.C. §134) and codified in 23 C.F.R. §450. Aside from ensuring that the metropolitan transportation planning process is continuous, cooperative, and comprehensive, the MTP must provide for consideration and implementation of projects, strategies, and services that will address the ten planning factors (refer Pg. 1-5).

Figure 1.5: Long Range Transportation Planning Process



MTP Development and Content

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

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

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

MTP Adoption

Adoption of the MTP is the first step towards the implementation of any transportation project using federal funds or any regionally significant transportation project, regardless of funding source.

Following formal adoption of the plan, a project is programmed for design, right-of-way acquisition, and/or construction in the TIP. The TIP identifies funding sources, fiscal year(s) of implementation, and estimated amount of funding.

The methodology to adopt the MTP is as follows:

- The proposed list of projects are published for public review and comment.
- Public input on the proposed list will be solicited through both the MPO website and through public meeting(s).
- Any further analysis requested by the MPO Transportation Policy Committee (based on public comment) will be conducted.
- The MPO Transportation Policy Committee will adopt a final fiscally constrained list of projects and approve the MTP.
- The MTP will be forwarded to the LADOTD, the FHWA, and the FTA for their review and comment.

Air Quality Attainment

Areas exceeding air quality standards for transportation related pollutants are designated as either an air quality nonattainment area or maintenance area. If an MPO includes nonattainment or maintenance areas, it must ensure that it's MTP, TIP, and federally funded projects conform to the purpose of the State's air quality plan, known as the State Implementation Plan (SIP).

Areas designated as air quality nonattainment areas must also update their plans every four years as opposed to every five years.

The Alexandria/Pineville MPO is currently in attainment for air quality pollutant emissions. However, the U.S. Environmental Protection Agency (EPA) periodically updates air quality standards. In the future, the APMPO could become a non-attainment area especially for Ozone if standards become higher or ozone emissions becomes worse in the region. The MPO adopted the Ozone Advance Program[1] on April 7, 2016 to outline strategies to improve ozone levels within the MPA.

Consistency with Other Plans

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

The metropolitan transportation planning process is carried out in coordination with the statewide transportation planning process. The MTP should maintain consistency with State's Strategic Highway Safety Plan and any other safety and security plans. Both the Statewide Transportation Improvement Program (STIP) and TIP must maintain consistency with the MTP. Any changes to the TIP/STIP should occur after initiating changes to the MTP.

Further, the MTP should maintain consistency with the coordinated public transit human services transportation plan, any plans for regional Intelligent Transportation Systems (ITS) architecture, as well as all locally adopted planning documents, such as land use plans, comprehensive resiliency plans and economic development plans.

Planning Horizon and MTP Update Cycle

Federal law (23 CFR Part 450) mandates that the MPO shall review and update the transportation plan at least every four years in air quality nonattainment and maintenance areas, and at least every five years in attainment areas. This requirement ensures that transportation plans remain valid and consistent with current and forecasted transportation and land use conditions. In addition, this requirement also ensures that the MPO will have a plan with at least a 20-year planning horizon.

Since the MPA is an attainment area for air quality, the MTP needs update every five years. The current plan has a long-range planning target of 2040, and to maintain a minimum of 20-year planning horizon, the next update needs adoption before September 15, 2021.

In between the five-year update cycle, the MPO may make amendments and modifications to the MTP at any time without a requirement to extend the horizon year. However, these revisions need approval of the TPC under the requirements set forth in the Public Participation Plan (PPP) and described later in this chapter.

The revisions can result from changes in project scope, funding dollar amounts, additional right-of-way, utility displacement, and any other unanticipated changes. (See Table 1.1)

[1] https://www.epa.gov/sites/production/files/2016-06/documents/path_forward.final_.june_1_2016.pdf

Transportation Equity

According to the FHWA document, The Transportation Planning Process Briefing Book:

"Transportation Equity refers to the way in which the needs of all transportation system users, in particular the needs of those traditionally under-served by existing transportation systems, such as low-income and minority households, older adults, and individuals with disabilities, are reflected in the transportation planning and decision making process and its services and products. Transportation Equity means that transportation decisions deliver equitable benefits to a variety of users and that any associated burdens are avoided, minimized, or mitigated so as not to disproportionately impact disadvantaged populations."

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

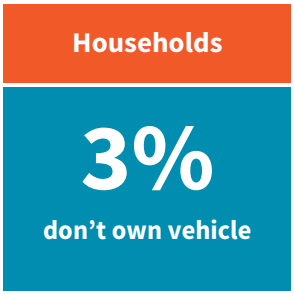
Title VI of the Civil Rights Act of 1964 **(42 USC 2000d)** ensures that no person is excluded from participation in, denied the benefit of, or subjected to discrimination under any program or activity receiving federal financial assistance on the basis of race, color, or national origin.

The Rehabilitation Act of 1973 **(29 USC 701 Section 504)** and the Americans with Disabilities Act (ADA) of 1990 encourages the participation of people with disabilities in the development of transportation and para-transit plans and services.

Executive Order 13166 and FTA Circular C 4702.1B: Improving Access to Services for Persons with Limited English Proficiency (LEP) was signed by President Clinton in 2000. Along with Title VI of the Civil Rights Act of 1964, the federal government requires federal agencies to examine the services they provide, identify any need for service to those with LEP, and develop and implement a system to provide those services so LEP persons can having meaningful access to them. For recipients of federal financial assistance, such as MPOs, the federal government requires provision of meaningful access to their LEP applicants and beneficiaries.

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

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



Performance-Based Planning

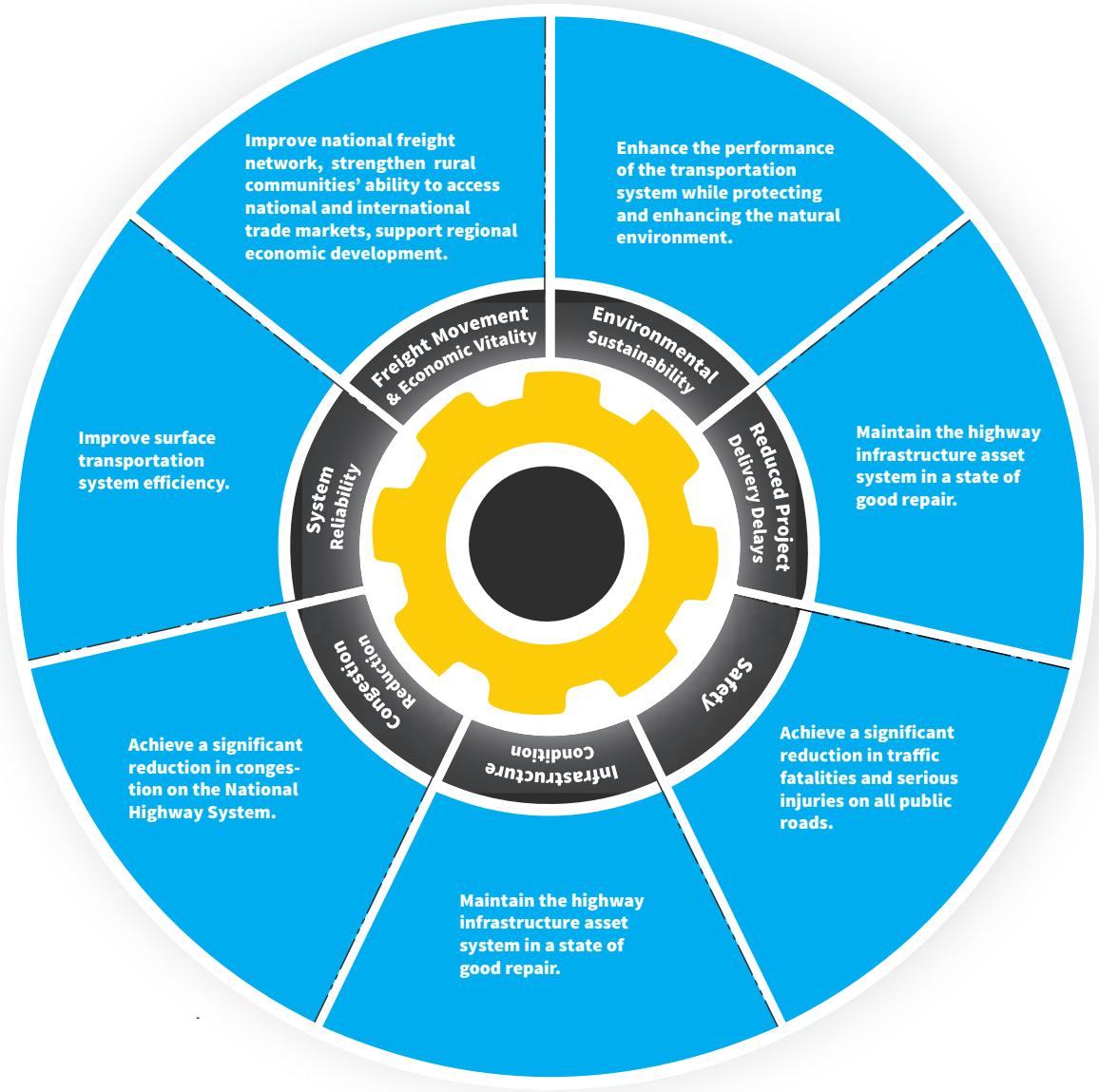
According to the FHWA report Performance Based Planning and Programming Guidebook:

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

MAP-21 made significant changes to the metropolitan transportation planning process as the legislation mandates performance-based planning for all MPOs. While the United States Department of Transportation (USDOT) is currently in the rulemaking stage of creating performance-based planning regulations, some information and guidance has already emerged.

In general, MTPs and TIPs are required to be developed through a performance-driven, outcome-based approach that supports the national goals [23USC §150(b)] stated in MAP-21. The FAST Act continues MAP-21's overall performance management approach, within which States invest resources in projects that collectively will make progress toward national goals and illustrated in Figure 1.6.

Figure 1.6: National Goals (FAST Act)



Also, the MPOs are required to monitor national performance measures developed by USDOT and track these measures over time. Performance measures under development by USDOT reflect most of the national goals articulated in MAP-21.

Though subject to further clarification, the performance measures currently proposed by USDOT include:

- The number of serious injuries and fatalities;
- Serious injuries and fatalities per 100 million vehicle miles traveled on public roads;
- The condition of pavements on the interstate system;
- The condition of pavements on the National Highway System (excluding the interstate);
- The condition of bridges on the National Highway System;
- The performance of the Interstate System;
- The performance of the National Highway System (excluding the Interstate System);
- Traffic congestion;
- Freight movement on the Interstate System;
- On-road mobile source emissions; and
- Public Transit state of Good Repair.

Once all of the national performance measures are adopted, States will work with their MPOs to set State targets. Then, each MPO will set its own targets for its respective MPA and as a requirement will need to monitor and evaluate these performance measures in a performance report every four to five years, in tandem with updating its MTP. The MPO may elect to track more performance measures than USDOT requires.

The MTP is one of the planning documents required to obtain Federal funds through FAST Act. The federal legislation also requires that the MPO select and prioritize a set of regionally significant transportation projects for programming in the TIP , which needs update every four years. The TIP identifies federally funded transportation projects consistent with the MTP to be implemented during the next four years. The inclusion of projects is based on a realistic estimate of the available revenues.

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, gender, 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.

Amending and Modifying the TIP/MTP

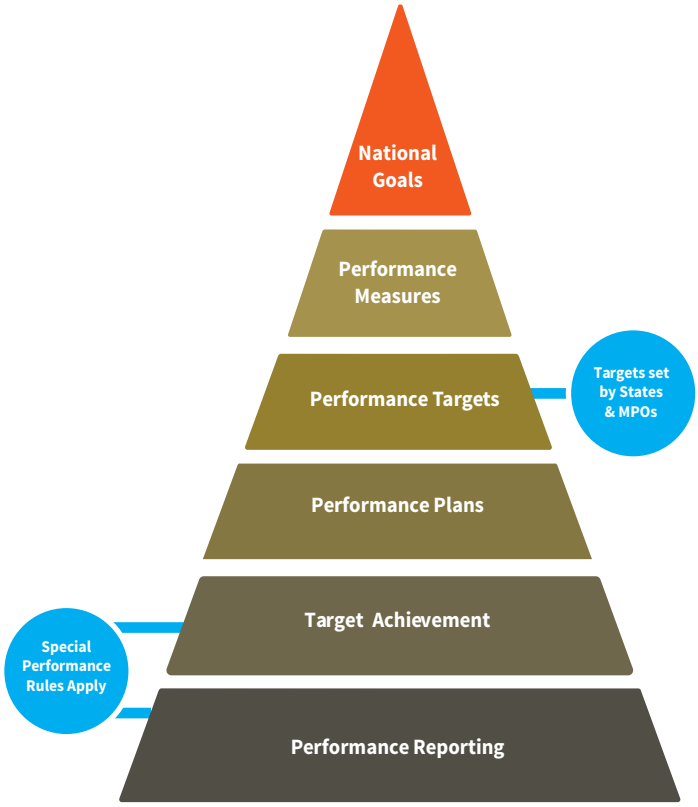
Between five-year updates, the need may arise for revisions to the MTP which significantly alter the scope or budget of the MTP. Typically this situation arises when existing projects are modified or removed or new projects are added. Since federally funded projects included in the short-range TIP for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

The Alexandria/Pineville MPO follows procedures developed by the FHWA (footnote: 23 CFR 450.216(b), 23 CFR 450.216 (n), 23 CFR 450.220, 23 CFR 450.330, 23 CFR 450.330(a)) and LADOTD to amend or administratively modify the MTP and TIP:

- An ***Administrative Modification*** is a minor revision to a long-range statewide or metropolitan transportation plan, Transportation Improvement Program (TIP), or Statewide Transportation Improvement Program (STIP) that includes minor changes to project/project phase costs, minor changes to funding sources of previously included projects, and minor changes to project/project phase initiation dates. An administrative modification is a revision that does not require public review and comment, re-demonstration of fiscal constraint, or a conformity determination (in nonattainment and maintenance areas).

- An ***Amendment*** means a revision to a long-range statewide or metropolitan transportation plan, TIP, or STIP that involves a major change to a project such as the addition or deletion of a project or a major change in project cost, project/project phase initiation dates, or a major change in design concept or design scope (e.g., changing project termini or the number of through traffic lanes). Project changes that are included only for illustrative purposes do not require an amendment. An amendment is a revision that requires public review and comment, redemonstration of fiscal constraint, or a conformity determination (for metropolitan transportation plans and TIPs involving "non-exempt" projects in nonattainment and maintenance areas). In the context of a long-range statewide transportation plan, an amendment is a revision approved by the State in accordance with its public involvement process.

Figure 1.7: Transportation Performance Management



Source: FHWA

- If a project is located in a Metropolitan area it must first be amended in the TIP before it can be amended in the STIP. Once approved by the LADOTD, on behalf of the Governor, the amendment will be incorporated into Louisiana's STIP. The LADOTD will immediately notify the MPO, FHWA, and FTA of any approved amendment.

- ***DISPUTE RESOLUTION*** If a question arises on the interpretation of the definition of an administrative modification or an amendment, the LADOTD, the MPO, FHWA and FTA (the parties) will consult with each other to resolve the question. If after consultation, the parties disagree on the definition of what constitutes an administrative modification or an amendment, the final decision rests with the FTA for transit projects and the FHWA for highway projects.

Table 1.1: Quick Reference Table for Amendments vs. Modifications

Administrative Modification	Amendment
Revised project description	Major changes to a project, including the addition or deletion of a project.
Minor changes to project /project phase cost applies to R/W, UTIL, ENG, CONST • Funding changes are limited to $600,000.00 for projects for ≤ $3,000,000.00; and • For projects ≥ $3,000,000.01 an administrative modification is classified as a change of less than 20% in funding.	Major changes in project cost, change of 20% or more in funding change affecting fiscal constraint.
Minor changes to funding sources of previously included projects that do not affect fiscal constraint.	Major changes to funding sources, includes adding a new Federal funding source for a project not previously funding with Federal funding.
Major changes to project/project phase initiation dates, placing them outside the approved STIP/TIP timeframe, 23 CFR 450.330(a).	
A change in the project implementing agency.	
A split or combination of individually listed projects; as long as cost, schedule, and scope remain unchanged.	
The addition or deletion of projects from grouped project (line item) listings as long as the total funding amounts stay within the guidelines outlined above.	

1.6 Current Trends Affecting Transportation Planning

This section outlines the causal effect of trends pertaining to changing demographics, technology and transportation revenues.

Changing Demographics

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

Some key trends (2010 – 2040):

- Population growth rate is slower than recent decades (310 million in 2010 to 380 million in 2040).
- Longer life-spans resulting in increased proportion of elderly population linked to especially less automobile trips per capita as well as decline in labor force participation as proportion of total population.
- Ethnic Diversity will have a short term effect of decreased VMT/capita due to carpooling/ van-pooling and non-auto modes of transportation. However, as immigrants adapt to American culture, VMT/capita will possible increase.
- Population and employment growth will likely continue to be uneven throughout the country.
- Suburban population and employment is continued to out pace central urban cores leading to increased VMT/capita.
- Projected socio-demographic trends may have conflicting impacts on travel demand, there appears that total VMT will increase in growing areas, while VMT per capita will stagnate or decline and more trips will be made by public transit, walking, biking, carpooling, or other means.

Changing Technology

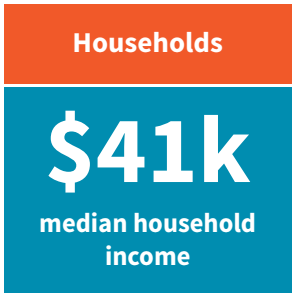
The actual impact of technological improvements on transportation is difficult to predict. However, there are many current technological trends that are influencing travel demand.

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

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

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

Bike-sharing, car-sharing, and ride-sharing are all relatively new technologies that are impacting travel demand, especially in urban areas. These technologies are constantly improving with technological advances. These are essentially rental services whereby a person pays for temporary use of a vehicle (bike or automobile, respectively). There are many variations of each service, but the intent is to provide convenience when one does not have access to a private vehicle.



In urban areas where many trips can be made by walking, biking, or public transit, bike-sharing and car-sharing are filling in the gaps for destinations not easily accessible by these modes. In this manner, these rental services are making car ownership less important for urban residents. If these services become more widespread, VMT/capita, and perhaps overall VMT would decline in many urban areas.

Ride-sharing, according to the Victoria Transport Policy Institute, is "carpooling or van-pooling service in which the vehicle carries additional passengers when making a trip, with minimal additional mileage." It is offered by multiple providers, such as public transit agencies, private taxis, van-pools, and carpools.

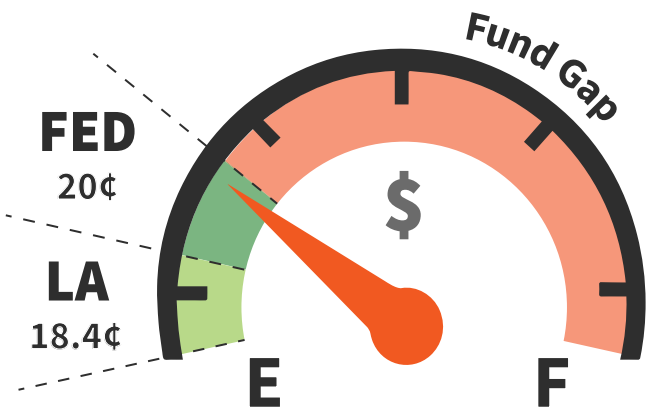
The continued growth of smartphones and advancement in GPS and mobile technology are constantly improving ride-sharing services. As with bike-sharing and car-sharing, ride-sharing offers an affordable alternative to vehicle ownership in walkable areas or to traditional taxis in all areas.

Declining Transportation Revenues

Gasoline taxes are the primary revenue source for both federal and state transportation funds. Despite the fact that transportation project construction costs have increased over the last twenty years, the last increase in the federal gasoline tax was in 1993, and the last increase in the Louisiana gasoline tax was in 1987. Furthermore, no significant new revenue streams have emerged to fill these funding gaps.

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

Figure 1.8: Visual Representation of Funding Gap

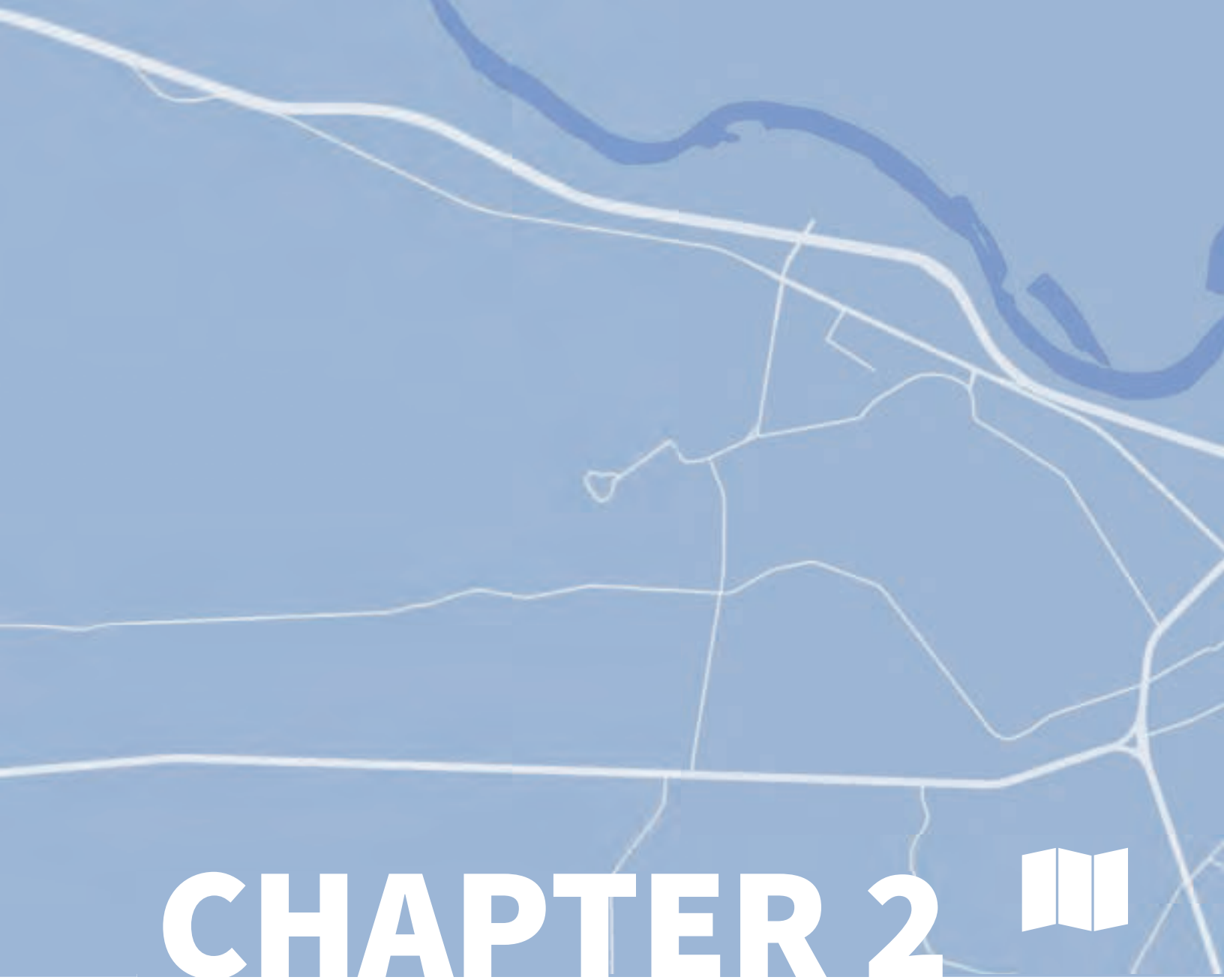


USDOT, State DOTs, and local agencies have taken a variety of approaches to deal with declining and uncertain transportation revenue. For instance, In order to maximize its shrinking revenues, the FHWA encourages innovative financing strategies for transportation projects through its Innovative Program Delivery program.

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

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

The gas tax was last increased two decades ago. Meanwhile, the construction cost has increased owing to inflation and cost of raw materials. Both the federal and state Highway Trust Fund is at an all-time low. Figure 1.8 illustrates the funding gap. Some of the innovative funding mechanisms considered nationwide include: gas tax indexed to inflation, VMT based gas tax etc.



CHAPTER 2

Plan Development Process

2.0 Introduction

This chapter focuses on the approach pursued during the making of the MTP. The chapter describes the steps undertaken from setting the vision, defining goals and objectives, assessment of baseline as well as desired system performance, forecast future conditions based on trend analysis and develop a phased implementation strategy. Further, the chapter emphasizes APMPO's commitment to adherence to Title VI and public involvement in the entirety of the MTP 2040 process. In sum, stakeholder consultation and public input form the backbone of the MTP 2040. The chapter ends outlining visioning activities. Moreover, the online survey results laid the framework for ranking public priorities leading to goals and objectives as discussed in the next chapter.

2.1 Performance-based Planning Approach

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

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

MAP-21 introduced requirements for performance-based planning in statewide and metropolitan planning. It requires USDOT to establish performance measures that will enable states and MPOs to track their performance in addressing the national goals set forth in MAP-21 (See Figure 1.4). Once these performance measures become effective, states and MPOs are required to adopt state and metropolitan targets, respectively, for each measure.

While federal guidance on MAP-21 performance measures and targets is still emerging, the general planning process below illustrates how the 2040 MTP incorporates an outcome-oriented, performance-based planning approach:

1. ***Set Regional Vision*** – A regional vision is developed based on previous plans and public input.

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

3. ***Establish System Performance Measures*** – Performance measures to monitor are selected and are consistent with the MTP's stated goals and objectives, as well as with available guidance on federal performance measures. Monitoring these measures over time will allow the MPO to be responsive to unintended or unforeseen changes.

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

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

6. ***Forecast Future Conditions and Need*** – Future growth in population and employment from 2015 to 2040 is forecasted. The impacts of the forecasted change in land use and demographic patterns were then modeled using the existing transportation network and committed projects. Future projects were then evaluated both individually and as part of larger packages of projects.

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

2.2 Title VI in Development of the MTP

The MPO is committed to ensuring public participation in the development of all transportation plans and programs. It is the overall goal of the MPO that the transportation planning process is open, accessible, transparent, inclusive, and responsive. As a continuing effort by the MPO to provide public access and the means by which to engage in the planning process, the MTP development process is compliant with and follows all Title VI laws, processes, and programs, as mentioned in Chapter 1: Transportation Equity, Pg. 1-8.

The MPO's Public Participation Plan (PPP) supports Title VI compliance by enabling and encouraging all members of the public to actively participate in the development of the MTP. Details on the public involvement process for the MTP are discussed in the next section.

2.3 Public Involvement Process

Public involvement is the cornerstone of metropolitan transportation planning. It is very crucial to successfully engage the public throughout the planning process.

The public input provides decision-makers with the information necessary to ensure that public concerns and needs are addressed adequately and in a timely manner.

Figure 2.0: Public Involvement Process

Federal Requirements

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

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

Public Participation Plan Requirements

The MPO's PPP addresses all the federal requirements and was adopted in 2014. The 2040 MTP public involvement process follows the procedures outlined in the PPP and some excerpts are reproduced below:

- A legal notice is published in regional newspapers at least five days prior to the public meetings for adoption or amendments of regional plans, the UPWP, and the TIP.
- A 14-day comment period is observed prior to the adoption or amendments of the TIP, MTP, UPWP and any other significant regional transportation plans. If the final plan differs significantly from the draft, an additional 10-day comment period is advertised for additional comments and review.
- All public meetings are held at locations accessible to the disabled and near bus routes.
- Placing notices on RAPC website at least five days prior to public meetings to review plans.
- Presentation to neighborhood groups, civic organizations, governmental organizations and other special interest groups will be made on as requested basis to discuss transportation activities within the Alexandria/Pineville UZA.
- Providing Official copies of the MTP and TIP to Rapides Parish Public libraries for easy public access and information.
- Establishing and maintaining email lists of various interested organization or citizens to provide notification of upcoming meetings, events or actions supporting the transportation planning process.

Public Involvement Activities

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

- clarifying a regional vision by expressing their satisfaction with current transportation system conditions;
- identifying future transportation projects to be evaluated in the MTP;
- communicating their ideal transportation investment strategies; and
- providing feedback on draft versions of the MTP.

Various outreach methods were used to inform the public about the update process and the public involvement activities. Beyond providing public notice in local print media, outreach methods included the following:

- engaging transportation partners and stakeholders, such as state and federal government agencies through public meetings;
- reaching out to all agencies, businesses, associations and others on the MPO's contact list database;
- using social media (facebook/websites);
- issuing a press release to media representatives;
- using an online survey tool from MetroQuest to capture public inputs from those who are unable to attend public meetings;
- placing phone calls and sending emails to known Environmental Justice groups and minority community leaders; and
- distributing brochures in shopping and community centers as well as in churches and private venues.

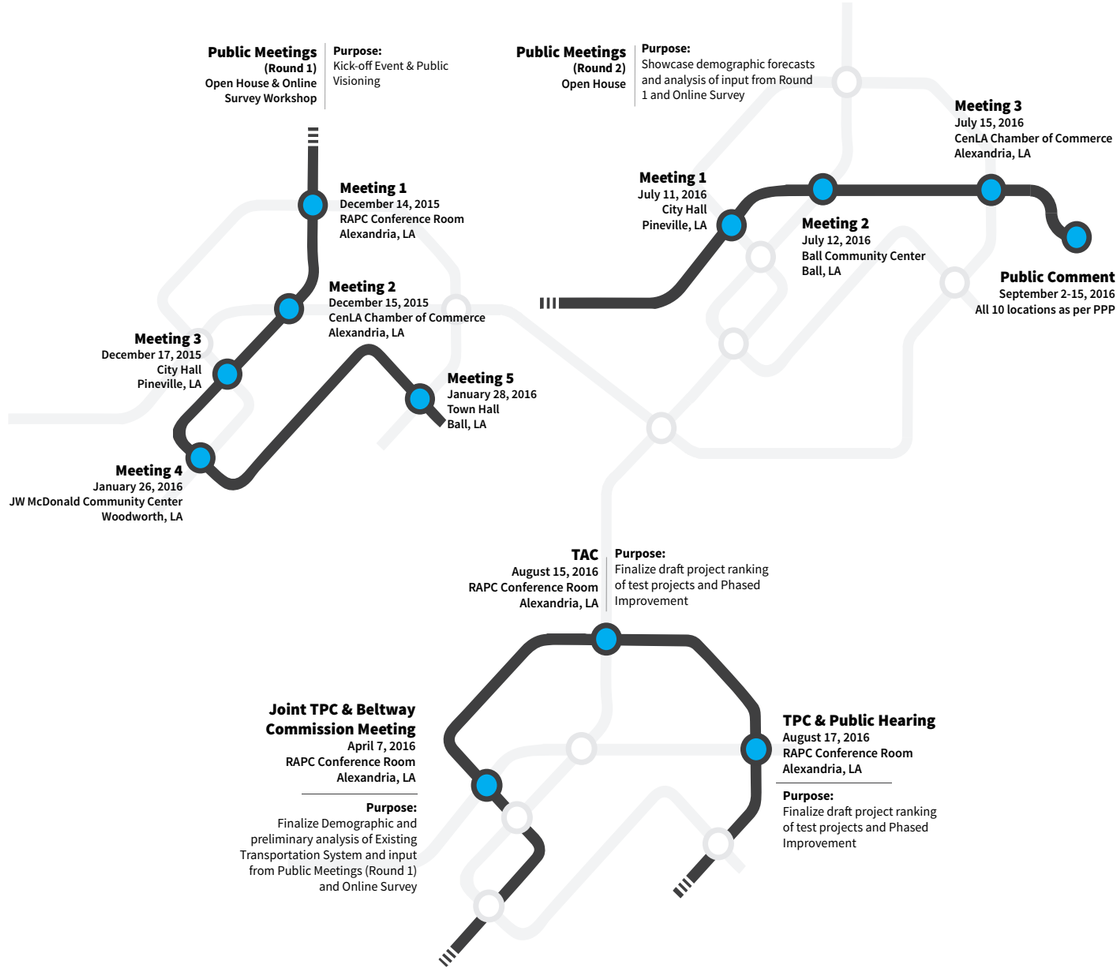
A schedule of the primary public involvement activities is summarized in Table 2.1. Documentation of the public participation process is located in the Appendix A.

Table 2.1: Schedule of Public Involvement Activities

Activity	Purpose	Date, Time and Location
Public Meeting (Round 1) Open House and Online Survey Workshop	Kick-off Event and Public Visioning	**MTG 1:** Monday, December 14, 2015; 6pm to 8:30pm; RAPC Conference Room, 1405 Frank Andrews Blvd, Alexandria, LA 71303
		MTG 2: Tuesday, December 15, 2015; 6pm to 8:30 pm; CenLA Chamber of Commerce, 1118 3rd St., Alexandria, LA 71301
		MTG 3: Thursday, December 17, 2015; 6pm to 8:30pm; City Hall, 910 Main St. Pineville, LA 71360
		MTG 4: Tuesday, January 26, 2016; 6pm to 8:30pm; JW MCDonald Community Center, 878 Robinson Bridge Rd., Woodworth, LA 71485
		MTG 5: Thursday, January 28, 2016; 6:pm to 8:30pm; Town Hall, 100 Municipal Ln., Ball, LA 71405
Joint TPC and Beltway Commission Meeting	Finalize Demographic and preliminary analysis of Existing Transportation System and input from Public meetings (Round 1) and online survey	**MTG 1:** Wednesday, April 7, 2016; 1:30 pm to 3pm; RAPC Conference Room, 1405 Frank Andrews Blvd, Alexandria, LA 71306
Public Meeting Open House	Showcase demographic forecasts and analysis of input from Public meetings (Round 1) and online survey	**MTG 1:** Monday, July 11, 2016; 6pm to 8pm; City Hall, 910 Main St. Pineville, LA 71360
		MTG 2: Tuesday, July 12, 2016; 6pm to 8pm; Ball Community Center, 100 Municipal Ln., Ball, LA 71405
		MTG 3: Friday, July 15, 2016; 6pm to 8pm; CenLA Chamber of Commerce, 1118 3rd St., Alexandria, LA 71301
TAC	Finalize draft project ranking of test projects and Phased Improvement	**MTG 1:** Monday, August 15, 2016; 11am to 12pm; RAPC Conference Room, 1405 Frank Andrews Blvd, Alexandria, LA 71303
TPC and Public Hearing	Finalize draft project ranking of test projects and Phased Improvement	**MTG 1:** Wednesday, August 17, 2016, 2pm to 4pm; RAPC Conference Room, 1405 Frank Andrews Blvd, Alexandria, LA 71303
Public Comment	Validate draft MTP 2040	All 10 locations as per Public Participation Plan (PPP)

Source: Rapides Area Planning Commission

Figure 2.1: Schedule of Public Involvement Activities



2.4 Stakeholder Consultation and Coordination

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

Federal Requirements

Pursuant to Federal regulations (23 CFR 450.316); the MPO followed public involvement for citizens protocol as per the public participation plan.

Federal regulations also encourage MPOs to consult with agencies and officials responsible for other planning activities within the MPA that are affected by transportation or to coordinate its planning process, to the maximum extent practicable, with such planning activities.

Beyond this, MTPs are required to give due consideration of other related planning activities within the MPA and to include transportation services and projects within the MPA that are provided by other agencies that receive federal funding, such as public transit systems or national parks. The MPO maintained constant communication with project managers for both the recently undertaken City of Alexandria's THINKAlex Plan and the ongoing Rapides Parish's Comprehensive Resiliency Plan.

The metropolitan planning process requires that where a metropolitan planning area includes federal public lands and/or Indian Tribal lands, the affected federal agencies and Indian Tribal governments shall be involved appropriately in the development of transportation plans and programs.

Consultation Activities

Beyond the opportunities provided to the general public described previously, the MPO's staff conducted agency consultation with:

- City Engineering/Public Works Departments
- Rapides Parish School Board
- England Airpark
- Central Louisiana Port Authority
- Louisiana State Police: Troop E
- Bicycle and Pedestrian Advocates
- Civic and Home Owner's Association Groups
- Central Louisiana Chamber of Commerce
- Kisatchie Delta EDA

Coordination Activities

In addition to consulting stakeholders throughout the development of the MTP, the MPO and the consultant team (Neel-Schaffer) coordinated with stakeholder groups to obtain relevant data (e.g., inventories of natural, historic, and community resources) and to review existing plans, maps, and other information for consistency with the MTP.

Population

155k

reside in MSA

2.5 Visioning Activities and Results

In order to gather public input for the development of the MTP, the MPO held five open-house style public meetings at the beginning of the plan update process spread across the region.

These meetings were intended to gain insight into the citizen's desired future of transportation in the Alexandria/Pineville MPA. At these meetings, stakeholders and members of the general public shared their concerns, ideas, values, and visions regarding the state of both the current transportation system and future transportation needs for the region.

The following sections describe the visioning activities and its outcomes. Overall, the results of these activities mirror local trends. In particular, the results suggest three major themes:

- increased emphasis on travel delay reduction or congestion;
- increased emphasis on safety of the transportation system; and
- increased emphasis on accessibility through system connectivity and continuity.

Comments received outside of these activities can be found in the Appendix.

Visioning Meeting Format and Activities

The first five meetings served as a kickoff for both the MTP. The format of the meeting was a combination of an open-house and workshop-style meeting.

For the first part of the meeting, participants were provided information on the planning process and the current state of transportation in the MPA and the state as a whole.

In the second part of the meeting, participants were guided through an online engagement survey tool designed to solicit input on local priorities. Throughout the meeting MPO staff, LADOTD staff, and the consultant team were available to explain the activities and provide any necessary assistance.

Online Engagement Tool (Survey)

Public meeting (round 1) attendees participated in the online survey using the various computer terminals setup at the meeting venue. The MPO staff conducted a 101 session to completing the online survey.

The survey was divided into five sections:

- **Section I:** showcased the need for the MTP and mentioned key interesting transportation related facts.
- **Section II:** participants were asked to rank and select the top five of the given eight priorities (see Figure 2.2).
- **Section III:** participants had to rank the various strategies linked to each of the selected five priorities.
- **Section IV:** participants had to place map markers denoting; congestion, road widening, transit, intersections, new facilities and new developments.
- **Section V:** participants were asked: age, daily commute time, place of residence etc.

The online survey was completed by 105 unique individuals, with about 300 individual site visits. Overall, there were a total of 70 participants who attended both rounds of public meetings.

The analysis of public input from the first round of public meetings are described in detail in following chapters pertaining to individual modes of transportation.

The results from the second round of public meetings are illustrated in Figure 2.3 and were used to identify public priority in spending the available transportation dollars. In addition to identified transportation projects, participants also noted that the Central Louisiana Beltway Loop of perceived regional significance.

Photo 2.1: Public Meeting Round 1 - Woodworth, LA

Figure 2.2: Ranking of Priorities by Public

MTP Subcommittee

A subcommittee of the Technical Committee was formed to guide the development of the 2040 MTP. MPO Staff were also a part of this subcommittee. The subcommittee met several times throughout the plan development process to discuss various aspects of the MTP.

The input from this subcommittee is discussed in later sections as it relates to the forecasting of future population and employment patterns (Chapter 4) and identification of potential transportation projects for evaluation (Chapter 12). The MTP subcommittee activities are shown in Table 2.2.

Table 2.2: MTP Subcommittee Activities

Activity	Purpose
Meeting #1	Discuss Goals and Objectives, MTP Process, test projects, and forecasting future growth areas.
Meeting #2	Discuss demographic forecast and technical analysis of existing system and public input.
Meeting #3	Discuss test projects results. Present and Discuss Draft MTP projects.

Figure 2.3: Desired Distribution of Funding by Public Meeting Participants

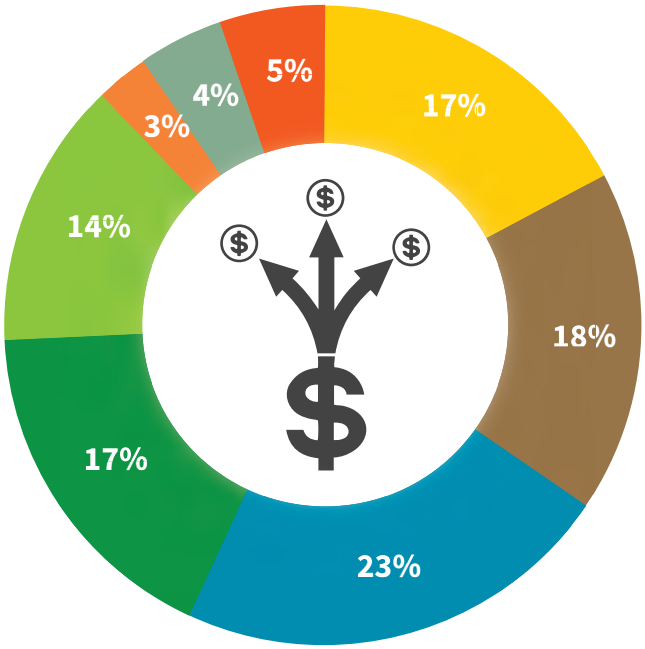
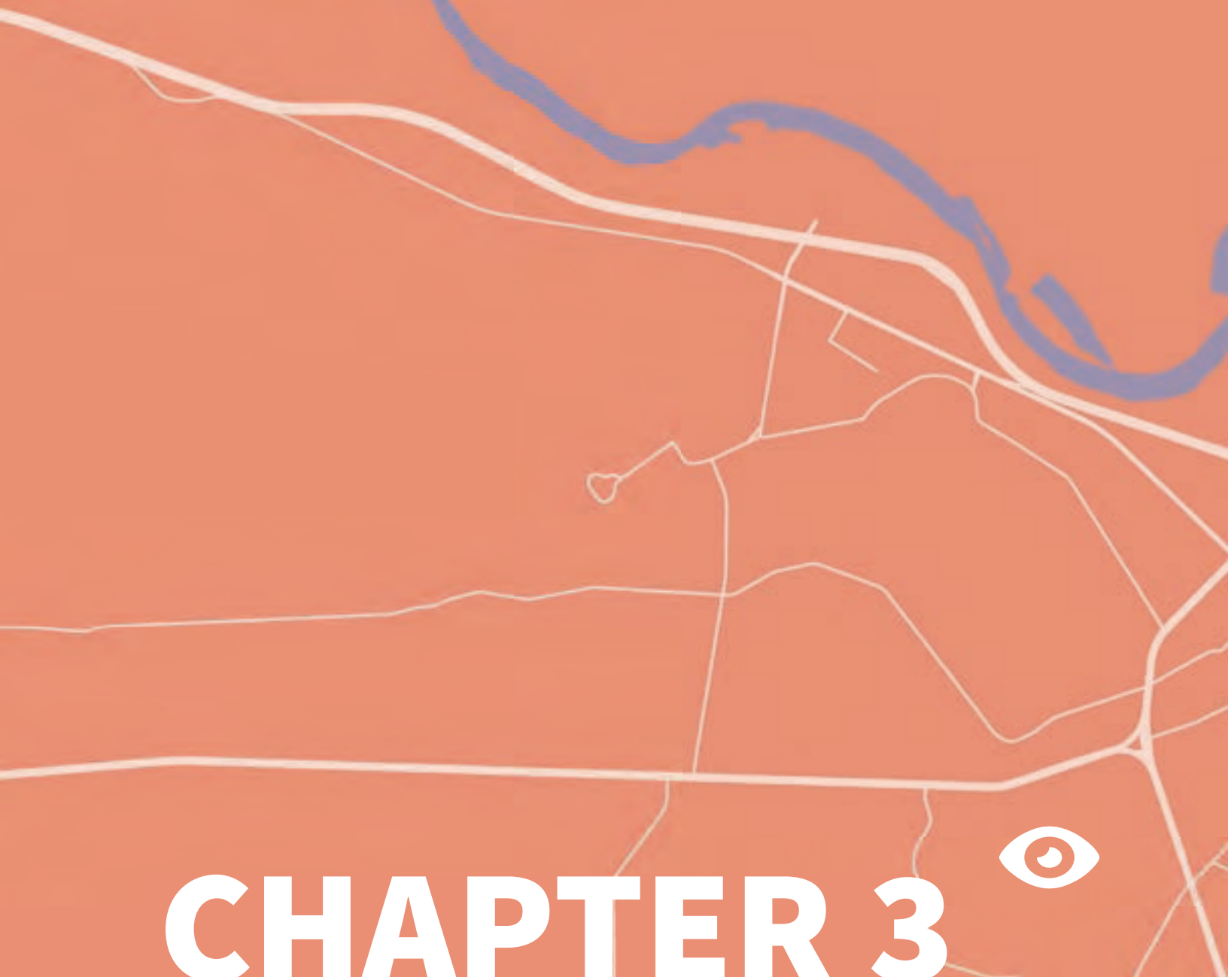


Photo 2.2: Public Meeting Round 1, Survey Workshop - Ball, LA



CHAPTER 3

Visioning & Performance Measures

3.0 Introduction

This chapter further explains the cross connection between the public input received and identification of goals. The chapter provides a detailed account of objectives for each of the identified goal. Finally, the chapter briefs on the national performance measures for various aspects of transportation planning. The next chapter intends to capture the current demographic trends and most plausible forecast projections.

3.1 Visioning

Public Vision
Results from the public visioning process and consultation with stakeholders are reflected in the Vision Statement used to develop the MTP goals, objectives, and performance measures.

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

Goals and Objectives
The development of goals and objectives are often discussed simultaneously in transportation planning. However, it is important to make a critical distinction between goals and objectives, especially as they relate to performance-based metropolitan transportation planning, as required by the Fixing America's Surface Transportation (FAST) Act.

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

An objective is a specific, measurable statement that supports achievement of a goal. Objectives should include, or lead to the development of, a performance measure.

Objectives are broken down into outcome, output, and activity-based objectives. Outcome-based objectives are preferred for long-range planning because they allow the most effective communication with the public. Moreover, output and activity-based objectives should support the outcome-based objectives.

The 2040 MTP goals and objectives provided in this chapter are consistent with public/stakeholder input and national transportation goals and planning factors specified in the FAST Act.

Table 3.1: Outcome, Output, and Activity-based Objectives

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

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

Goal 1: Affordable, Convenient, Reliable Destination Access by Multiple Modes of Transportation

Objectives:

- Increase percentage of trips made by bicycling, walking, and public transit.
- Increase alternative transportation options/ choices to households that spend more than 45% of their income on housing and transportation.
- Increase percentage of the population with an average in-vehicle travel time of 20 minutes or less for all trip types during peak hours within the metro area.
- Increase percentage of the population and employment within a quarter mile of a transit route (fixed or semi-fixed) with a frequency of thirty minutes or less during peak hours.
- Increase percentage of the population and employment within a quarter mile of marked bicycle facilities.
- Increase percentage of collector and arterial roadway centerline miles in urban areas with sidewalks on both sides.
- Expand fixed-route and/or para-transit/demand response transit service to Sundays.
- Reduce annual hours of delay from recurring and non-recurring congestion experienced by motorists and transit riders of marked bicycle facilities.
- Improve on-time performance of fixed-route transit service.
- Increase percentage of para-transit/demand-response trips that pick up passengers within two hours of request.

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

Objectives:

- Minimize delay on principal arterials connecting rural and urban areas.
- Increase scheduled public transit connections between communities within the Metropolitan Planning Area.
- Designate and construct a network of regional multi-use paths and on-street bicycle facilities that connect activity centers throughout the Metropolitan Planning Area.
- Minimize railroad freight delay by improving operations, infrastructure and reducing railroad/roadway and railroad/land use conflicts.
- Improve operations at inter-modal freight and passenger facilities such as trans-load facilities, airports, and multi-modal transit centers by ensuring sufficient storage capacity for all vehicles and cargo.
- Minimize delay on LADOTD designated freight corridors, as identified in the Louisiana Freight Mobility Plan.
- Maintain a minimum average speed of 55 mph on Interstate facilities for efficient freight travel.
- Increase metro area transit service by adding new destinations and increasing the frequency of existing service.
- Monitor and encourage increase of daily commercial flights between Alexandria International Airport and large, commercial service airport hubs such as Houston and Dallas-Fort Worth.
- Monitor and encourage increase of non-commercial aircraft operations and aircrafts based at airports while maintaining available storage/hangar space.

Goal 3: Well-Maintained and Efficient Transportation System

Objectives:

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

Goal 4: Safe, Secure, and Resilient Transportation System

Objectives:

- Reduce number of automobile crashes on public roads resulting in fatalities or serious injuries and the respective rates per 100 million Vehicle Miles Traveled.
- Reduce number of bicycle and pedestrian crashes resulting in fatalities or serious injuries and the respective rates per capita.
- Reduce number of safety and security incidents, injuries, and fatalities for all transit systems and the respective rates per 100,000 Vehicle Miles.
- Reduce number of highway-rail crossing accidents, injuries, and fatalities for freight and passenger rail.
- Reduce aviation-related incidents or accidents attributed to local airport operations or facilities.
- Increase redundancy and diversity of the transportation network by increasing the number of emergency evacuation alternatives for multiple modes of transportation.
- Improve flexibility of the transportation network by increasing the number of intersections and corridors managed by Intelligent Transportation Systems.

Goal 5: Transportation System That Creates a Sense of Place, Enhances Tourism, and Improves Public Health

Objectives:

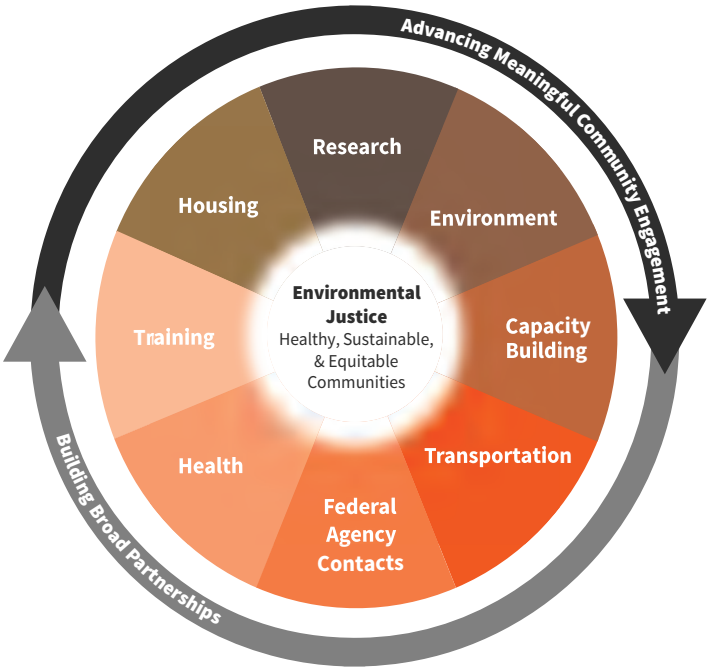
- Increase amount of public art installations and street furniture designed by local artists along transportation right of ways and on transportation facility properties.
- Increase tree canopy and vegetated space along transportation right of ways.
- Increase number of events where roadways are temporarily transformed for community events or tactical urbanism projects such as Open Streets events and Better Block campaigns.
- Increase number of multi-modal way-finding elements in areas frequented by tourists, with special attention given to major gateways such as interstate exits, inter-city bus terminals, and airports.
- Increase new residential and commercial development and reinvestment adjacent to transportation improvements in historic districts and areas with a high density of housing built at least 50 years ago.
- Increase number of TAZs with a balanced Jobs to Housing ratio.
- Increase population residing in urban TAZs where the combined length of sidewalk along collectors and arterials is at least 1.5 times greater than the length of those roadways.
- Increase percentage of urban TAZs within 1 mile of a multi-use path.
- Increase percentage of K-8 students that walk or bike to school.
- Reduce number of urban food deserts without fixed route transit service to a grocery store.
- Increase efforts within the Ozone Advance Program to improve air quality.

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

Objectives:

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

Figure 3.1: Environmental Justice Process



Source: EPA

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

Objectives:

- Reduce or mitigate storm-water impacts of surface transportation in all new projects and utilize STBG funding to reduce or mitigate storm-water impacts in existing transportation corridors.
- Reduce transportation-related ozone-forming emissions per capita.
- Increase the number of transit and other fleet vehicles fueled by alternative and hybrid fuels that reduce fossil-fuel dependency.
- Increase efforts to inhibit ozone emissions to improve air quality.
- Encourage more residential units and commercial developments in infill locations than in green-field locations.
- Reduce collisions between automobiles in high collision areas by introducing design countermeasures.
- Ensure that no programmed transportation project has a significantly adverse impact to historic sites or park and recreation areas where a feasible and prudent.

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

Objectives:

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

Goal 9: Fiscally-Constrained, 25-year MTP That Addresses Existing and Future Needs While Maximizing Projected Revenues

Objectives:

- Projected MTP revenues through 2040 are greater than or equal to the projected cost of all programmed projects and maintenance.
- The overwhelming majority of programmed projects in the MTP demonstrate a high benefit-cost ratio, regardless of mode.
- Increase number of projects completed before the anticipated Stage Year and below the projected cost.
- Maximize federal and local funds by combining multiple federal funding sources, applying for competitive grants, utilizing innovative financing strategies, and utilizing innovative revenue sources for local matches.

3.2 System Performance Measures

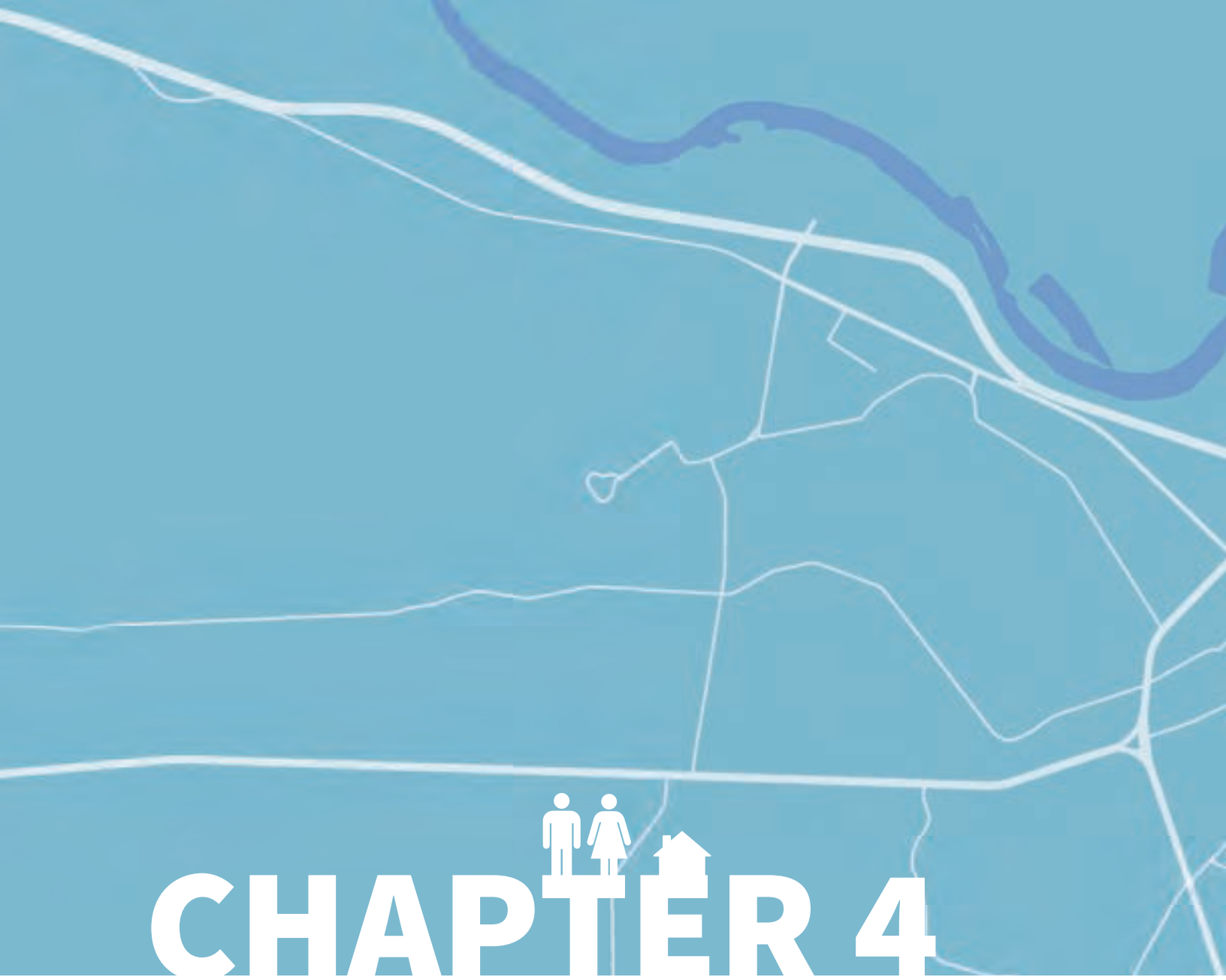
Once the USDOT finalizes the national performance measures required by the FAST Act and state DOTs set state targets for these measures, MPOs will be required to set their own regional targets and evaluate their performance in the MTP.

At the time of development of the 2040 MTP, the USDOT was still in the rule-making process for the national performance measures required by the FAST Act and some of the data required to track performance were not available. As a result, the 2040 MTP simply states eight national performance measures, which the MPO will be required to monitor.

The national performance measures to monitor in the future are:

- Pavement condition on the Interstate System and remainder of National Highway System (NHS);
- Performance of the Interstate System and the remainder of the NHS;
- Bridge condition on the NHS;
- Fatalities and serious injuries;
- Traffic congestion;
- On-road mobile source emissions;
- Freight movement on the Interstate System; and
- State of Good Repair (SGR) for public transit.

Future updates of the MTP will summarize current performance in regard to these measures and state the MPO's performance targets for each measure. The MPO may also add additional performance measures in the future, if so desired.



CHAPTER 4

Demographic Data

Trends & Projections

4.1 Introduction

This chapter provides fodder for the APMPO travel demand model (TDM). The chapter begins with identifying current demographic trends, land use patterns, and residential permit activity. Also, the chapter takes into consideration current commute patterns, freight patterns, and land use concepts captured during the initial round of public involvement process. The understanding of the trends lead to a solid platform for future demographic projections especially for factors pertaining to population and employment. Next, the following chapters will outline existing conditions, identify system deficiencies and recommend solutions for each transportation mode starting with streets and highways.

Travel demand is greatly influenced by the pattern of development or land use in the metropolitan planning area. Changes in land use 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.

This data was compiled from several sources:

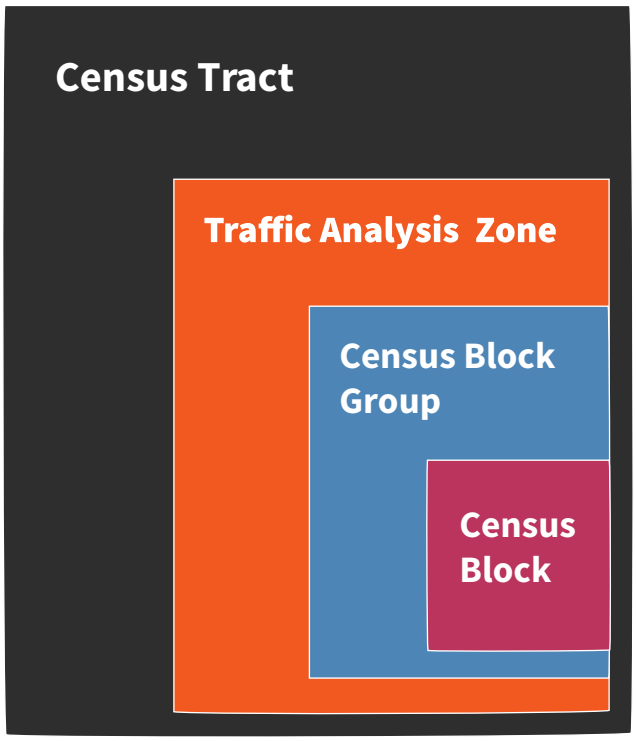
- Population and housing from the 2010 Census;
- Travel Time and Commute patterns from ACS (2010-2014);
- Household size and vehicle breakdowns from the 2000 Census;
- Employment from a database of employers in the Alexandria/Pineville study area purchased from InfoUSA (2015); and
- School attendance from the Department of Education (NCES).

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 are delineated based on factors such as population, land use, census tracts, physical landmarks, and governmental jurisdictions. The Alexandria/Pineville MTP 2040 MPA was divided into 302 TAZs. A map of the TAZs is shown in Figure 4.1.

The required demographic data input for the trip generation programs are subdivided into five major categories: occupied dwelling units, population, retail employment, non-retail employment, and school attendance. The remainder of this chapter summarizes the existing and future projections of these variables.

Throughout this report, there may be slight differences in the totals for this data. These apparent discrepancies are due to mathematical rounding by the computer modeling software.

Figure 4.0: Visual Representation of Various Units of Analysis

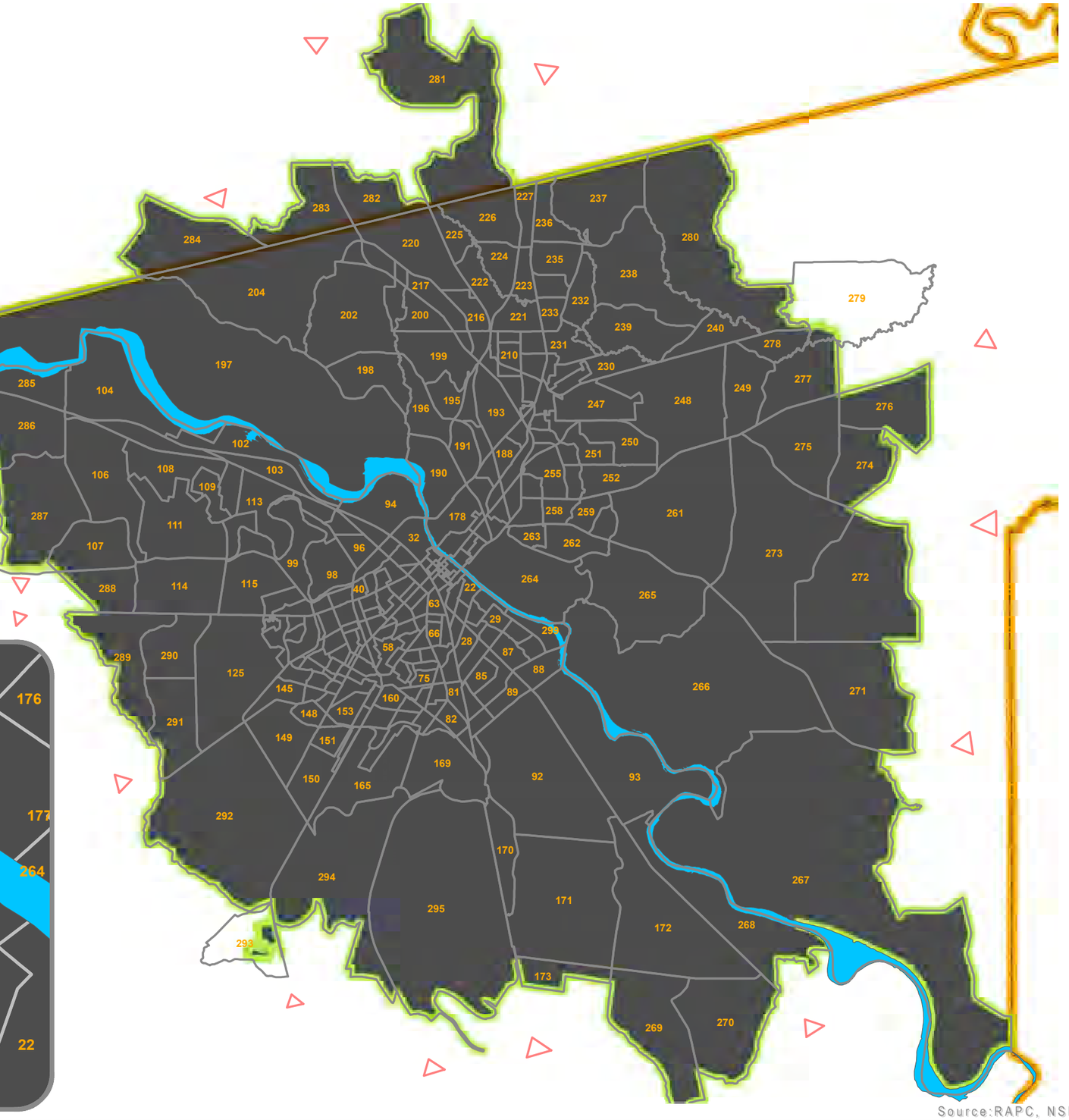


Alexandria/Pineville

Metropolitan Transportation Plan 2040

Figure 4.1

Traffic Analysis Zones



Source:RAPC, NSI

LEGEND

TAZ Type

- Internal
- External
- Red River
- MPA
- Rapides Parish

There are 300 internal TAZs and 18 external TAZs

0 1 2 4 Miles

N

PREPARED BY:

RAPC POTD

NEEL-SCHAFFER

Date:08/15/2016

4.2 Current Population, Employment and Travel Patterns

4.2.1 Regional Context

The U.S. Office of Management and Budget (OMB) defines Metropolitan Statistical Areas (MSAs) and Micropolitan Statistical Areas (PSAs) as core-based statistical areas that include the county or counties containing a core urban area and any adjacent counties that have a high degree of social and economic integration, as measured by commuting to work. For this reason, these geographic areas are useful for understanding the broader context of land use, population, economic, and travel patterns in a region.

The Alexandria/Pineville MPA contains the Alexandria MSA's core urban area, the Alexandria urbanized area, and is situated entirely within the MSA consisting of Rapides and Grant parishes.

4.2.2 Land Use Patterns

Most of the developed land in the MPA is centered within the cities of Alexandria and Pineville. Areas classified as urban by the Census Bureau are essentially concentrated around these cities, as illustrated in Figure 4.2.

Moreover, there is no zoning outside the urbanized areas. At the time of report making, the city of Pineville zoning was not finalized. The largest single type of developed land use in the MPA is residential.

Population density, employment density and activity density within the MPA are illustrated in Figures 4.4 through 4.6.

Population densities in the MPA are greatest within the city of Alexandria, mostly along the corridor of Jackson St. on either side of the river. However, employment densities are greatest in two key employment centers: the Alexandria CBD; the Power Center and the Alexandria Mall area near the South Circle.

Figure 4.2: Area Context for MPA

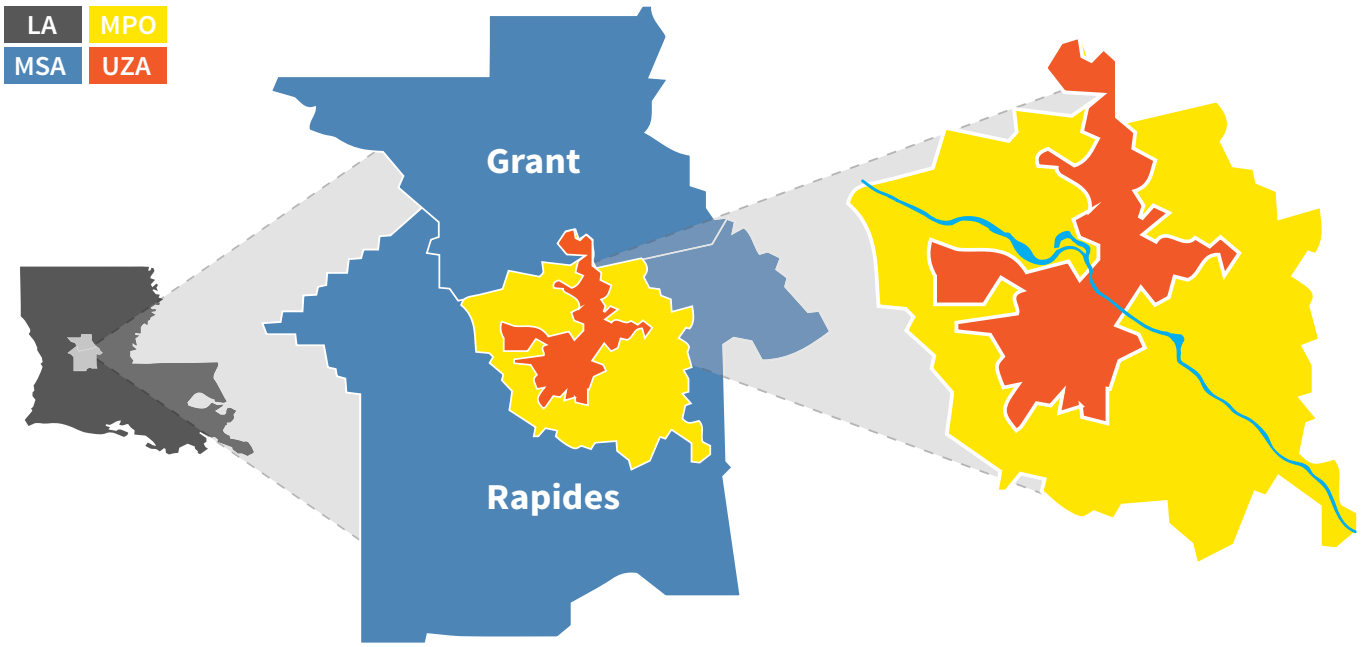
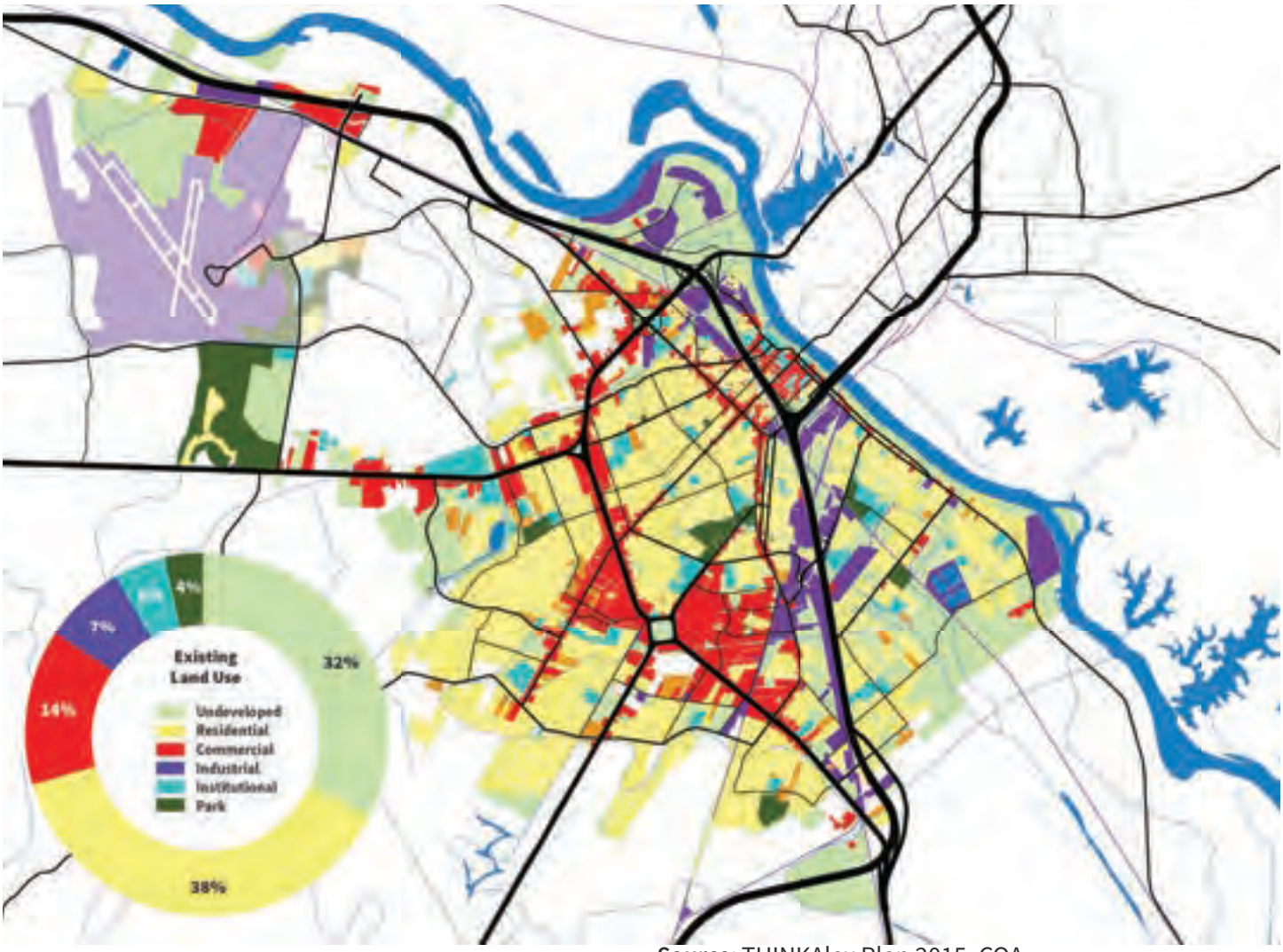


Figure 4.3: City of Alexandria Existing Land Use Map



Source: THINKAlex Plan 2015, COA

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

For the MPA, most of the greatest activity densities are in the city of Alexandria concentrated along MacArthur Dr., Masonic Dr. and Jackson St. Similarly, the city of Pineville activity densities are along Main St.

The general land use patterns described above are consistent with existing land use maps and zoning regulations for the local governments in the MPA.

4.2.3 Population and Economic Trends

Between 2010 and 2015, growth in the MPA outpaced Louisiana and was below the US as a whole. Moreover, Rapides Parish outpaced Grant Parish in terms of population growth rate. Table 4.1 provides a summary of the population changes in the MPA.

Overall, City of Alexandria is the only local jurisdiction with a positive growth rate much of it attributed to the annexation during the five year 2011-2015 time-frame. (See Table 4.1)

Businesses

150+

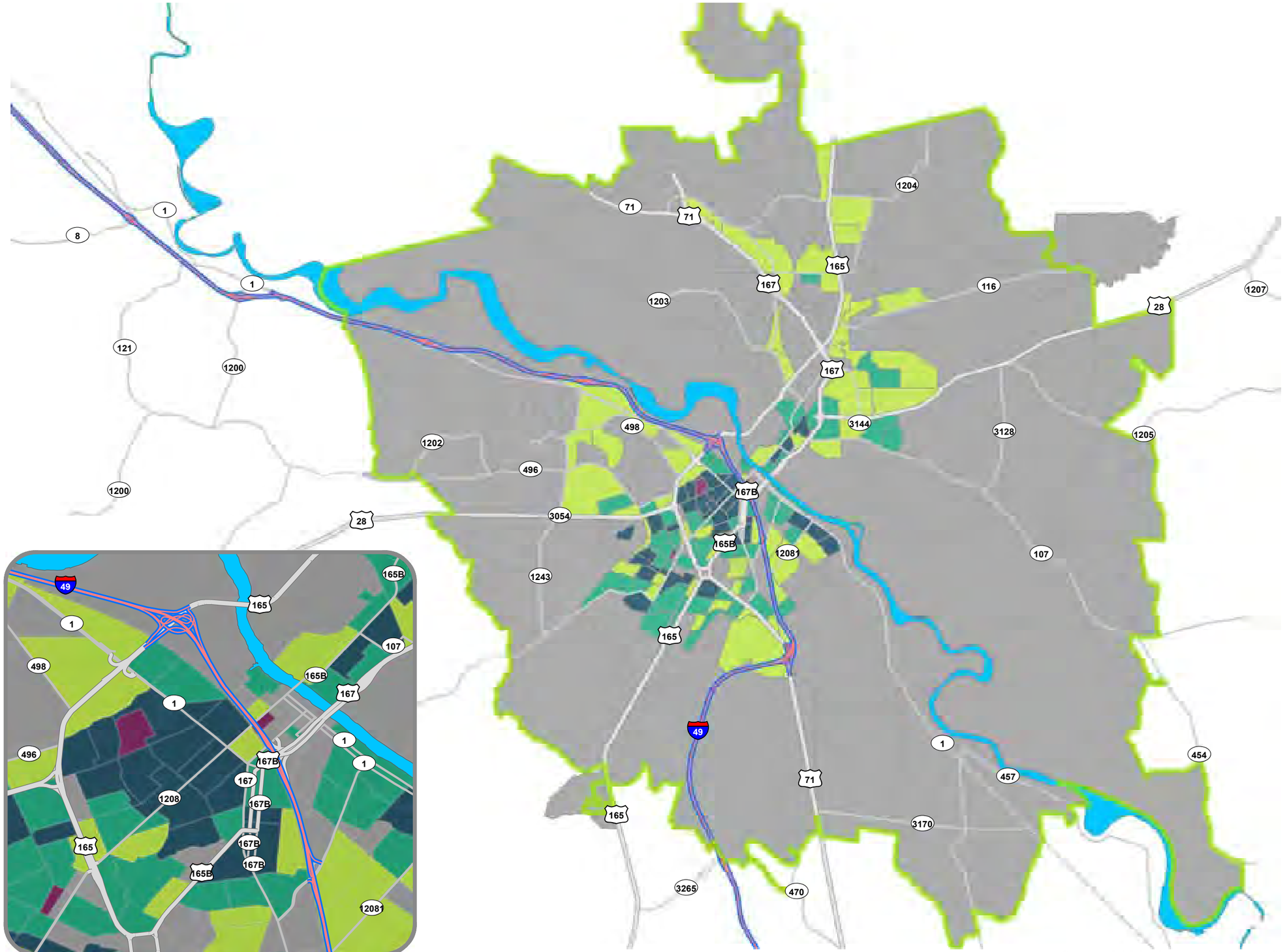
manufacturers

Alexandria/Pineville

Metropolitan Transportation Plan 2040

Figure 4.4

Population Density (2015)



LEGEND

People per Acre

- 0.0 - 1.0
- 1.1 - 2.5
- 2.6 - 5.0
- 5.1 - 10
- Above 10
- MPA
- Red River
- Interstate
- Major Highway
- Minor Highway
- TAZ

MPA Population (2015): 107,630
MPA Area: 326 sq. miles

0 1 2 4 Miles N

PREPARED BY:

RAPC POTD

NEEL-SCHAFFER

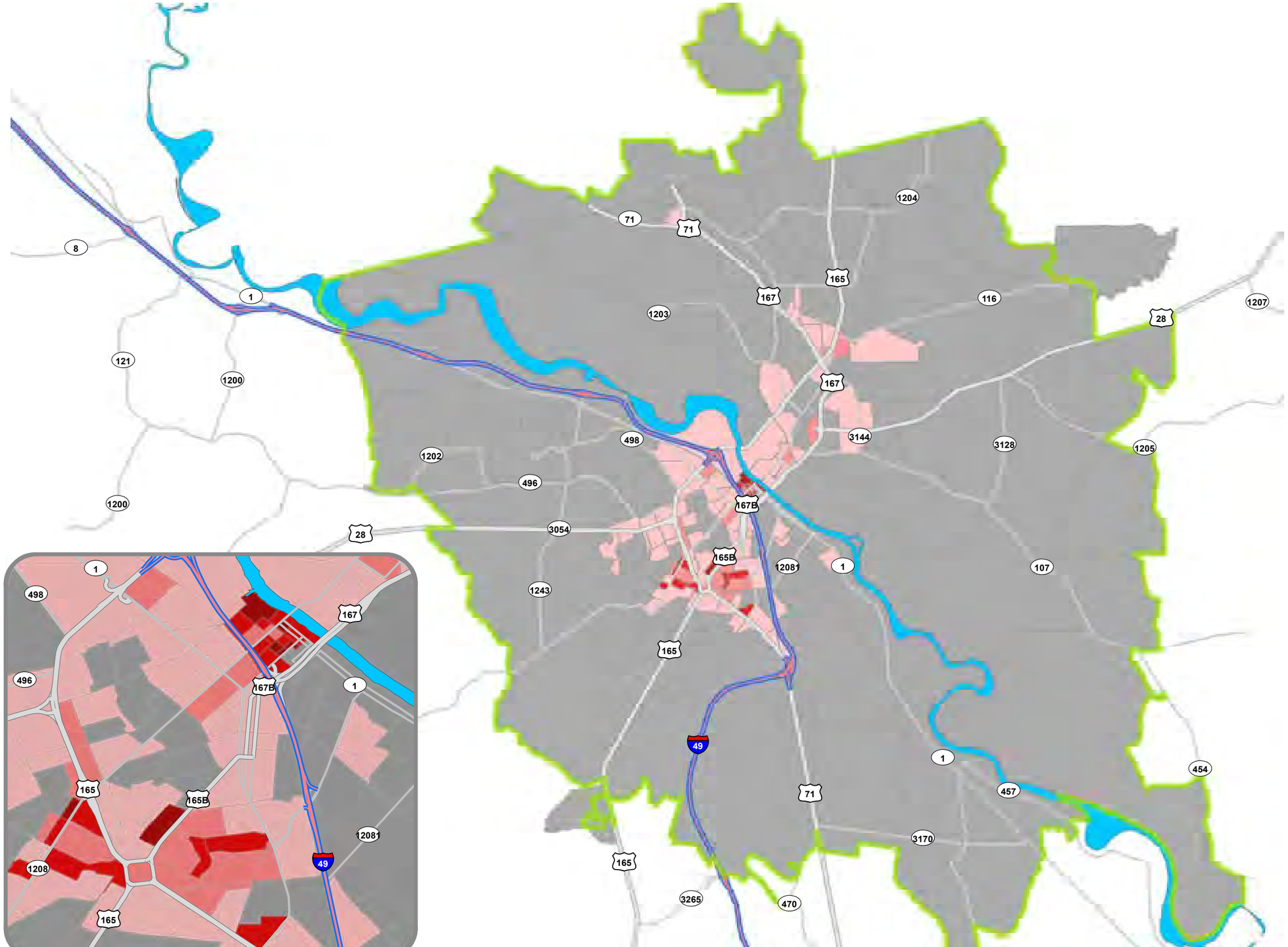
Date:08/15/2016

Alexandria/Pineville

Metropolitan Transportation Plan 2040

Figure 4.5

Employment Density (2015)



LEGEND

Jobs per Acre

- 0.0 - 1.0
- 1.1 - 5.0
- 5.1 - 10
- 11 - 25
- Above 25
- MPA
- Red River
- Interstate
- Major Highway
- Minor Highway
- TAZ

MPA Employment (2015): 58,170

0 1 2 4 Miles

N

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Source:RAPC, Census Bureau, InfoUSA, NSI

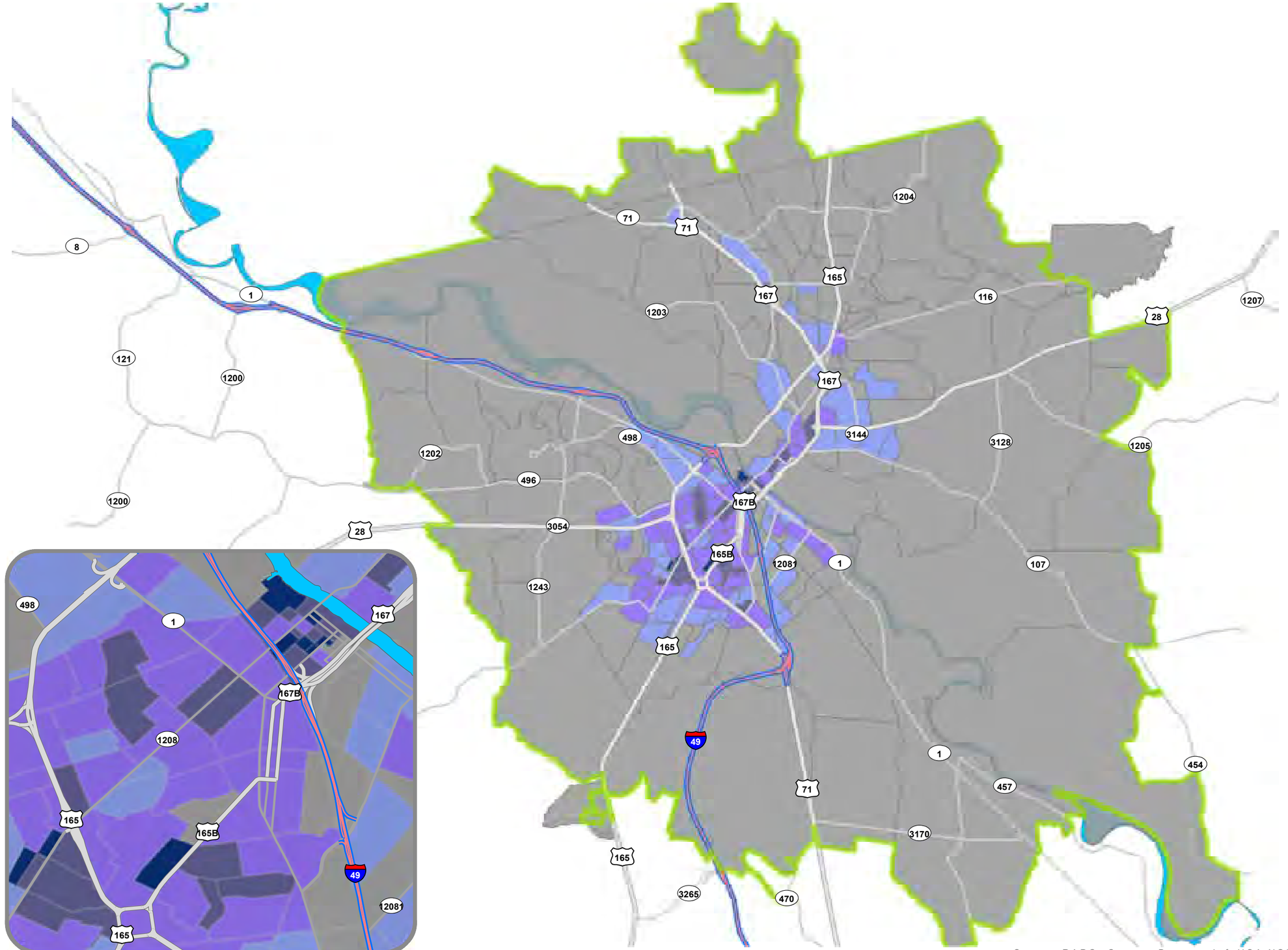
Date:08/15/2016

Alexandria/Pineville

Metropolitan Transportation Plan 2040

Figure 4.6

Activity Density (2015)



LEGEND

Jobs + People per Acre

- 0.00 - 2.50
- 2.51 - 5.00
- 5.01 - 10.0
- 10.1 - 25.0
- Above 25
- MPA
- Interstate
- Major Highway
- Minor Highway
- TAZ
- Red River

MPA Activity Density: 0.8 per acre

0 1 2 4 Miles

N

Source:RAPC, Census Bureau, InfoUSA NSI

PREPARED BY:

RAPC DOTD

NEEL-SCHAFFER

Date:08/15/2016

Table 4-1: Summary of Population Changes (2000 -2015)

Place	2000	2010	2015	Number	%	AGR
Alexandria	46,342	47,587	47,889	302	0.63%	0.13%
Pineville	13,829	14,555	14,403	-152	-1.04%	-0.21%
Ball	3,681	4,000	3,990	-10	-0.25%	-0.05%
Boyce	1,190	1,004	979	-25	-2.49%	-0.50%
Woodworth	1,080	1,096	1,084	-12	-1.09%	-0.22%
UZA	78,504	82,804	85,072	2,268	2.74%	0.55%
MPA	X	104,106	107,630	3,524	3.39%	0.68%
MSA	126,337	153,922	154,484	562	0.37%	0.07%
Grant Parish	18,698	22,309	22,343	34	0.15%	0.03%
Rapides Parish	126,337	131,613	132,141	528	0.40%	0.08%
Louisiana	4,468,976	4,533,372	4,670,724	137,352	3.03%	0.61%
USA	281,421,906	308,745,538	322,561,729	13,816,191	4.47%	0.89%

Source: U.S. Census Bureau, ACS 2010-2014, RAPC, 2016

Population enters the trip generation equation in terms of calculating population per occupied dwelling unit by TAZ, which allows the distribution of units into household size categories.

Based on the 2010 Census, the household population of the MPA was 97,085 persons. Also, based on the 2000 Census, group quarters population (college, military, prison, etc.) was 7,021.

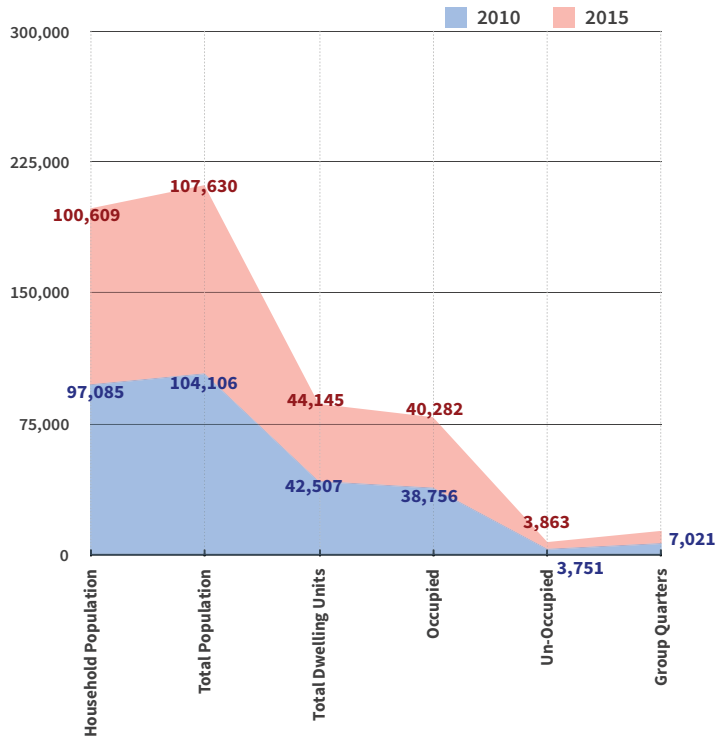
In 2010, the total population of the study area (adding household population and group quarters population) was 104,106 persons. The total population grew by 3.3 percent from 2010 to 2015.

The base year for the MTP is 2015. The base year population and household data were estimated taking into consideration the historical trends as well as the 5-year American Community Survey (ACS, 2010-2014) data.

The number of dwelling units plays a major role in trip generation since many trips have an origin and/or destination in residential areas. Both total and occupied dwelling units were calculated from the 2010 Census. The total dwelling units increased by 3.8 percent from 2010 to 2015. The occupied dwelling units stood at 91.2 percent in 2015.

Figure 4.7 shows the changes of various demographic factors within the MPA during the 2010 - 2015 time-frame.

Figure 4.7: Comparison of Demographic Factors (2010-2015)



Occupied dwelling units are further classified by auto ownership and household size using the most recent (2000) 5% Public Use Microdata Samples (PUMS) dataset and its corresponding 2000 Census data. The following classifications in Table 4.2 were developed to use in estimating the number of trips generated from each TAZ.

The following classifications in Table 4.2 were developed to use in estimating the number of trips generated from each TAZ:

Table 4.2: MPA Demographic Forecast Data by Year

Variable	Description	2015	2020	2030	2040
POP	Total Population in Households	107,630	109,910	112,874	114,599
TOTPOP	Total Population in MPA	100,609	102,890	105,853	107,578
DU	Total Dwelling Units	44,145	45,138	46,371	47,071
OCCDU	Occupied Dwelling Units	40,282	41,202	42,339	42,985
SCHATT	School Enrollment	25,327	25,705	26,461	27,277
HHS1	Households with 1-person	11,521	11781	12048	12192
HHS2	Households with 2-persons	12,778	13068	13431	13630
HHS3	Households with 3-persons	6,953	7111	7346	7488
HHS4	Households with 4-persons	5,083	5214	5373	5463
HHS5P	Households with 5-or-more persons	3,947	4027	4142	4212
HH_VEH0	Households with 0-cars	1,480	1495	1513	1522
HH_VEH1	Households with 1-car	11,350	11553	11820	11960
HH_VEH2	Households with 2-cars	17,814	18256	18766	19071
HH_VEH3P	Households with 3-or-more cars	9,638	9898	10240	10433
HH1VEH0	Households with 1-person and 0 cars	720	727	736	741
HH1VEH1	Households with 1-person and 1 car	7,185	7319	7478	7561
HH1VEH2	Households with 1-person and 2 cars	2,936	3030	3107	3152
HH1VEH3	Households with 1-person and 3-or-more cars	667	694	715	725
HH2VEH0	Households with 2-persons and 0 cars	225	227	231	232
HH2VEH1	Households with 2-persons and 1 car	2,151	2188	2243	2270
HH2VEH2	Households with 2-persons and 2 cars	7,764	7947	8165	8290
HH2VEH3	Households with 2-persons and 3-or-more cars	2,642	2710	2797	2843
HH3VEH0	Households with 3-persons and 0 cars	229	232	235	236
HH3VEH1	Households with 3-persons and 1 car	988	1004	1032	1047
HH3VEH2	Households with 3-persons and 2 cars	2,729	2792	2881	2937
HH3VEH3	Households with 3-persons and 3-or-more cars	3,011	3088	3204	3274
HH4VEH0	Households with 4-persons and 0 cars	116	117	119	119
HH4VEH1	Households with 4-persons and 1 car	401	407	417	422
HH4VEH2	Households with 4-persons and 2 cars	2,761	2833	2915	2964
HH4VEH3	Households with 4-persons and 3-or-more cars	1,807	1859	1924	1960
HH5VEH0	Households with 5-or-more persons and 0 cars	189	191	193	194
HH5VEH1	Households with 5-or-more persons and 1 car	623	632	646	655
HH5VEH2	Households with 5-or-more persons and 2 cars	1,625	1659	1705	1734
HH5VEH3	Households with 5-or-more persons and 3-or-more cars	1,511	1545	1598	1629

Households

19%

receive food stamps

Population estimates from 2015 suggest a continuation of historical trends, more or less. Residential permit data as well as Info USA (2015) data for employment was used for forecasting.

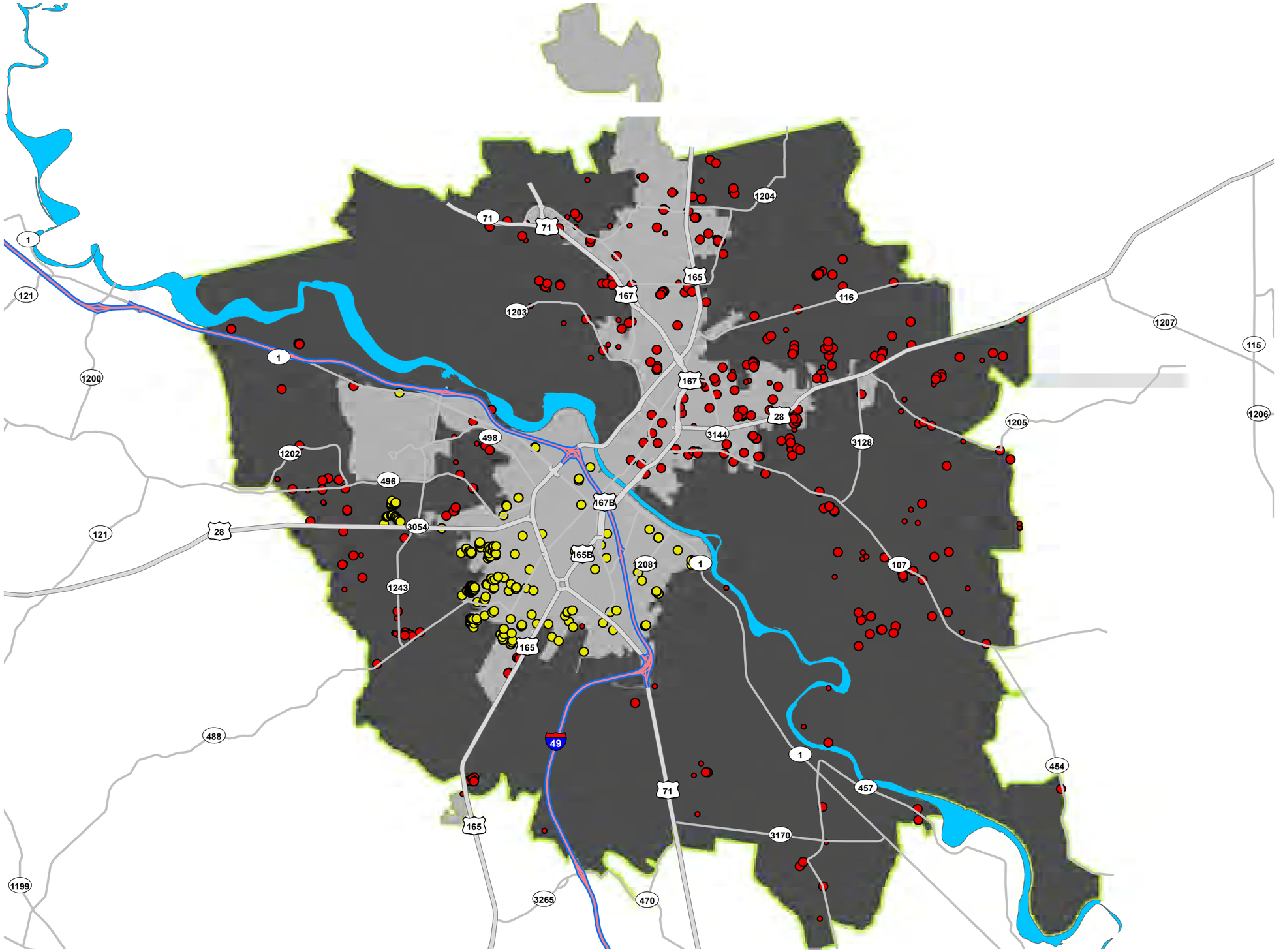
Based on residential permit data, most of the development is in the north-east or south-west areas of the MPA. See Figure 4.8 for Residential Permits distribution.

Alexandria/Pineville

Metropolitan Transportation Plan 2040

Figure 4.8

Residential Permits (2011-2015)



LEGEND

- Alexandria City Permits
- RAPC Permits
- Interstate
- Major Highway
- Minor Highway
- Red River
- Urbanized Area
- MPA

Only new residential construction permits were considered.

0 1 2 4 Miles

N

PREPARED BY:

RAPC DOTD

Source:RAPC, CoA 2016

Date:08/15/2016

Low Income Population

Low-income areas are important to consider because they are less likely to own a vehicle or commute to work by driving. They are therefore, more dependent on walking, biking, carpooling, or using transit.

According to 5-year ACS (2010 -2015), the percentage of people living below the federal poverty threshold in the MPA parishes was 19 percent. This percentage was above both the United States (14.4 percent) and the state of Louisiana (18.8 percent).

However, because the federal poverty threshold is a national standard, it is not sensitive to regional variations in cost of living. In areas with a relatively low cost of living, such as Louisiana, using the federal poverty measure means that poverty is exaggerated in many areas. In order to address this issue, the number of households participating in the Supplemental Nutrition Assistance Program (SNAP) was utilized instead. This program, also known as Food Stamps, takes into account variations in the cost of living between different states.

Based on 5-year ACS, the percentage of households receiving food stamps in the counties in the MPA was 18.6 percent. This percentage was in between that of the United States (12.98 percent) and the state of Louisiana (16.4 percent).

As shown in Figure 4.10, there is great variation in the concentration of low-income households within the MPA.

Figure 4.11 shows median household income levels throughout the region by comparing the median household income of each census tract to the median household income of the Alexandria MSA, which was $41,305 (in 2014 dollars) from 2010-2014. This map suggests that the area north of I-49 and Grant parish are mostly low-income areas. On the other end of the spectrum, the areas between of LA 28 W and US 165 as well as between LA 28 E and LA 107 in Rapides parish appear to be relatively affluent.

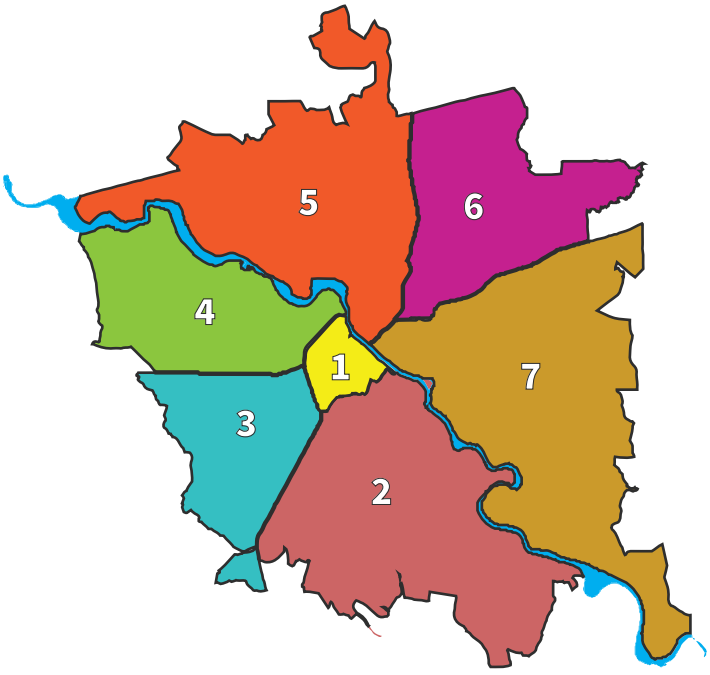
Figure 4.12 shows that the greatest concentration of people living in poverty are within the city of Alexandria, especially along I-49 corridor.

To adequately forecast future transportation needs, future projections of demographic variables are needed. In order to accomplish this effort, data from the U.S. Census and other demographic studies were analyzed to determine growth trends.

The 2015 TAZs were updated to include demographic forecasts used in the development of the current MTP and the Visioning Meetings. The comparisons of the historic forecasts along with an analysis of recent aerial photography, showing available land for future development, assisted in determining the location and timing of future growth within the MPA.

The MPA was divided into various planning sub-areas/ districts (See Figure 4.9) based on a combination of TAZs with similar population and employment density as well as proximity. Initially, MPA control totals were established for each data variable (using Woods and Poole data for Rapides Parish, the compound annual growth rate, Info USA 2015, and County Business Patterns 1998-2008 data), and were revised based on MPO Steering Committee comments.

Figure 4.9: MPA Planning Districts



The amount of change from 2015 to 2040 for each data variable was allocated to each sub-area. Thereafter, the amount of change for the subareas was allocated to individual TAZs based on available land for development using aerial imagery, current infrastructure, land use, accessibility, development potential, size of land parcels, land ownership and professional judgment.

The amount of change for the intermediate year of 2020 was also calculated for each TAZ in a similar manner. The 2030 change was calculated based on an interpolation between 2020 and 2040.

Alexandria/Pineville

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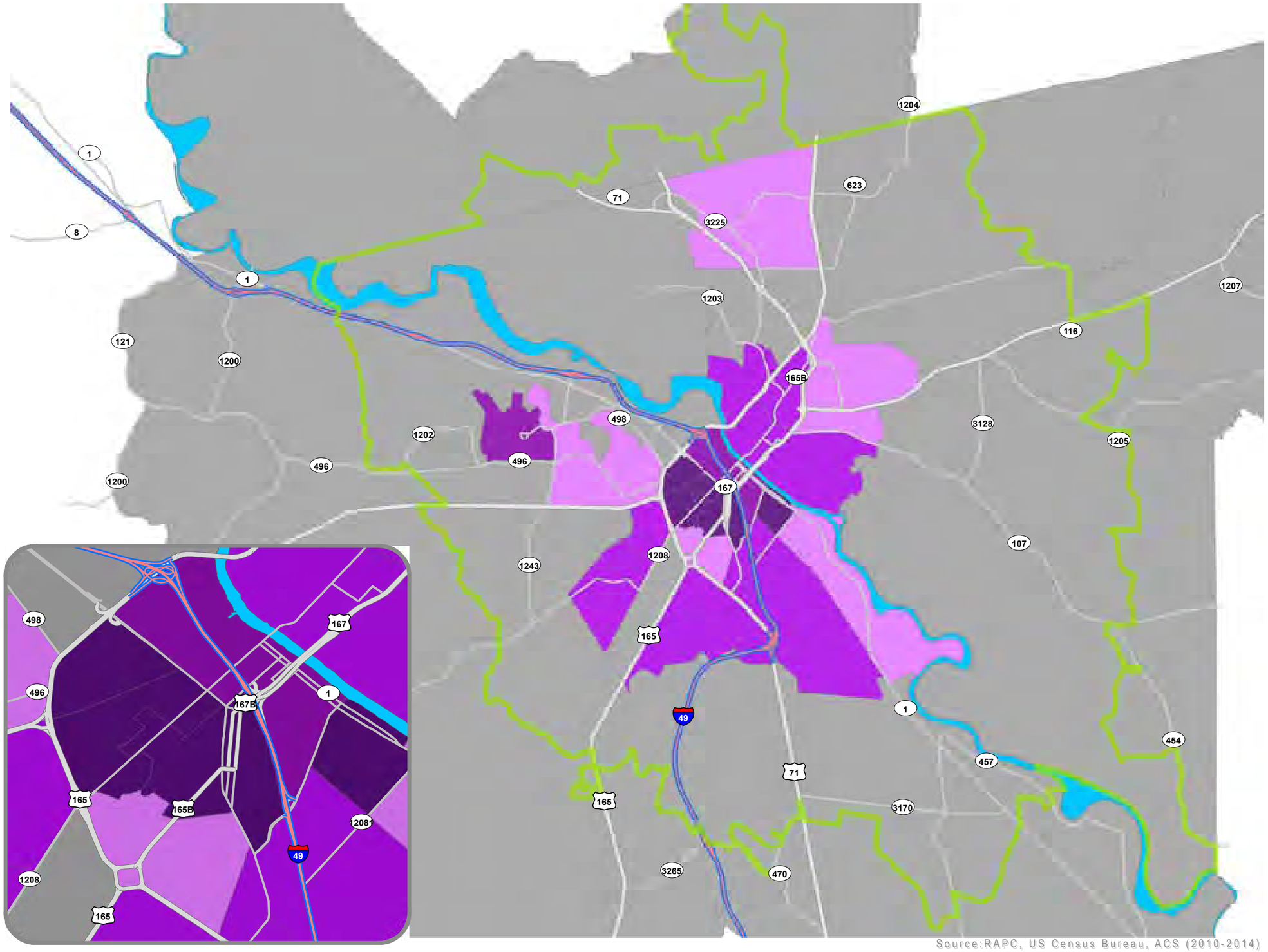
Figure 4.10

Low Income Households (Census Tract)



LEGEND

Low Income HHs / sq. Mile

- 0 - 25
- 26 - 50
- 51 - 100
- 101 - 200
- Above 200
- MPA
- Interstate
- Major Highway
- Minor Highway
- Red River

Low Income Housholds receving SNAP or Food Stamps: 8,517

0 1 2 4 Miles

N

PREPARED BY:

RAPC POTD

Source:RAPC, US Census Bureau, ACS (2010-2014)

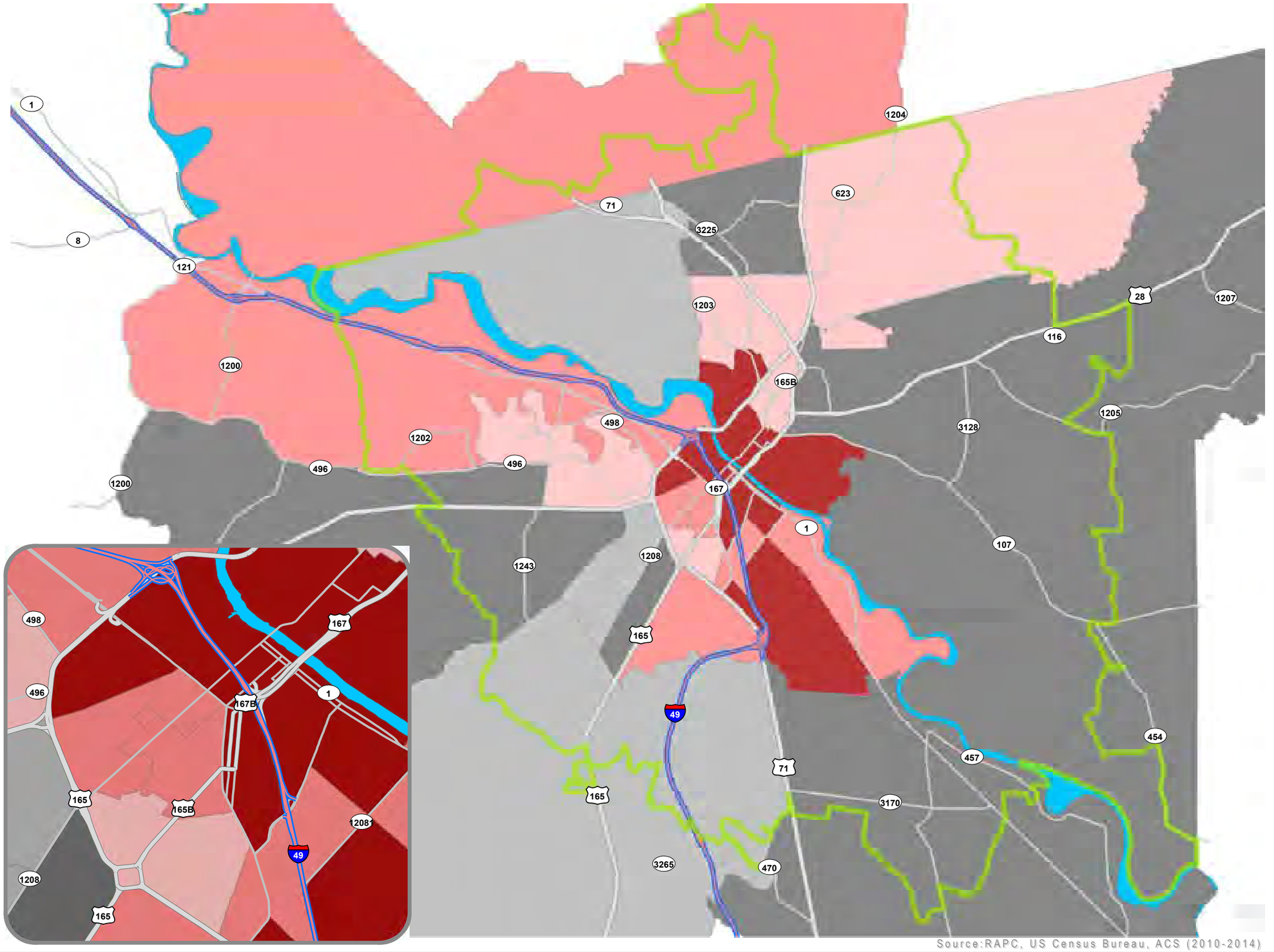
Date:08/15/2016

Alexandria/Pineville

Metropolitan Transportation Plan 2040

Figure 4.11

Household Income (Census Tract)



LEGEND

Median HH Income

- $19,055 - $24,174
- $24,174 - $36,513
- $36,513 - $44,583
- $44,583 - $53,214
- $53,214 - $66,439
- MPA
- Interstate
- Major Highway
- Minor Highway
- Red River

Average Median Household Income in the MPA: $39,437

0 1 2 4 Miles

N

PREPARED BY:

RAPC POTD

Source:RAPC, US Census Bureau, ACS (2010-2014)

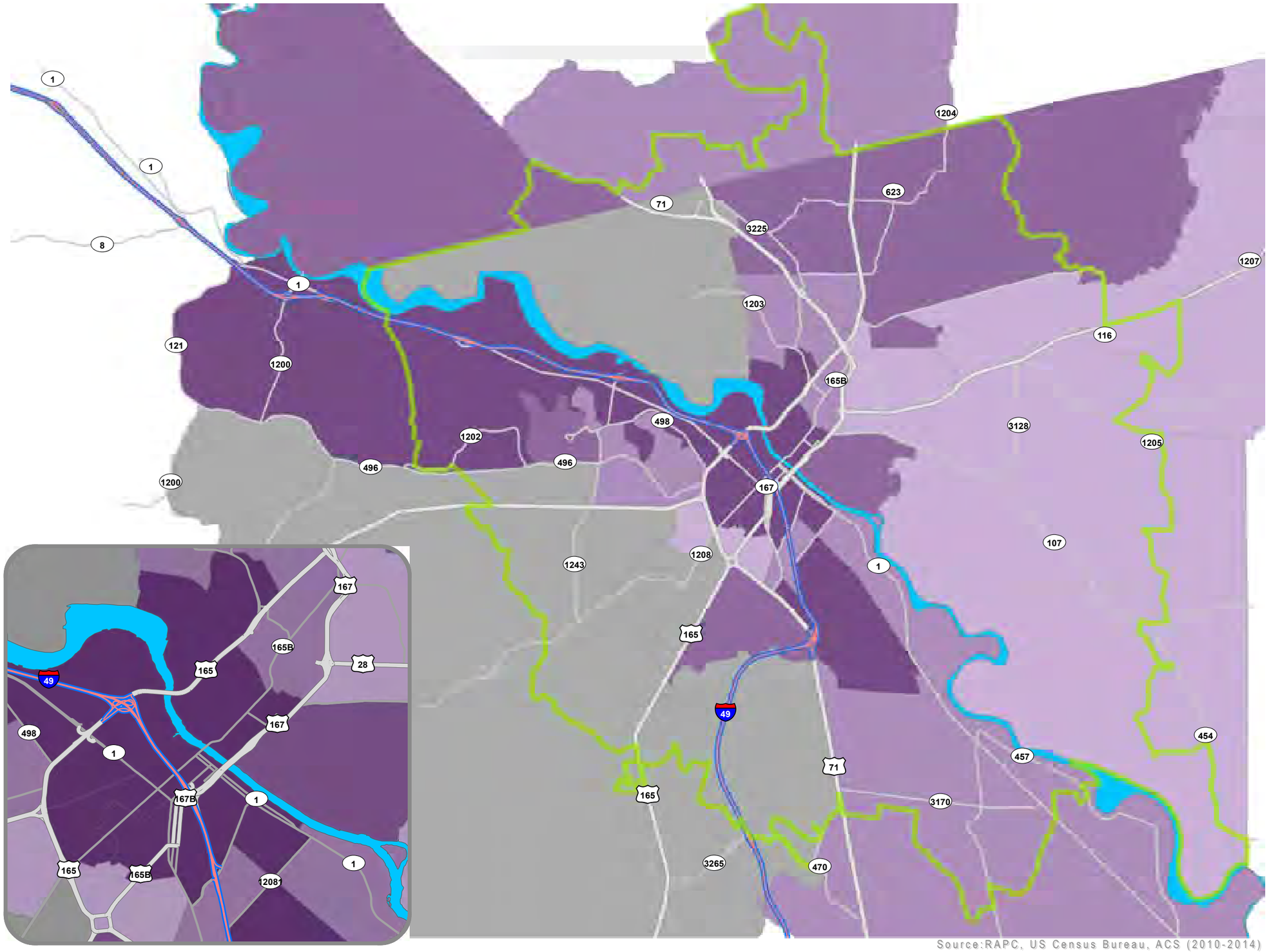
Date:08/15/2016

Alexandria/Pineville

Metropolitan Transportation Plan 2040

Figure 4.12

Concentration of People Below Poverty (Census Tracts)



Source:RAPC, US Census Bureau, ACS (2010-2014)

LEGEND

People below Poverty

- Below 10%
- 10.01% - 15%
- 15.01% - 25%
- 25.01% - 30%
- Above 30%
- MPA
- Interstate
- Major Highway
- Minor Highway
- Red River

Total percentage of people below poverty is: 21.3%

0 1 2 4 Miles

N

PREPARED BY:

RAPC DOTD

Date:08/15/2016

4.2.4 Employment Trends

Table 4.4 presents the forecast demographic data and employment data for the MPA, respectively. Figures 4.14 through 4.16 show the change from 2015 to 2040 for the population, dwelling units, and employment, by TAZ.

Employment data was tabulated using Info USA dataset. The location of employment centers has a major impact on travel in the area, particularly home-based work trips. Total employment in the MPA in 2015 was 58,170 with 11,916 being in retail.

For modeling purposes, employment variables were differentiated into the various categories as illustrated in Figure 4.13.

4.2.5 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 MPA in 2010 was 25,327 students. For modeling purposes, the school attendance is measured by the number of students attending a school in a traffic analysis zone and not by the number of students residing in a traffic analysis zone. The base year study area school attendance by TAZ is shown in Figure 4.17.

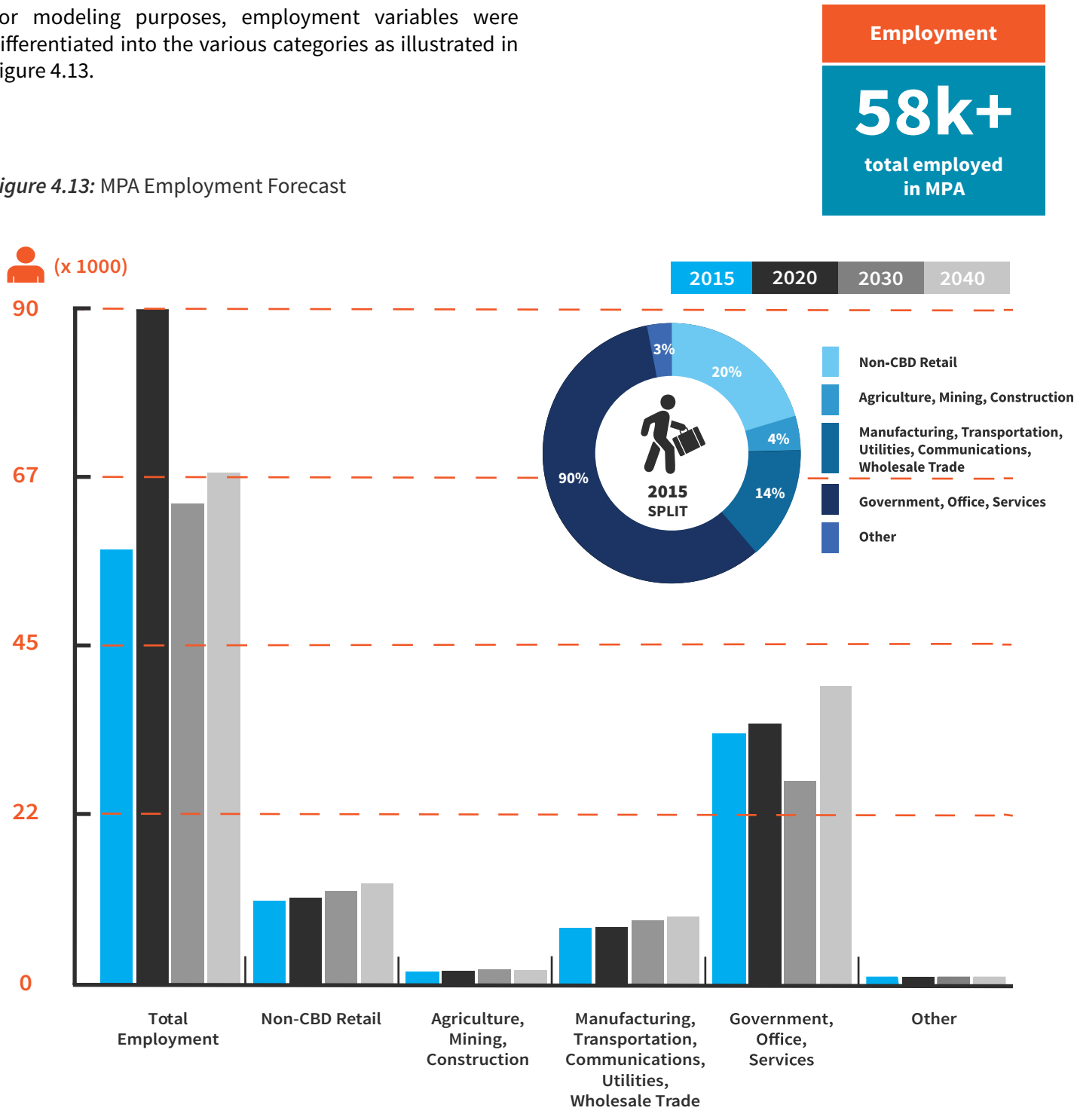


Figure 4.13: MPA Employment Forecast

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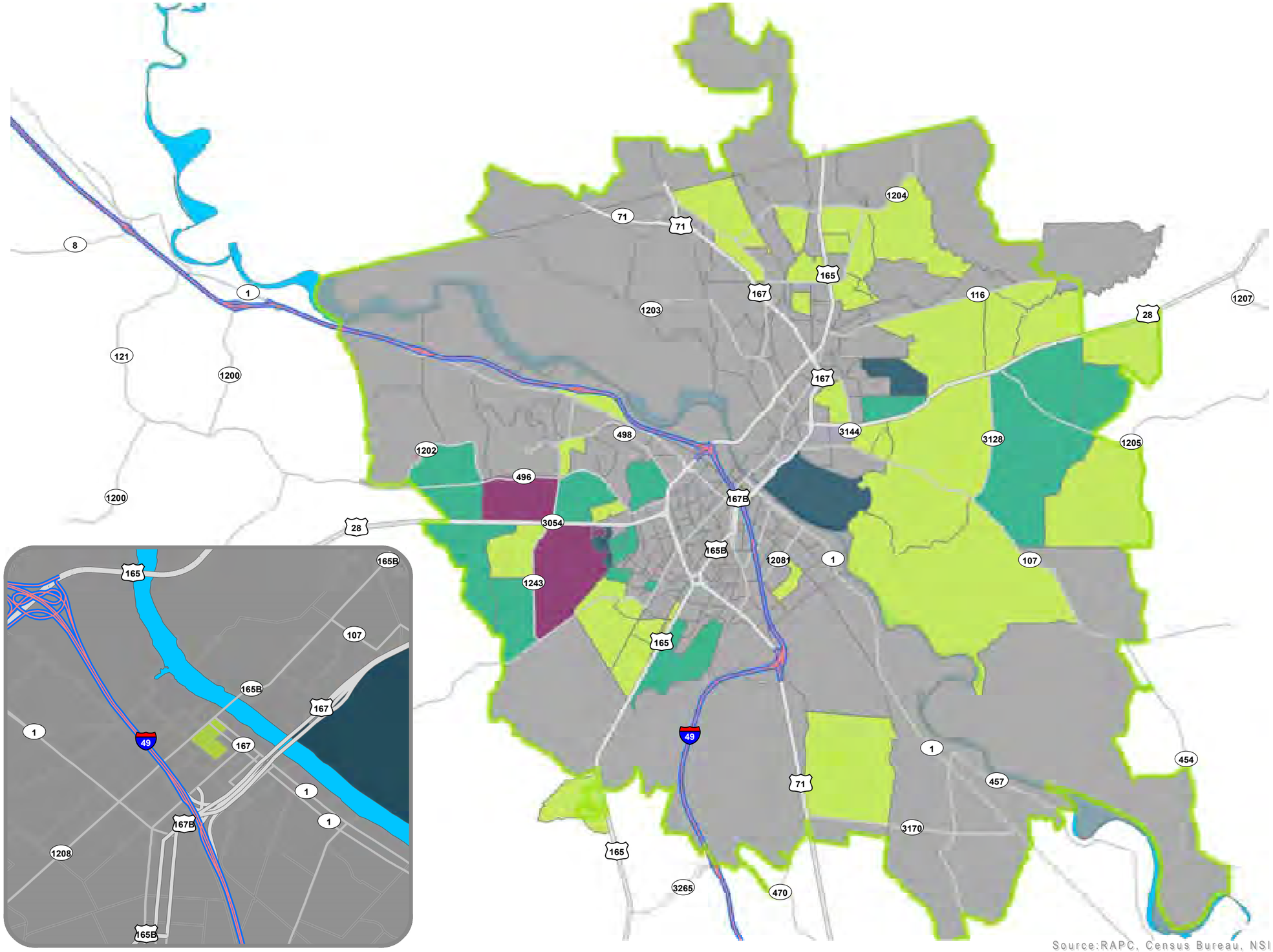
Figure 4.14

Change in Population (2015-2040)



LEGEND

Population Change

- 0 - 25
- 26 - 100
- 101 - 250
- 251 - 500
- Above 500
- MPA
- Interstate
- Major Highway
- Minor Highway
- TAZ
- Red River

From 2015 through 2040, the MPA population grew by 6,968 @ 6.5%

0 1 2 4 Miles

N

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RAPC DOTD

NEEL-SCHAFFER

Date:08/15/2016

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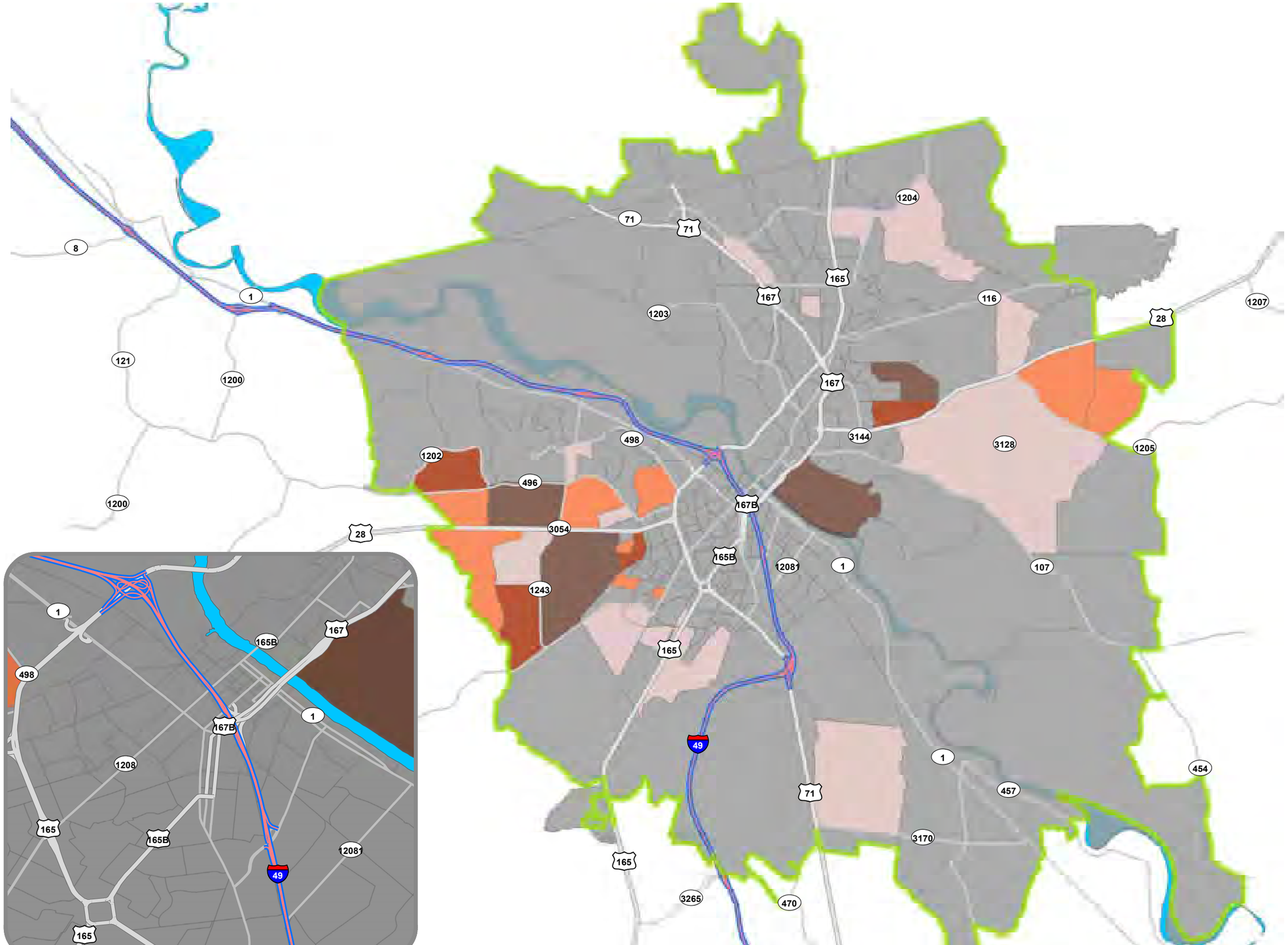
Figure 4.15

Change in Dwelling Units (2015 - 2040)



LEGEND

Dwelling Units Change

- 0 - 25
- 26 - 50
- 51 - 75
- 76 - 100
- Above 100
- MPA
- Interstate
- Major Highway
- Minor Highway
- TAZ
- Red River

From 2015 through 2040, the MPA DU's grew by 2,926 @ 6.6%

0 1 2 4 Miles

N

Source:RAPC, Census Bureau, NSI

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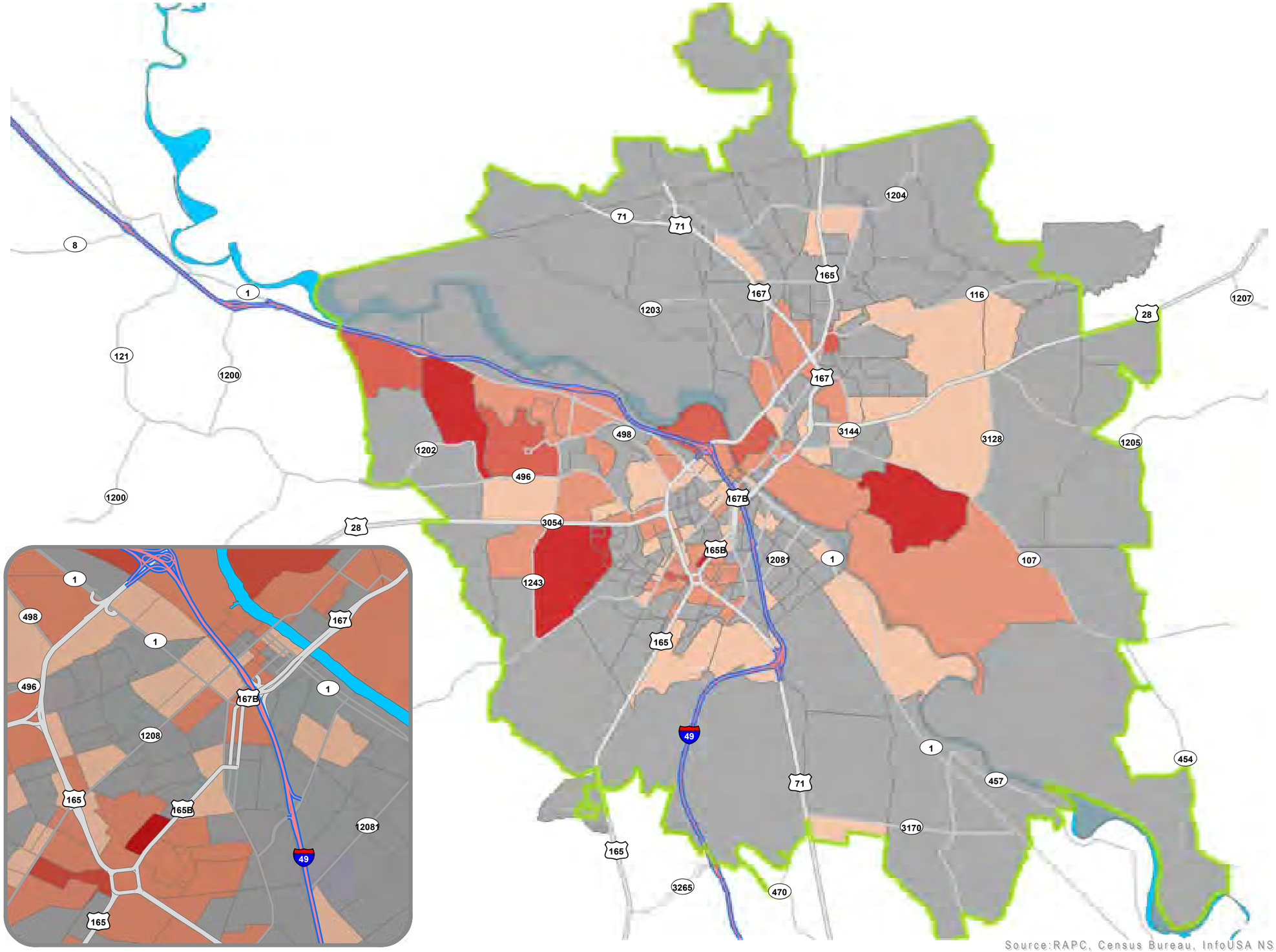
Figure 4.16

Change in Employment (2015 - 2040)



LEGEND

Employment Change

- Below 25
- 26 - 50
- 51 - 150
- 151 - 250
- Above 250
- MPA
- Interstate
- Major Highway
- Minor Highway
- TAZ
- Red River

From 2015 through 2040, the MPA employment grew by 10,300 @17.7%

0 1 2 4 Miles

N

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Source:RAPC, Census Bureau, InfoUSA NSI

Date:08/15/2016

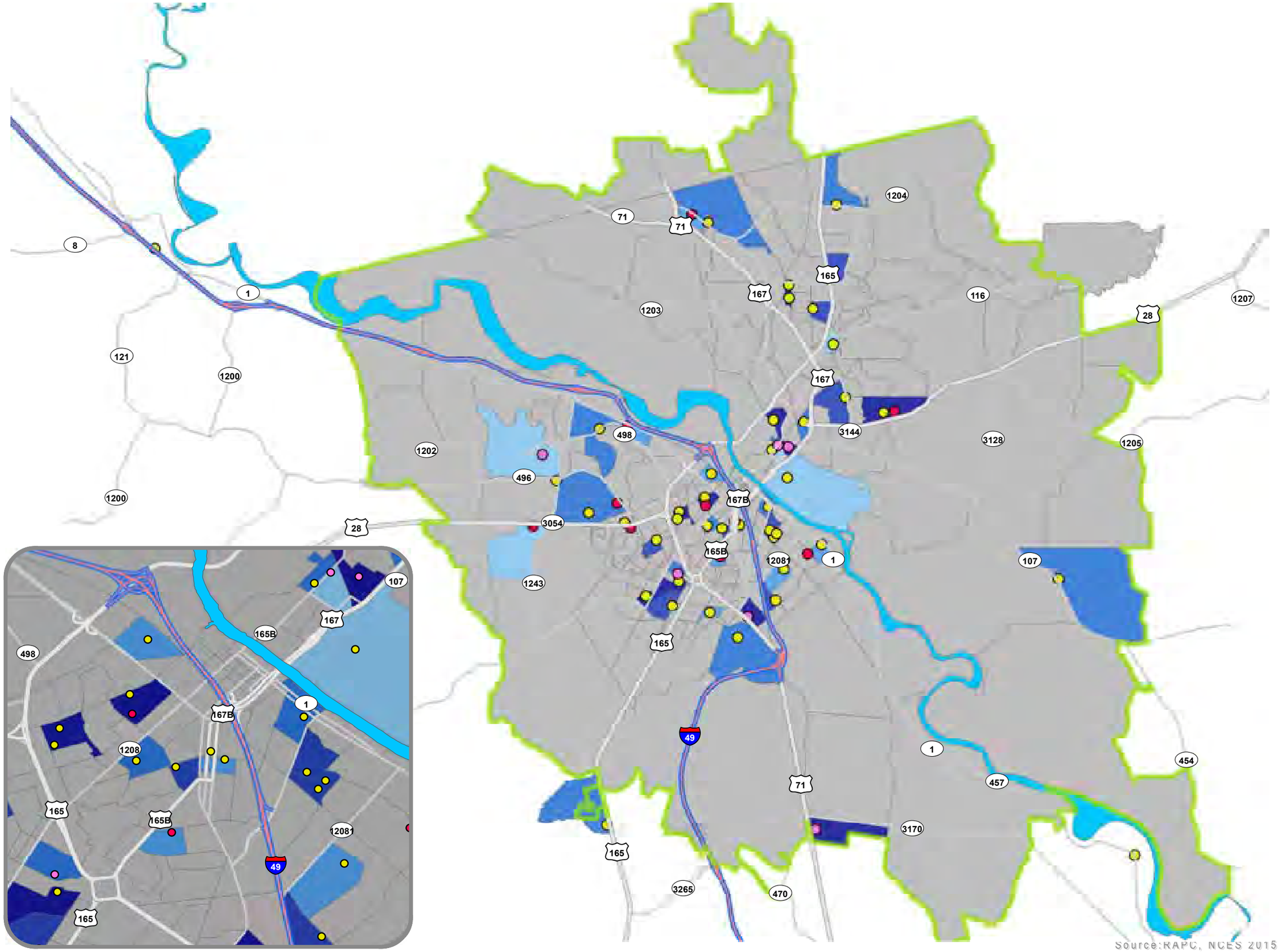

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Figure 4.17

School Attendance (2015)

LEGEND

School Enrollment

- < 50
- 51 - 100
- 101 - 250
- 251 - 500
- 501 - 750
- > 750
- MPA
- College
- Private School
- Public School
- Red River
- Interstate
- Major Highway
- Minor Highway
- TAZ

MPA Enrollment (2015): 25,327

0 1 2 4 Miles

N

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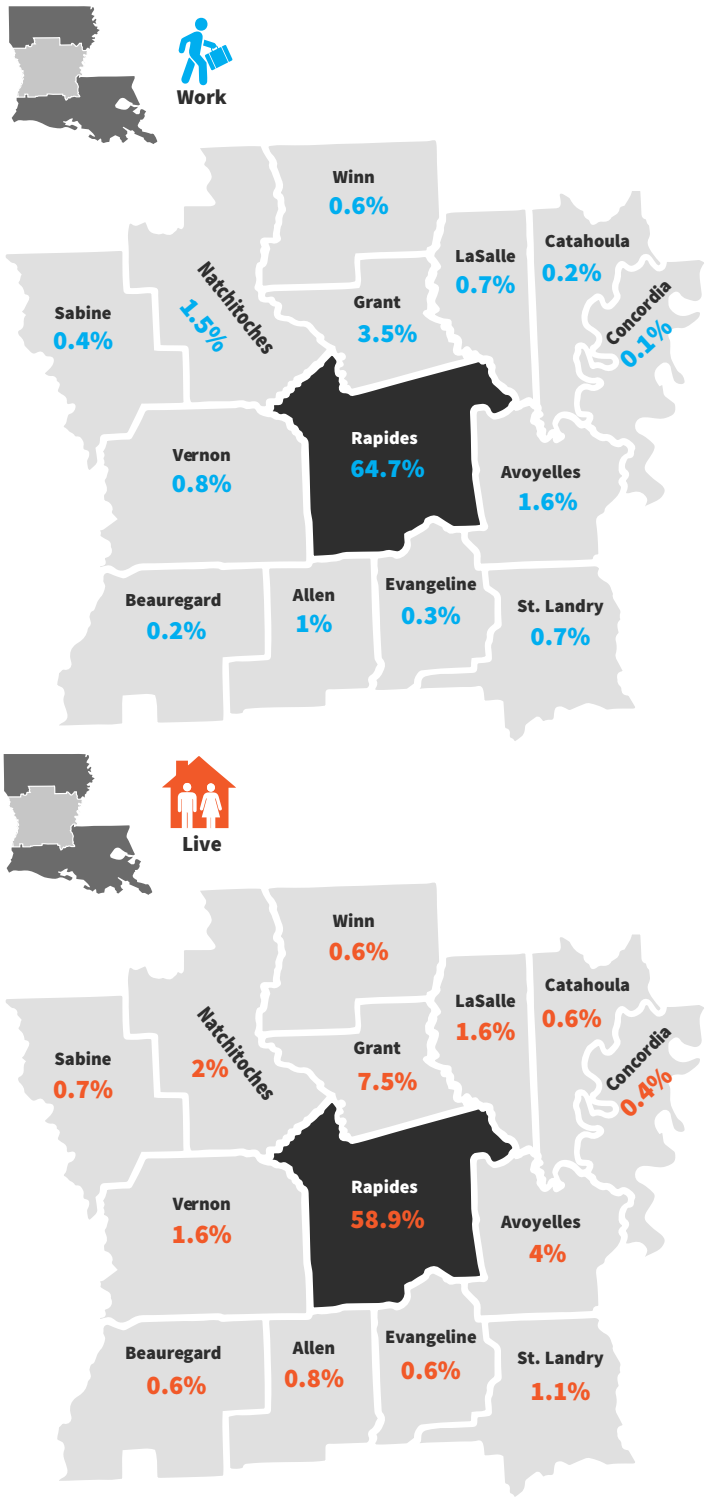
Source:RAPC, NCES 2015

Date:08/15/2016

4.2.6 Commute Patterns

Commuting patterns shed some light on travel patterns, even though work trips only account for approximately 20 percent of all trips. The Census Bureau's Longitudinal Employer-Household Dynamics (LEHD) program provides detailed commuting data. Commuting patterns from this dataset are illustrated in Figure 4.18 below.

Figure 4.18: Commuting Patterns for Rapides Parish



Source: U.S. Census Bureau Longitudinal Employer-Household Dynamics, 2014

Most MPA residents live in the two counties within the MPA. However, about 34 percent live outside the MPA, with adjacent Avoyelles Parish (4 percent), and Natchitoches Parish (2 percent) being the two largest outside destinations.

Similarly, most employees at 68% work within the MPA. The top two Parishes where employees work are Avoyelles Parish (1.6%) and Natchitoches Parish (1.5%). For some of the surrounding counties, especially the more rural counties, workers commuting to the Alexandria/Pineville MPA make up a significant percentage of their county's total workforce.

As illustrated in Figure 4.19, travel time to work is relatively short within the MPA. From 2010 to 2014, there were no census tracts where the mean travel time to work was over 34 minutes. Moreover, the mean travel time for the MPA is around 20 minutes. Virtually all workers reside in tracts that have mean commute times under 30 minutes. Commute times are shortest in tracts near major employment centers, such as the Alexandria CBD and the area around South Circle.

Table 4.3 shows that, from 2010 to 2014, just over 83 percent of commuters in the MPA drove alone to work and 9 percent carpooled. Walking and biking to work was uncommon, as was commuting by transit. However, there are areas where commuting by walking or by public transit are more likely to occur, as illustrated in Figure 4.20.

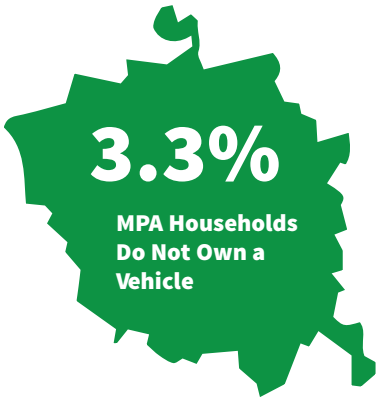
Table 4.3: Means of Transportation to Work in MPA

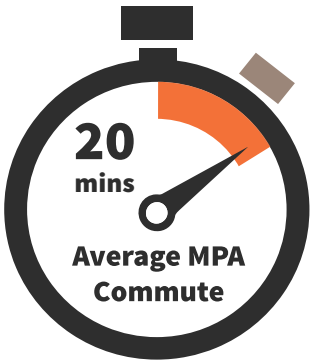
	Commuters	%
Total	51,243	100.0
Drove Alone	42,498	83.8%
Carpooled	4,661	9.1%
Other	873	1.3%
Walked	941	1.8%
Bicycled	256	0.5%
Rode Transit	845	1.6%
Worked at Home	973	1.9%

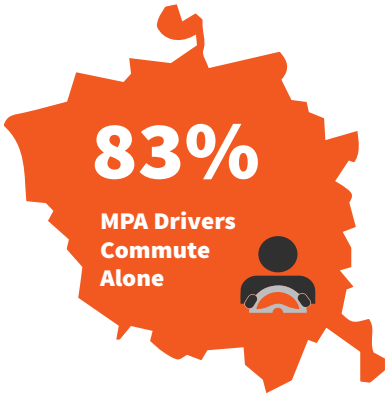
Source: 2010-2014 American Community Survey

Areas with higher rates of commuting by transit and walking are mostly located on either side of Red River in low-income tracts near the Alexandria CBD. These areas appear to somewhat relate to areas where a high percentage of households which lack regular access to a vehicle, as shown in Figure 4.21.

There are some areas in the MPA where over 20 percent of households do not have regular access to a vehicle. Overall though, about 3.3 percent of all MPA households do not have access to a vehicle.







4.2.7 Freight Patterns

While locally-serving freight trips only make up a portion of all freight trips, understanding local demand for freight within the MPA is critical for ensuring that the region's transportation system is moving goods in an efficient manner and enabling the region to be economically competitive.

The MPA is home to a large number of freight generating establishments that locate in the region for its:

- Multi-modal accessibility via one Interstate, three US highways, three major State highways, the Red River, UPRR/KCS rail lines;
- Cheap labor force; and
- Central location connecting the western and eastern markets of the country.

There are many industrial, wholesale trade, commercial, and other establishments in the MPA that generate freight truck trips. Figure 4.22 illustrates the number of freight trips generated by TAZ.

This map shows that there are several clusters of relatively high freight demand in the MPA. These areas include the US 165 commercial corridor, the I-49 industrial corridor; the LA 28 corridor and commercial areas along MacArthur Drive.

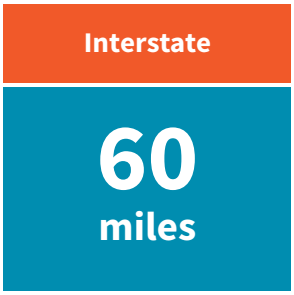


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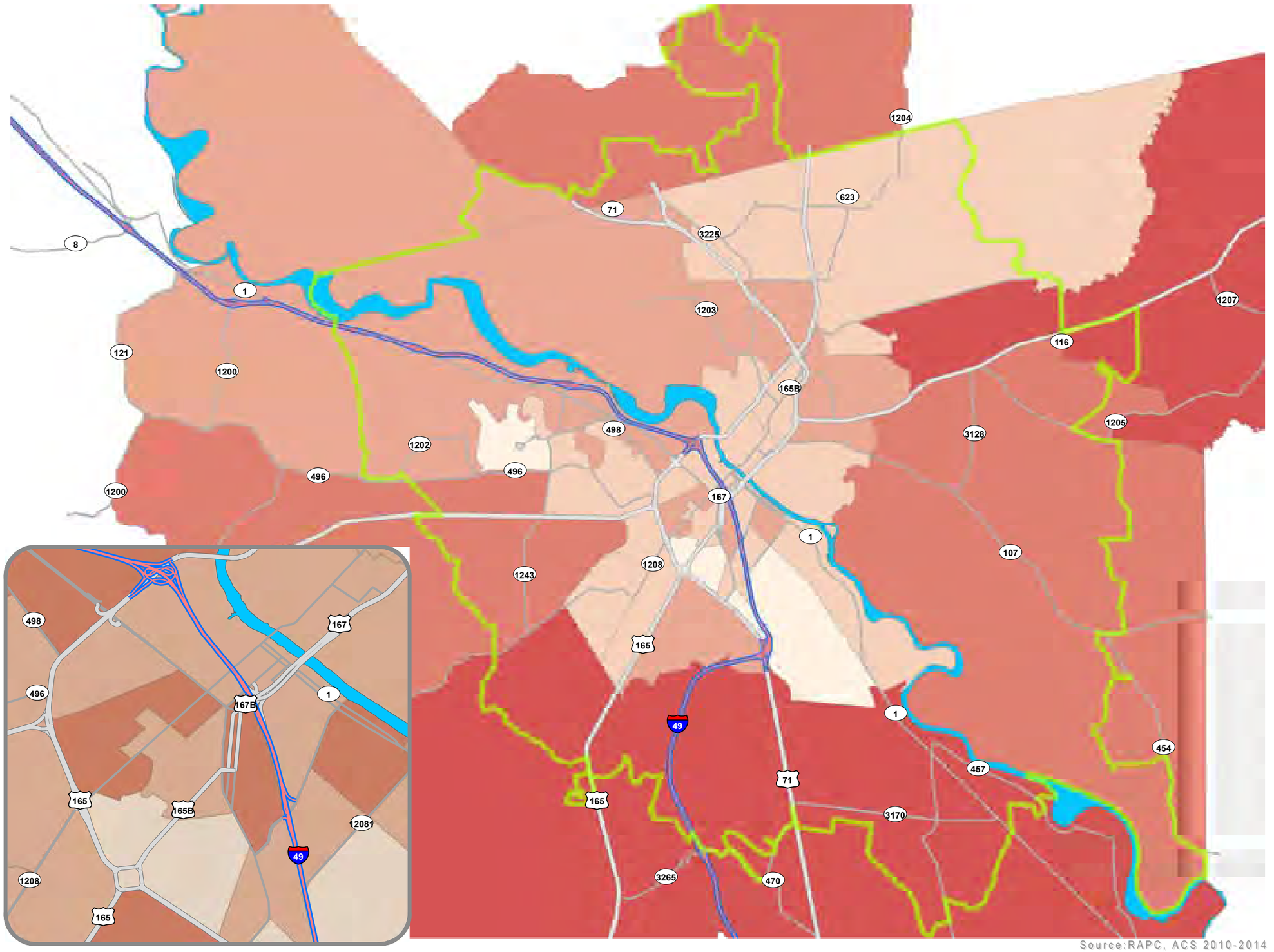
Figure 4.19

Mean Travel Time To Work (Census Tracts)



LEGEND

Mean Travel Time (minutes)

- 0 - 15
- 16 - 20
- 21 - 25
- 26 - 30
- 31 - 34
- MPA
- Interstate
- Major Highway
- Minor Highway
- Red River

Mean Travel Time to commute within the MPA: 20 minutes

0 1 2 4 Miles

N

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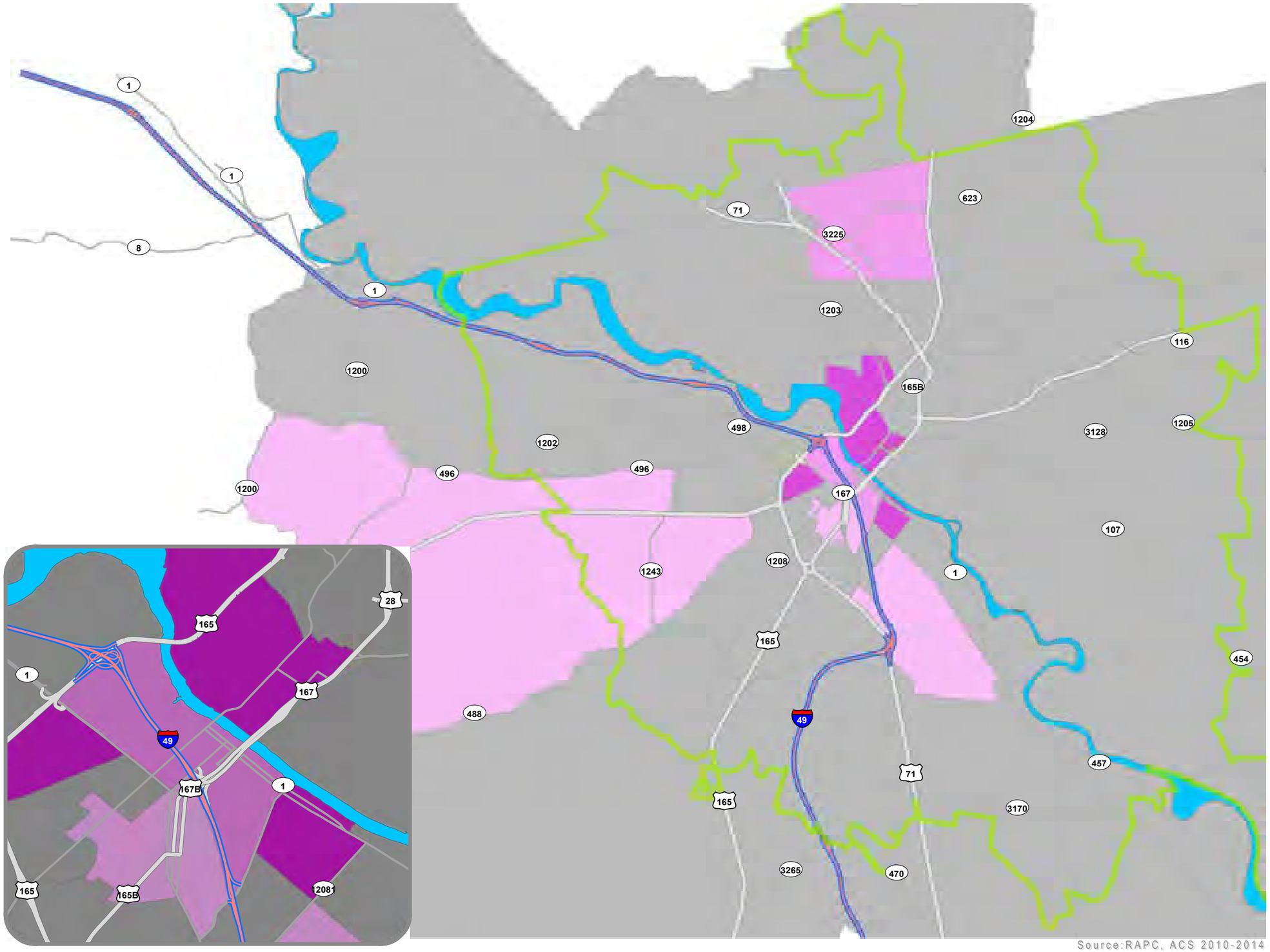
Figure 4.20

Workers Commuting By Transit or Walking (Census Tract)



Source:RAPC, ACS 2010-2014

LEGEND

Walk/Transit Commuters

- 0% - 5%
- 5.1% - 7%
- 71.% - 9%
- 9.1% - 12%
- Above 12%
- MPA
- Interstate
- Major Highway
- Minor Highway
- Red River

Commuters who either walk or take public transit: 1,540

0 1 2 4 Miles

N

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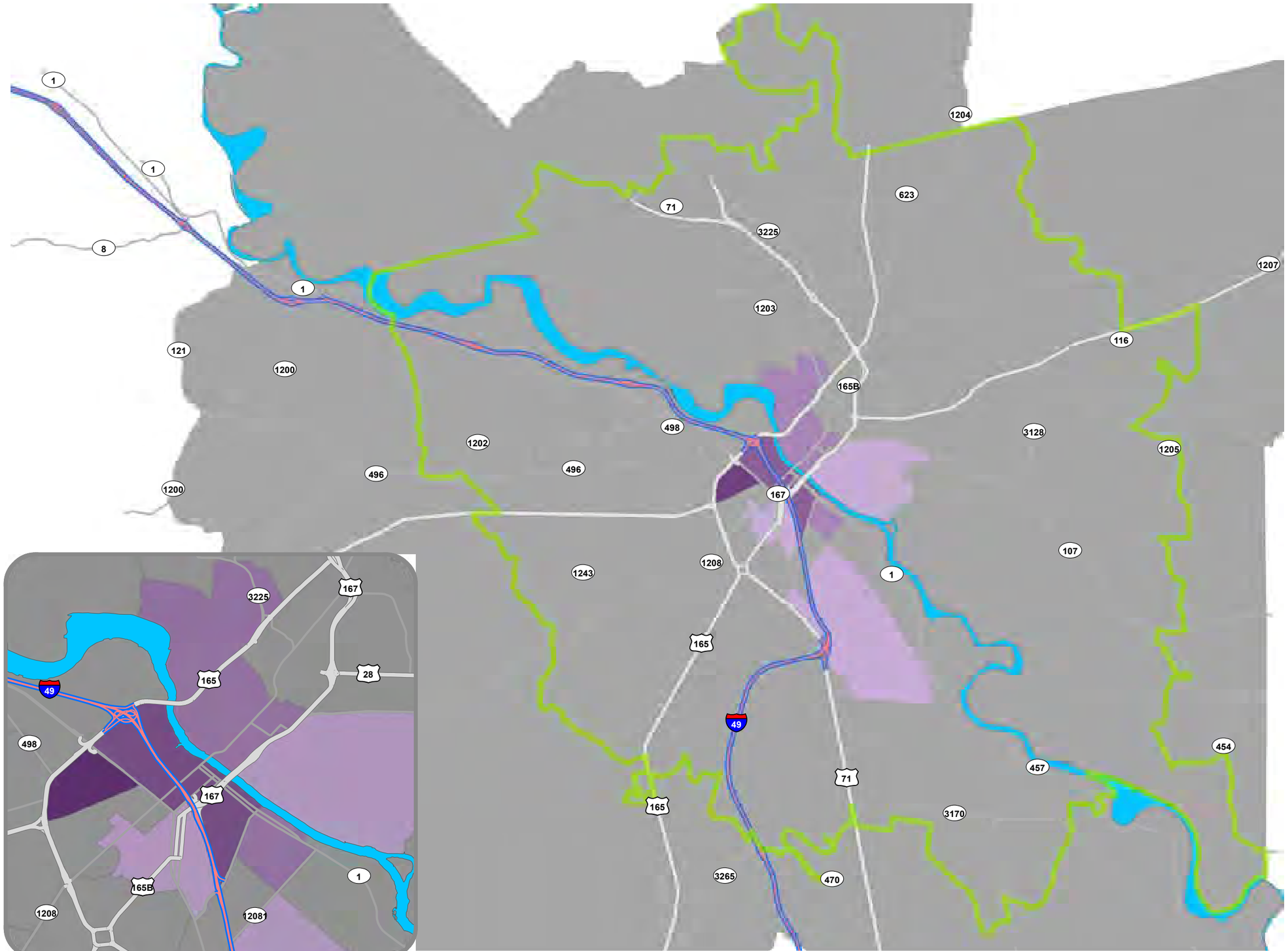
Figure 4.21

Households with No Access to Vehicles (Census Tracts)



Source:RAPC, ACS 2010-2014

LEGEND

Zero Vehicle HHs

- 0% - 5%
- 5.1% - 10%
- 10.1% - 15%
- 15.1% - 20%
- Above 20%
- MPA
- Interstate
- Major Highway
- Minor Highway
- Red River

Households with no access to vehicles: 1,499

0 1 2 4 Miles

N

PREPARED BY:

RAPC POTD

Date:08/15/2016

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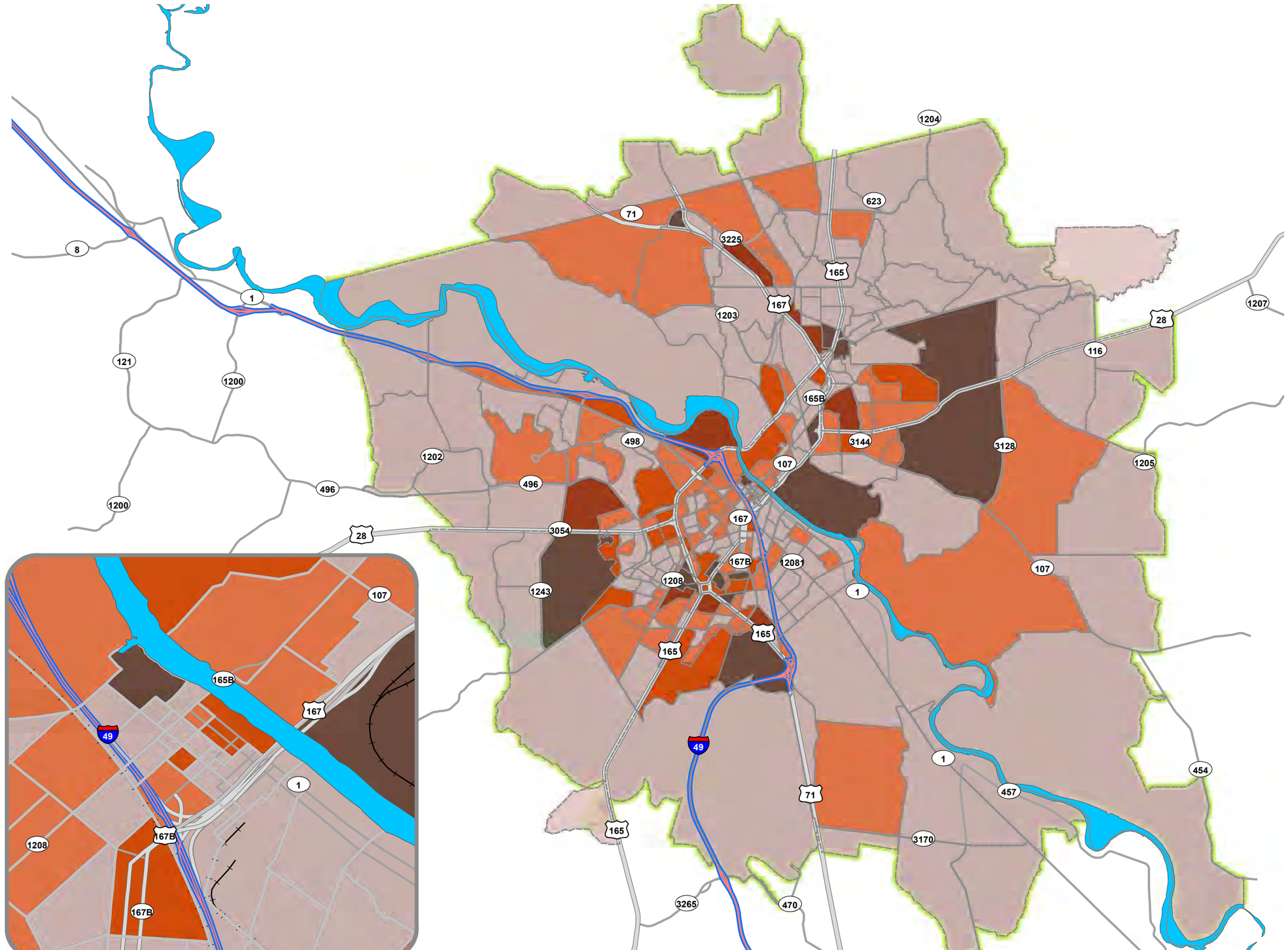
Figure 4.22

Freight Truck Trip Generation (2015)



LEGEND

Truck Trips by TAZ

- Least
- Most
- TAZ
- Red River
- Interstate
- Major Highway
- Minor Highway
- MPA

Daily Truck Trips Generated for MPA: 8,934

0 1 2 4 Miles

N

Source:APMPO Travel Demand Model, NSI, RAPC

PREPARED BY:

RAPC DOTD

NEEL-SCHAFFER

Date:08/15/2016

4.3 Forecasting Population and Employment Changes

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

4.3.1 Data Sources and County Control Totals

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

- *2010 Census provided population and housing information;*
- *proprietary employment point data obtained from InfoUSA provided detailed information on existing commercial establishments in the MPA, including the number of employees;*
- *school enrollment data was obtained from the U.S. Department of Education National Center for Education Statistics.*

Population and employment forecasts were developed at the parish level. These forecasts for the MPA were developed using a combination of projections, including historical projections and forecasts by Woods & Poole Economics, Inc.

4.3.2 TAZ-level forecasts

After developing the county forecasts, population, employment, and school enrollment were forecast for all TAZs in the MPO to 2020, 2030, and 2040. In the first step, the MTP Subcommittee, composed of planners, engineers, and other members of the MPO's Technical Committee, identified growth areas by different land use categories within the MPO.

Also, public input from the survey section pertaining to possible areas of growth were taken into consideration. The results of this exercise, illustrated in Figure 4.23, Vision Concepts Land Use, was used as a guide in developing forecast numbers at the TAZ level.

Next, a socio-economic forecasting model was developed based on the suitability and attractiveness of an area to develop. This model is summarized by the following steps:

- An area's maximum population and employment, or carrying capacity, is determined based on the amount of developable and re-developable land and the area's likely maximum density.
- Next, an area's attractiveness for residential, commercial/professional, and industrial development is calculated. There are three main factors considered, with varying sub-factors depending on the land use attractiveness being measured:
  - ***land develop-ability*** *– considering ease of land assembly, land parcel size and presence of flood zones;*
  - ***accessibility*** *– considered regional accessibility to employment and services, and proximity to major roadways, interstate interchanges, rail lines, inter-modal facilities; and*
  - ***future Demand*** *– considered proximity to major employment centers, retail clusters, industrial clusters, high-growth residential areas, and underserved commercial markets.*
- After an area's attractiveness for residential, commercial/professional, and industrial development is calculated, growth is allocated in an iterative process based on this attractiveness score. Iterations continue until the 2020, 2030, or 2040 control total are reached. Individual TAZs may max out before the control total is reached for a given year.

Employment

68%

work within MPA

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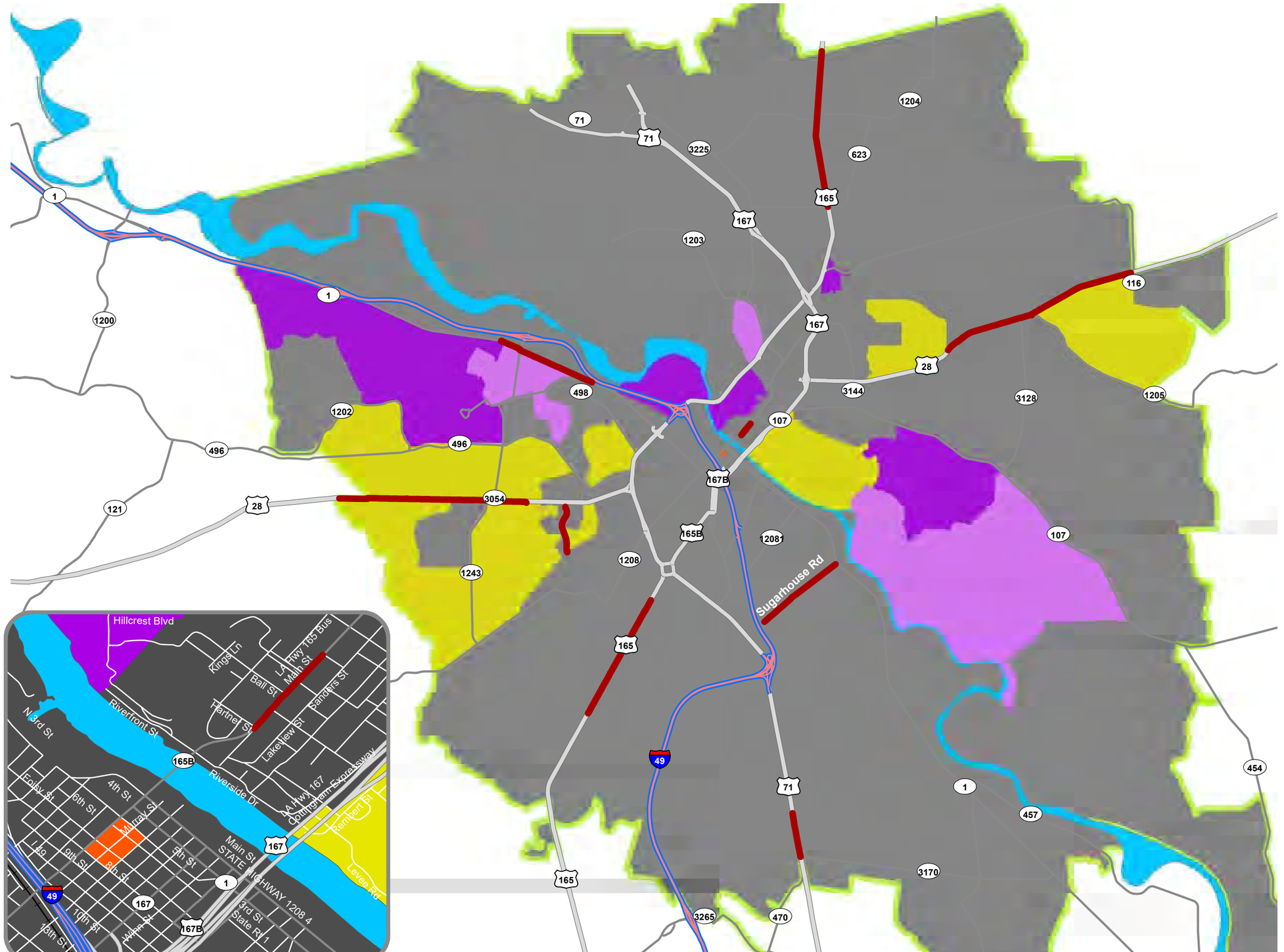
Figure 4.23

Vision Concepts
Land Use



LEGEND

- Educational
- Industrial
- Light Industrial
- Residential
- Commercial
- Interstate
- Major Highway
- Minor Highway
- Red River
- MPA

The Land Use concepts were direct input from citizens through survey as well as agency consultation

0 0.75 1.5 3 Miles

N

PREPARED BY:

RAPC DOTD

Source:RAPC, Census Bureau, Metro Quest, InfoUSA 2015

Date:08/15/2016

CHAPTER 5

Streets & Highways

5.1 Introduction

This chapter evaluates the most common mode of transportation in the MPA: the roadways. The chapter summarizes existing transportation infrastructure including roadways, and bridges. The chapter elaborates on the existing realm in terms of pavement/bridge conditions, and roadway congestion. Also, the chapter highlights the process utilized in forecasting future travel demand and illustrates transportation concepts captured through public input. Finally, the chapter analyzes roadway network deficiency showing congestion if only existing plus committed projects are pursued in the MTP's 25 year time-frame. The chapter ends discussing strategies to address roadway needs. The next chapter focuses on public transit.

Planning future transportation system improvements starts with the evaluation of the existing transportation system and its needs. This chapter identifies the conditions of the existing transportation system, determines the system's needs through deficiency analysis of current and future conditions, and recommends a planned improvement program to address those needs.

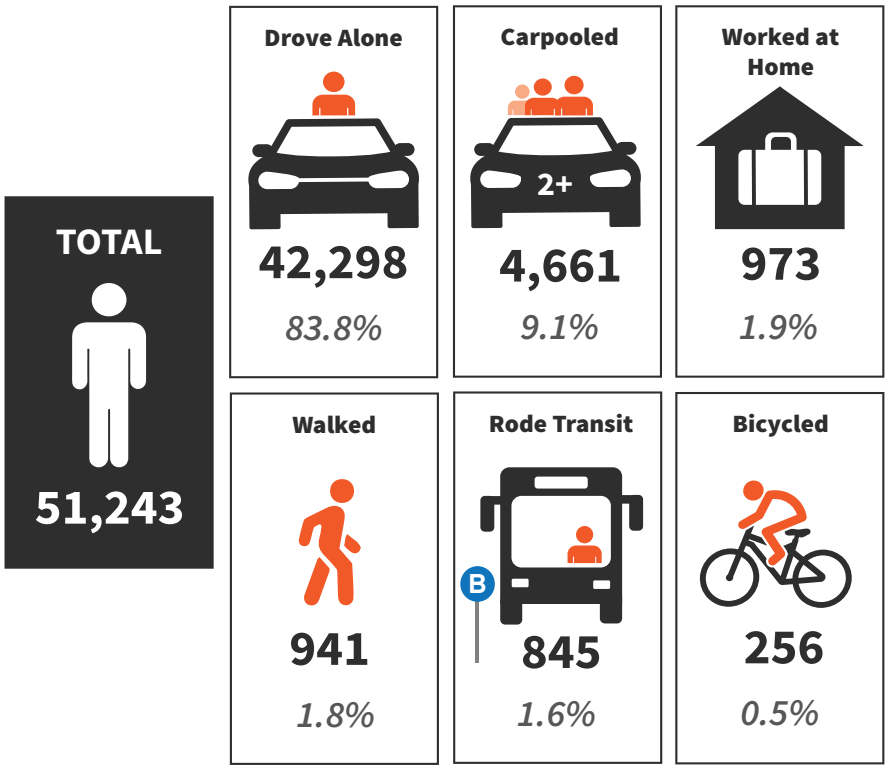
The predominant mode of transportation for people living in the Alexandria/Pineville MPA is by single-occupancy vehicle travel. Figure 5.1 shows the percentage of travel by different transportation modes.

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

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

Regional roadways provide right of way for buses, making the roadway network an integral part of the public transit system. In addition, roadways are also used for bicycle travel. Despite the need to emphasize multi-modal transportation system and travel demand management (TDM) strategies (in order to reduce vehicular demand to improve air quality and reduce congestion), roadways remain a primary component in addressing the region's transportation needs.

Figure 5.1: Distribution of Travel by Transportation Mode



Source: American Community Survey 5-Year Estimates (2010 - 2014)

5.2 Existing Transportation Network (2015)

5.2.1 State and Federal Highways

Several Federal and state highways serve the MPA. These facilities constitute the main network of roadways in the area. The most significant of these facilities are illustrated in Table 5.1.

5.2.2 Existing Functional Classification

Regarding TransCAD model development, the street and highway network was based on the functional classification system prepared by the LADOTD (Figure 5.2). The system was updated with the most recent functional classification maps provided by LADOTD to reflect the expanded urbanized area defined by the 2010 Census.

The components of this network are interstates, freeways, expressways, principal arterials, minor arterials, and collectors. The distribution of mileage in these categories is shown in Table 5.2.

Table 5.2: MPA Roadway Mileage by Functional Class

Classification	Total Centerline Miles	%
Interstates	16.20	4.38
Expressway	7.29	1.97
Principal Arterial	78.57	21.23
Minor Arterial	82.79	22.37
Collector	185.21	50.05
Total	**370.06**	**100.00**

Source: APMPO Travel Demand Model

Table 5.1: Most Significant Roadway Facilities in the MPA:

	**The existing I-49 Interstate connects Lafayette, LA to Shreveport, LA. Future I-49 extensions are underway to connect New Orleans, LA to the south and Kansas City, MO to the north.**
 	**These Federal highways traverse the MPA from southeast to northwest. US 71 connects the MPA via US 190 to Baton Rouge, LA to the south and to Shreveport, LA to the north. US 167 connects Lafayette, LA to the south and Ruston, LA to the north.**
	**This Federal highway crosses the MPA from southwest to northeast. It connects to Lake Charles, LA to the south and Monroe, LA to the north.**
	**Prior to the construction of the Interstate Highway System, this state highway was the major northwest/southeast route, commencing at the Texas/Arkansas state line and proceeding southeasterly to Grand Isle.**
	**This highway commences in Leesville, LA and proceeds easterly through the MPA.**
	**There are numerous other state highways, which serve the MPA and carry relatively high volumes of traffic. The major state highways include: LA 107, LA 3225, LA 3170, LA 496, LA 498, LA 488, LA 116, LA 1208-3, LA 623, and LA 1204.**

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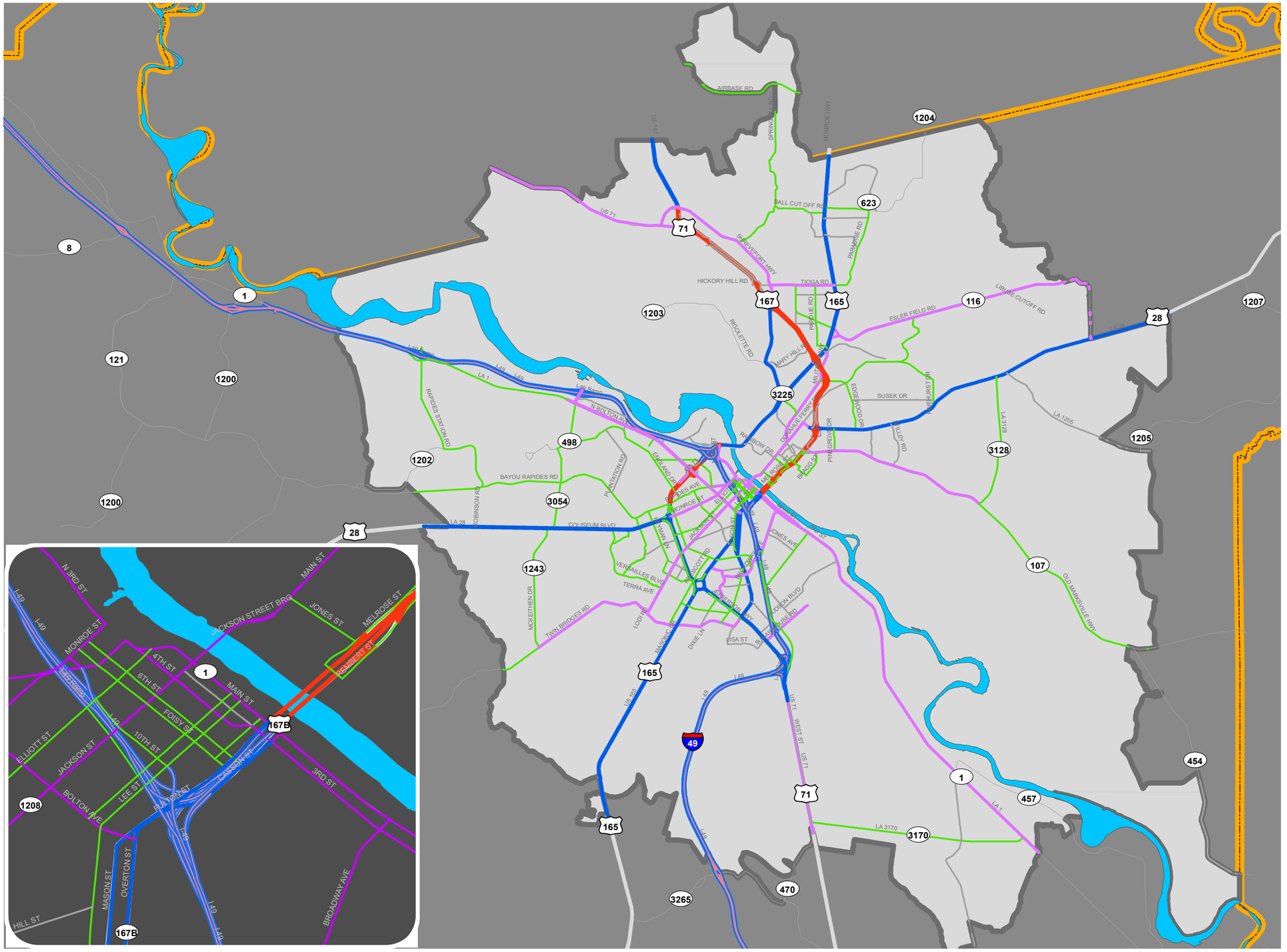
Figure 5.2

Roadway Functional Classification



Source:RAPC, LADOTD

LEGEND

- Interstate
- Expressway
- Principal Arterial
- Minor Arterial
- Major Collector
- Minor Collector
- Red River
- MPA
- Rapides Parish

Total centerline miles for roadway network within MPA: 370 miles.

0 1 2 4 Miles

N

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RAPC DOTD

Date:08/15/2016

Each type of facility provides separate and distinct traffic service functions and is best suited for accommodating particular demands. Their designs also vary in accordance with the characteristics of traffic served by the facility.

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

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

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

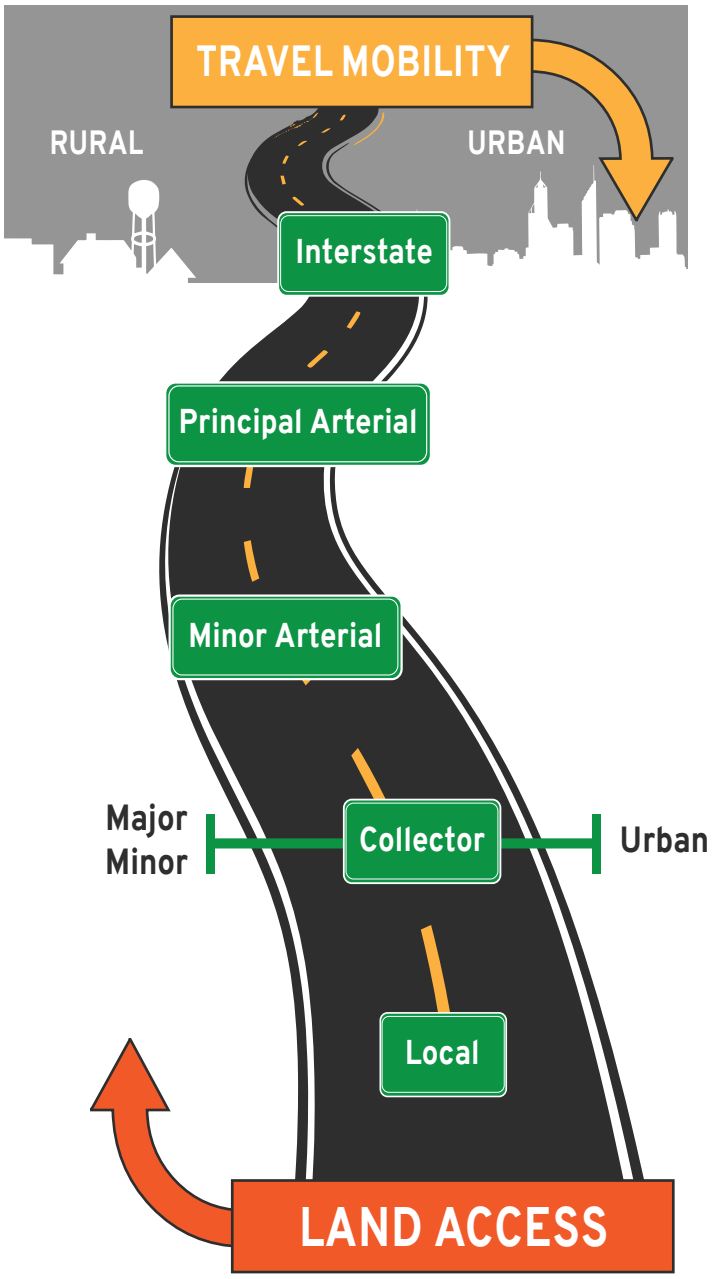
Collectors:
These facilities provide both land service and traffic movement functions. Collectors serve as intermediate feeders between arterials and local streets and primarily accommodate short distance trips. Since collector streets are not intended to accommodate long through trips, they are generally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

Local Streets:
The sole function of these facilities is to provide access to immediately adjacent land. Within the local street classification, three subclasses are established to indicate the type of area served: residential, industrial, and commercial. Some of the local streets have been included in the model network for the purpose of connectivity.

Figure 8.11 illustrates the relationship of functionally classified roadway systems in serving traffic mobility and land access.

Highways provide a high level of mobility and greater degree of access control while local roads provide a high level of access to adjacent properties, but a low level of mobility. Collectors provide a balance between mobility and land access.

Figure 5.3: How Roads Function



Source: Safety, Effectiveness of Highway Design Features, FHWA (1992)

Pavement Conditions

Maintaining sufficient pavement conditions ensure that roadways operate at their full capacities and provide roadway users with safer, more comfortable travel experiences that minimize vehicle wear and tear.

Results from the 2040 MTP public input meeting (Round 2) showed that maintain the existing transportation system is one of the citizen's top priorities. In a funding allocation exercise where the public was asked to allocate future transportation dollars by improvement type, the public allocated over one-fifth of all funding to maintaining existing transportation infrastructure including both roads and bridges.

As part of the implementation of the MAP-21 as well as FAST Act, pavement condition performance monitoring will be required by MPOs in the near future. The proposed performance measures classify pavement conditions using a combination of data from the HPMS, including IRI, cracking, rutting, and faulting. All pavements on the NHS will be classified as either in good, fair, or poor condition.

At the time of report making, the MPO was in the process of getting pavement condition data from Fugro. The MPO allocated additional dollars to cover local roadways in addition to the roadways traversed under the State-wide contract. The pavement data will form the cornerstone for prioritization of maintenance projects in the future for the MPO.

Commuters

83%

drive alone

Bridge Conditions

Bridges are an essential component of the overall transportation network, serving as important connections over waterways, providing grade separation between roadways and other transportation facilities, and connecting transportation facilities to each other. Bridges must be maintained and upgraded as needed to ensure that they are not serving as safety or environmental hazards, bottlenecks, or limitations to freight movement.

As previously mentioned, results from the 2040 MTP public input meeting showed that the public places a high priority on maintaining the current transportation system including bridges.

There are nearly 270 bridges within, or within close proximity to the MPA. Most of these are crossing waterways, but there are also many structures crossing over other roadways and railroads. According to National Bridge Inventory (NBI) data, and the KCS Railroad overpass is the only bridge eligible for historic significance in the MPA inventory.

Traffic, Congestion, and Reliability

The number of daily trips by trip purpose in 2015, as estimated by the Travel Demand Model is summarized in Table 5.3. This data shows that just over one in five vehicle trips is originating outside of the MPA and that internal commercial and truck vehicle trips (e.g., freight, taxi, etc.) account for about one in thirteen vehicle trips. Most household vehicle trips originating in the MPA begin or end at home.

Table 5.3: Travel Distribution by Trip Purpose

Trip Purpose	Trips	Type
HBW	79,055	Person Trips
HBO	181,479	Person Trips
NHB	89,585	Person Trips
CMVEH	45,909	Vehicle Trips
TRK	8,935	Vehicle Trips
Internal Trips Total	**404,963**	
EIAUTO	92,965	Vehicle Trips
EITRK	10,592	Vehicle Trips
EEAUTO	20,217	Vehicle Trips
EETRK	2,922	Vehicle Trips
External Trips Total	**126,696**	
Total Daily Trips	**531,659**	

Source: AP MPO Travel Demand Mode, NSI

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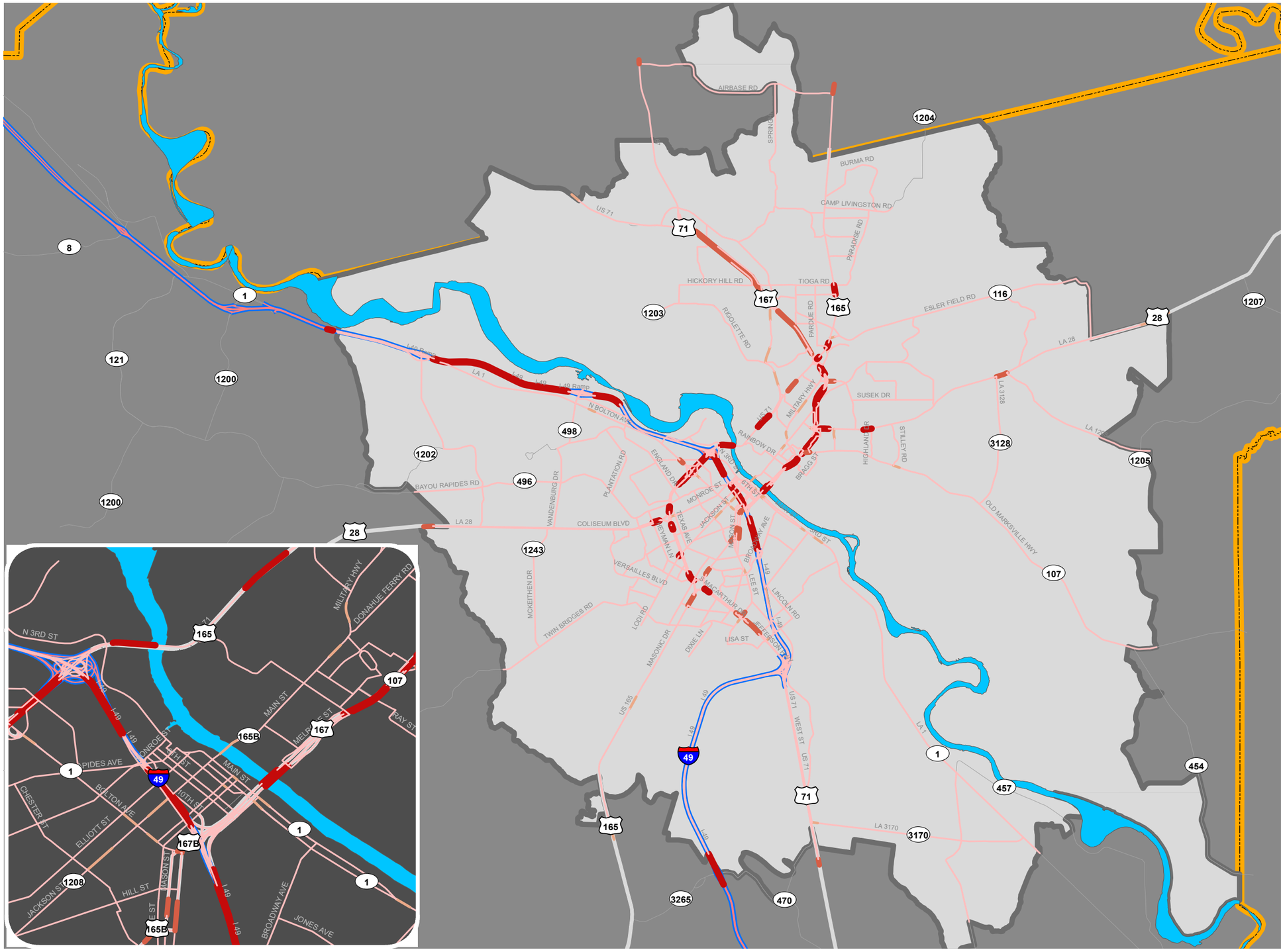
Figure 5.4

Average Daily Traffic (2015)



Source: LADOTD, RAPC, NSI

LEGEND

Avg. Daily Traffic

- Below 5,000
- 5001 - 10000
- 10001 - 20000
- Above 20,000
- Red River
- MPA
- Rapides Parish

Highest traffic volumes ply on US 71, I-49, LA 28, US 167 and US 165

0 1 2 4 Miles

N

PREPARED BY:

RAPC DOTD

NEEL-SCHAFFER

Date:08/15/2016

Alexandria/Pineville

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Figure 5.5
Existing Network Roadway Congestion (2015)

Source:RAPC, APMPO Travel Demand Model, NSI

LEGEND

Volume/Capacity Ratio

- 0.00 to 0.25
- 0.26 to 0.50
- 0.51 to 0.75
- 0.76 to 1.00
- Above 1.00
- Red River
- MPA

Volume/Capacity ratio denotes congestion. V/C >1 is highly congested.

0 1 2 4 Miles

N

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NEEL-SCHAFFER

Date:08/15/2016

A travel demand model needs validation to ensure that the model is performing within the limits that define acceptable range. Overall, cumulative model volume for all network links associated with the LADOTD traffic count locations (1,495,252) differed from total model estimated ADT (1,565,370) by 4.7 percent, which is within the allowable error limit of five percent.

Validation results by functional classification and by ADT are shown in Table 5.4 and Table 5.5 respectively.

Table 5.4: Validation of Base-Year Model by Roadway Functional Class

Functional Class	Total Count[1]	Total Model Volume[2]	% Dev Limit[3]	% Dev
INTERSTATE/ FREEWAY	190,144	187,765	+/- 7.0	-1.3
EXPRESSWAY	299,656	310,260	+/- 10.0	3.5
PRINCIPAL ARTERIAL	636,102	660,388	+/- 10.0	3.8
MINOR ARTERIAL	233,658	262,496	+/- 15.0	12.3
COLLECTOR/ LOCAL	114,934	123,703	+/- 25.0	7.6
Total	**1,495,252**	**1,565,370**	**+/- 5.0**	**4.7**

Figure 5.3 confirms that vehicular traffic in the MPA is greatest on I-49, US 165, US 167, US 71 N and LA 28 E. These areas have estimated average daily volumes exceeding 20,000 vehicles.

Traffic is better understood when roadway capacities are taken into account. Volume to capacity (V/C) ratios are often used to illustrate congestion on roadway segments. Figure 5.4 shows these V/C ratios for the major roadways in the MPA. Currently only twelve roadway segments, summarized in Table 11.7, exceed a V/C ratio of 1.00. These thirteen segments are mostly near the intersections of roadways and/or at interstate interchanges with high traffic volumes with a V/C ratio range of 1.00 to 2.01. This suggests that peak period congestion is currently an issue in the MPA.

Table 5.6: Roadway Segments with Volume/Capacity Ratio Above 1 (2015)

Roadway	From/To	Length (miles)
US 167	LA 1 to LA 28 E	2.5
US 165/US 71	I-49 to Claiborne St.	2.23
LA 107	Pinegrove Dr. to Stilley Rd.	1.2
US 71	LA 28 W to LA 1	1.2
South Circle	All Arms	1
US 71	Jefferson Hwy to Rigolette Rd.	0.80
LA 107	Papermill Rd. to JA Whelan Rd.	0.80
US 165	US 167 to Pinecrest Dr.	0.65
US 165 B	Reagan St. to College Blvd.	0.45
US 165 B	LA 1 to Jones St.	0.40
LA 3144	US 167 to Donahue Ferry Rd.	0.40
LA 28 E	US 167 to Hillcrest Dr.	0.25
On-Ramp	I-49 and Broadway Ave.	0.10

Source: APMPO Travel Demand Mode, NSI

Table 5.5: Validation of Base-Year Model by ADT Group

ADT Range	Total Count[1]	Total Model Volume[2]	% Dev Limit[3]	% Dev	% RMSE Limit[4]	% RMSE
ADT < 5,000	110,927	148,642	+/- 50.0	34.0	115.8	72.4
5,000<= ADT < 10,000	321,489	369,434	+/- 25.0	14.9	43.1	39.6
10,000<= ADT < 20,000	556,050	546,494	+/- 20.0	-1.7	28.3	14.6
ADT >= 20,000	506,786	500,801	+/- 15.0	-1.2	25.4	15.4
Total	**1,495,252**	**1,565,370**	**+/- 5.0**	**4.7**	**40.0**	**25.4**

Source: AP MPO Travel Demand Mode, NSI

Public Perception/Input

Some very interesting facts emerged from the analysis of the online survey results pertaining to current transportation infrastructure and traffic.

Figure 5.6, shows the congestion related bottlenecks in the MPA along with location of areas which need bus shelters and transit service. The citizens were very particular on alleviating current congestion as a top priority for the 2040 MTP.

Also, the public input captured possible future solutions to existing problems including, turn lanes, new bridge locations, road couplets, road widening, roundabouts, new roadways, widening shoulders etc. Figure 5.7, illustrates the transportation vision concepts through the lens of the public.

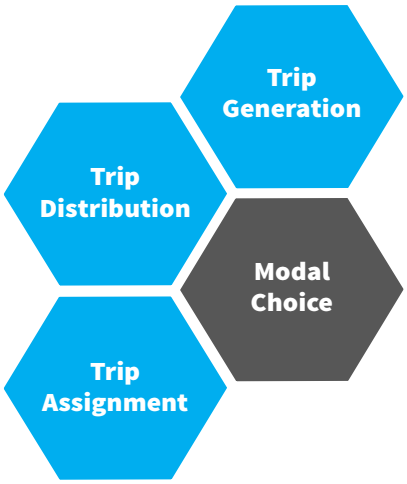
5.3 Forecasting Future Travel Demand

This section describes the forecasting of transportation demand in the MPA through 2040 for the MTP. It was developed by an analysis of existing conditions and travel demand model forecasts. Moreover, existing plans, extensive public involvement, and stakeholder input was incorporated at various stages.

The 2040 MTP uses a regional travel demand model to forecast future travel demand. This generalized four-step process is illustrated below (Figure 5.5). More detailed information is presented in the Appendix E.

Because of the low frequency of transit trips, pedestrian, and bicycle trips in the modeling area, the Modal Choice step was not performed.

Figure 5.6: Visual Representation of Model Steps



Given the population and employment growth forecasted to occur by 2040, the MPO Travel Demand Model indicates that the number of vehicle trips in the MPA will increase by nearly 25 percent, resulting in about 132,292 trips from 2015 to 2040. Most trip types grow by the same rate, but trips originating outside of the MPA are forecasted to grow tremendously as summarized in Table 5.7.

Table 5.7: Percentage Split of Different Type of Trips

Trip Purpose	2015	2040	Delta	Percentage Change
Home-Based Work	79,055	84,609	5,554	7.03%
Home-Based Other	181,479	194,274	12,795	7.05%
No-Home Based	89,585	104,682	15,097	16.85%
Commercial Vehicle	45,909	53,787	7,878	17.16%
Truck	8,935	10,256	1,321	14.78%
External-Internal	103,557	174,968	71,411	68.96%
External-External	23,139	41,375	18,236	78.81%
Total	**531,659**	**663,951**	**132,292**	**24.88%**

Source: AP MPO Travel Demand Mode, NSI

Average Commute

23 minutes

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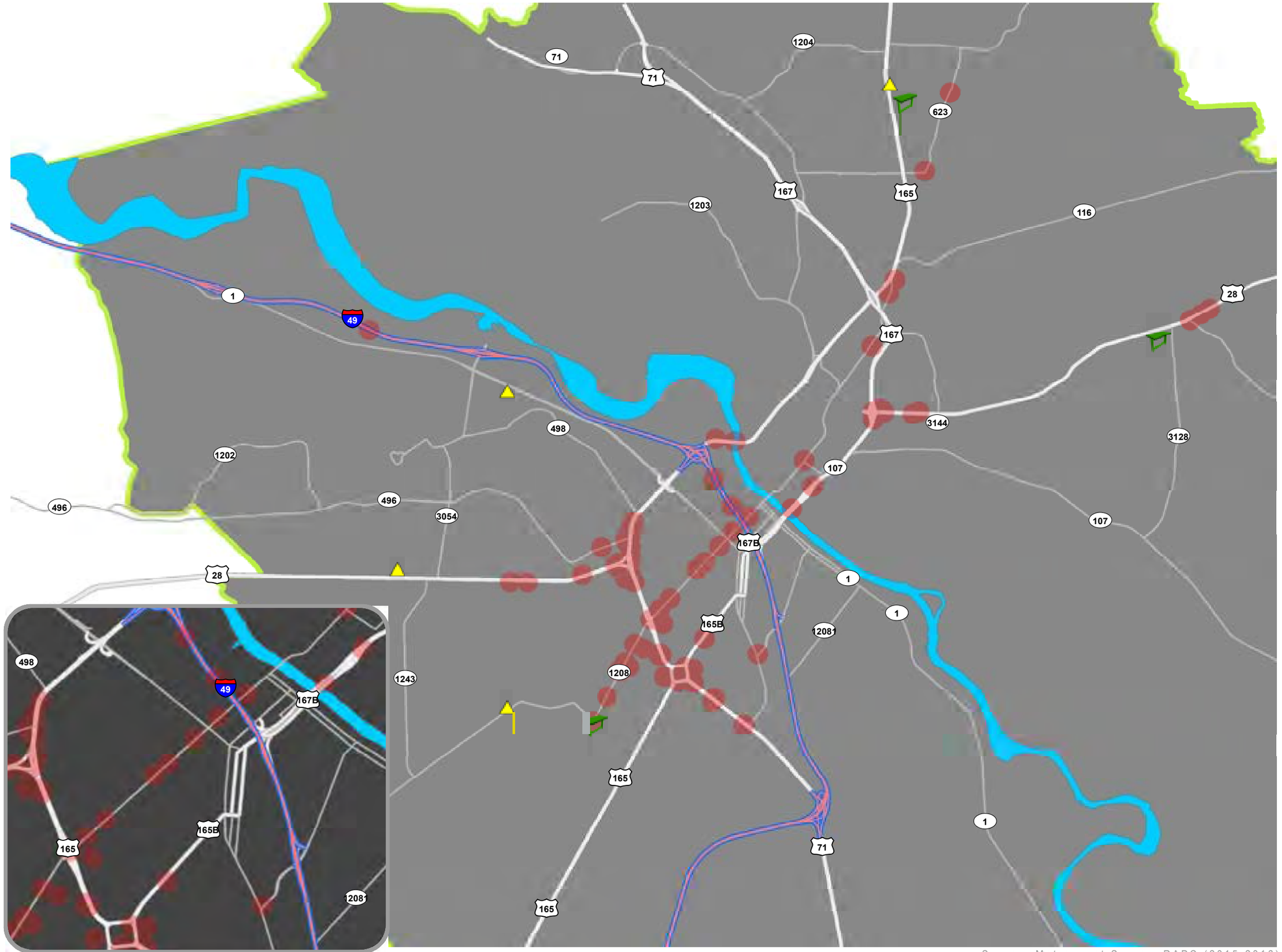
Figure 5.7

Vision Concepts Transportation



LEGEND

Need For

- Transit Service
- Bus Stop Shelter
- Traffic Congestion
- Interstate
- Major Highway
- Minor Highway
- Red River
- MPA

0 0.5 1 2 Miles

N

PREPARED BY:

RAPC

Source: Metroquest Survey, RAPC (2015-2016)

Date:08/15/2016

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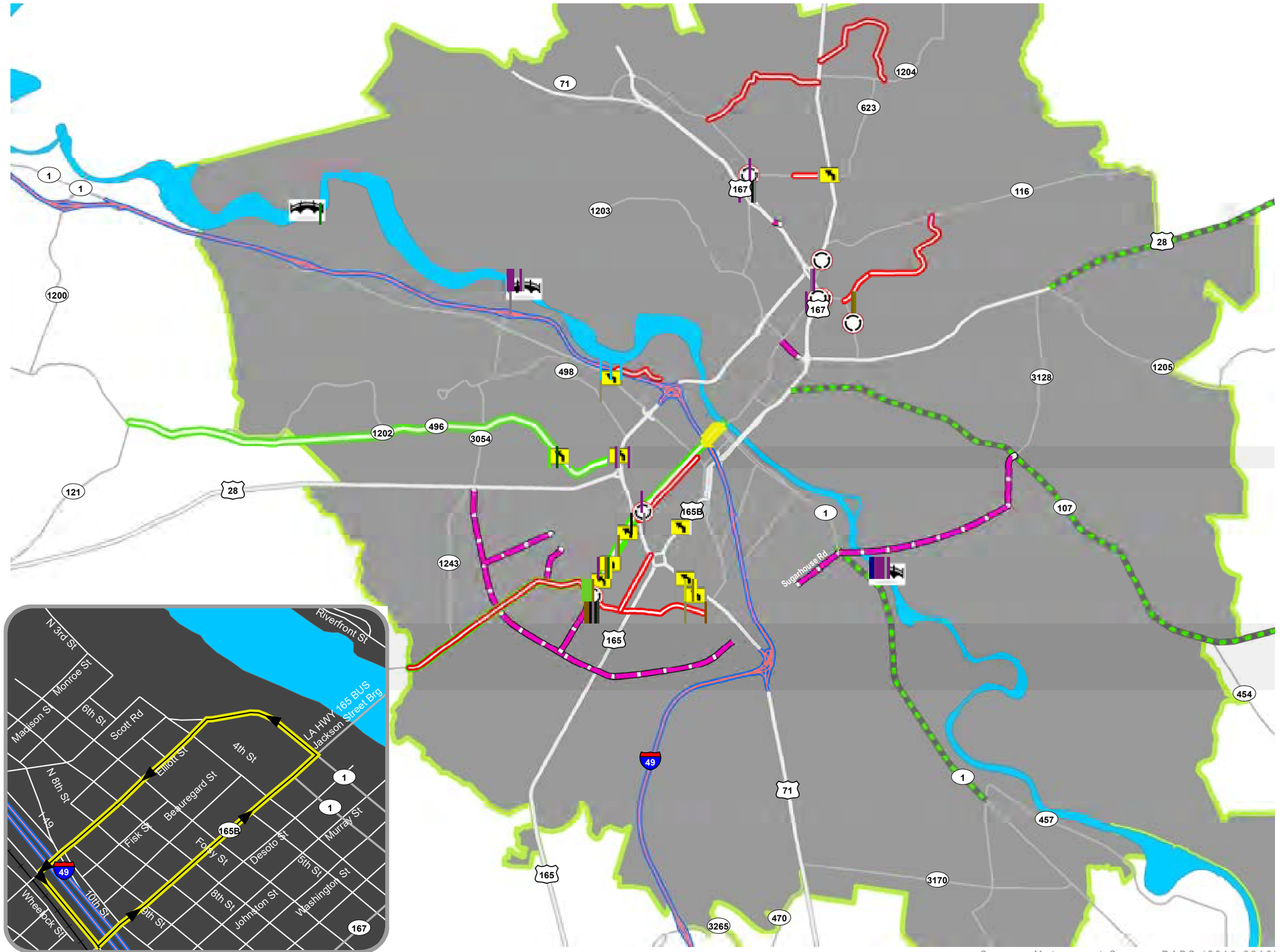
Figure 5.8

Vision Concepts Transportation



LEGEND

- Turn Lanes
- New Bridge
- Couplet
- Shoulder Width
- Center Left Turn
- New Road
- Road Widening
- Roundabouts
- Interstate
- Major Highway
- Minor Highway
- Water Bodies
- MPA

0 0.75 1.5 3 Miles

N

PREPARED BY:

RAPC

Source: Metroquest Survey, RAPC (2015-2016)

Date:08/15/2016

5.4 Deficiency Analysis of Roadway Network

The first step in determining the roadway network needs of the study area is the assignment of the target year trips to the Existing plus Committed (E+C) network. Committed projects are improvements for which construction has been completed or begun since the base year (2015), a contract for construction has been awarded, or projects for which funding is already dedicated, such as through Legislative approval of the Proposed Construction Program. The Committed Projects are listed in Table 5.8.

Following the E+C network development, the study area link traffic volumes and volume-over-capacity (VOC) ratios for the years 2020, 2030, and 2040 were developed using the travel demand model and forecast planning data. It is recommended that those facilities which show a projected volume/capacity ratio of greater than 1.00 *[or in terms of Level of Service (LOS), any facilities which have a LOS of E and higher] are considered deficient*.

While congestion is currently concentrated mostly near intersections in the MPA, by 2040 congestion is forecast to become more widespread if only the existing and committed projects are implemented. The number of roadway segments with Volume to Capacity (V/C) ratios above 1.00 would increase from thirteen in 2015 to twenty in 2040, as listed in Table 5.9 and illustrated in Figure 5.8.

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

Table 5.8: Existing Plus Committed (E+C) Projects

NSID	Project	Location	Improvement	Comment
1	US 71 & US 165 Ft. Buhlow Bridge	I-49 to Jefferson Hwy.	Widen to 4-Lanes Divided, Bridge Replacement	Planned
2	LA 28	@ LA 116	Left Turn Lanes	Planned
3	LA 3225	@ LA 623	Left Turn Lanes	Planned
4	Sugarhouse Rd. Extension	Lincoln Rd to LA 1	New 2-Lane Roadway	Planned (TIP)
5	Provine Place Rd.	LA 28 W to Versailles Blvd.	New 2-Lane Roadway	Planned
106	Jackson St.	@ Horseshoe Dr.	New Roundabout	Planned (TIP)
130	Ball Cut Off Rd (LA 1204)	Flagon Bayou	Curve Realignment/ Bridge Replacement	Planned (TIP)
105	Edgewood Dr. (LA 3144)	@ Susek Dr.	Roundabout	Planned (TIP)
	North Dr. Roundabout	North Dr. and Memorial Dr.	New Roundabout	Planned (TIP)
	LA 28 W	@ John Allison Dr.	Add Right Turn Lane	Planned (TIP)
x	US 71	Horseshoe Dr. to Cottonwood Dr.	Widening of Service Road Connections	Under Construction
x	Industrial Park Site Rd.	LA 1 to River Port Rd.	Reconstruction	Planned (TIP)
x	Foisy St.	Monroe St. to Casson St.	Reconstruction	Planned (TIP)
x	Jackson St.	Garden District / US 71 to River	Rehabilitation	Planned (TIP)

Source: LADOTD Letting List, FY 2015 - 2018 TIP

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Metropolitan Transportation Plan 2040

Figure 5.9
Future Network Roadway Congestion (2040)

Source: RAPC, APMPO Travel Demand Model, NSI

LEGEND

Volume/Capacity Ratio

- 0.00 - 0.25
- 0.25 to 0.50
- 0.50 to 0.75
- 0.75 to 1.00
- Above 1.00
- Red River
- MPA

Future Network includes Existing + Committed projects.

0 1 2 4 Miles

N

PREPARED BY:

RAPC DOTD

NEEL-SCHAFFER

Date:08/15/2016

5.5 Strategies to Address Roadway Needs

As summarized in the previous section, the E+C scenario has significant roadway system deficiencies in year 2040. A number of strategies are available to address the identified deficiencies including the addition of new capacity to the roadway system.

5.5.1 Roadway Preservation and Rehabilitation

The functionally classified roadway network in the Alexandria/Pineville MPO study area is more than 250 miles long, and provides surface transportation to almost 90,000 people in the region. All of these roads are expected to continue to provide service throughout the planning period. Reconstruction projects, which are a part of operation and maintenance, are needed to preserve and maintain the highway system. Sufficient resources must be allocated to protect the public investment as well as provide a safe and high quality travel experience. This plan gives funding priority to system preservation and allocates a size-able portion of available revenues to this purpose.

5.5.2 Transportation Demand Management (TDM)

About 83% of the commuting trips within the study area are made in single-occupancy vehicles. Therefore, one cost-effective strategy is to find ways to reduce these single-occupancy vehicle trips, which reduces congestion and improves air quality without adding any additional capacity to the roadway system.

TDM focuses on strategies to reduce future travel volumes within the roadway network. This can be accomplished by:

- Increasing the number of high-occupancy vehicle trips by promoting carpooling, shuttle buses to major employment centers, etc;
- Supporting Flex-time work schedules with employers to reduce congestion at peak times;
- Supporting efforts to allow employees to telecommute when possible;
- Establishing Park-and-Ride facilities; and
- Providing a community education program on the costs and benefits of high-occupancy trips and options available to the public.

Table 5.9: Roadway Segments with Volume/Capacity Ratio Above 1 (2040) (E+C)

Route	Limits	Length (miles)
US 71	US 165 to US 167	2.25
US 71	I-49 to Claiborne St.	2.23
US 71	Elliot St. to LA 1	1.45
US 165 B	LA 1 to Jones St.	0.40
US 165 B	Shamrock Ave. to College Blvd.	0.60
US 167	6th St. to LA 28 E	2.5
LA 28 E	US 167 to Stilley Rd.	1.9
LA 28 E	LA 1205 to Libuse Cutoff Rd.	0.40
LA 107	Pinegrove Rd. to JA Whelan Rd.	4.7
LA 1205	LA 28 E to Bo Newcomb Rd.	3.1
LA 3144	US 167 to Anna Ln.	0.90
US 165	US 167 to Esler Field Rd.	0.75
US 165	Beauregard Rd. to Tioga Rd.	1.20
LA 28 W	Provine Pl. to Windermere Rd.	1.25
US 71 S	Richard Ave. to I-49	0.90
US 71 S	I-49 to South	0.65
US 71	Power Ctr. To South Circle	0.25
South Circle	All Arms	1
Jackson St.	Southampton Dr. US 71	0.20
On-Ramp	I-49 and Broadway Ave.	0.10

Source: AP MPO Travel Demand Mode, NSI

Photo 5.1: Traffic Congestion Downtown Alexandria, LA

Source: The TownTalk

5.5.3 Traffic Operational Improvements

Traffic operational improvements increase efficiencies within the roadway network. It is anticipated that these will include:

- Signal Improvements (including new traffic signals), Signal Synchronization, and Signal Interconnect;
- Access Management, i.e. driveway consolidation, driveway spacing/design, left-turn restrictions, elimination of on-street parking, intersection/signal spacing, frontage roads, turn lanes, roadway modification (geometry, medians, and sight distance);
- One-way/Reversible Streets (streets that are modified from two-way to one-way; this strategy modifies roadway capacity during peak hours to increase number of lanes in peak direction by changing a non-peak direction to a peak direction);
- Intersection Improvements;
- Improvements to Traffic Control (Regulatory Signs, Warning Signs, Informational Signs to limit driver confusion); and
- Turn Prohibitions (Limit conflicting movements in peak hours, Make pedestrian crossings safer).

5.5.4 Public Transportation and Non-Traditional Modes

Chapter 6 presents an overview of how of public transit is integrated into the plan. Chapter 7 reviews the goals, objectives, and methods for inclusion of pedestrian and bicycle facilities in the MTP.

Photo 5.2: Transit, Bike, & Pedestrian Facilities in Alexandria, LA

Source: The TownTalk

5.5.5 Intelligent Transportation System (ITS)

Recently, there is an emergence of cost effective ITS technologies which are easily integrated within the transportation network. The cost/benefit of applying these technologies is frequently related to the travel characteristics of the roadway network, with urban networks more likely benefiting. Currently, some ITS projects including traffic signal upgrades along US 71, LA 28 E/W, Jackson St. and Bolton Ave.; equipment such as Dynamic Message Signs (DMS), CCTVs under Alexandria Regional ITS architecture Phase-I; are implemented in the MPA. ITS concepts for future considerations within the MPA are listed below. As the cost of technology applications declines, other ITS venues will be considered. More information is available at LADOTD's website, under the Louisiana ITS Deployment Plan.

Fiber Optic Cable – There is a concept to run fiber optic cable along MacArthur Drive from Masonic Drive to its northern interchange with I-49. There is also a concept to run fiber optic cable along LA 28 from MacArthur Drive to Vandenberg Drive.

Closed Circuit Television (CCTV) Cameras – Concepts for CCTV cameras are discussed in conjunction with the routes that have fiber optic cable. These cameras will be placed at the signalized intersections so that they are monitored from the LADOTD office.

5.5.6 Roadway Capacity Improvements

Roadway capacity improvements were identified based on forecasted capacity deficiencies in the year 2040. These projects are classified in two ways; committed projects (see section 5.2), for which funding has been allocated due to inclusion in the fiscal years 2015 to 2018 TIP; and recommended long range roadway capacity improvement projects. The remainder of this section describes the process used to develop the list of potential capacity improvement projects, analysis of those projects, and the project selection process to keep the plan financially constrained.

5.5.7 Development of Roadway Improvement Test Projects

Throughout the plan development process, information was gathered on desired test projects from the public, local government agencies, and MPO committee members. Along with all these test projects, a non-financially constrained roadway network was developed. Also, the network included the remaining projects in the current MTP and the committed roadway projects. Figure 5.9 shows all the test projects evaluated in the non-financially constrained roadway network plan.

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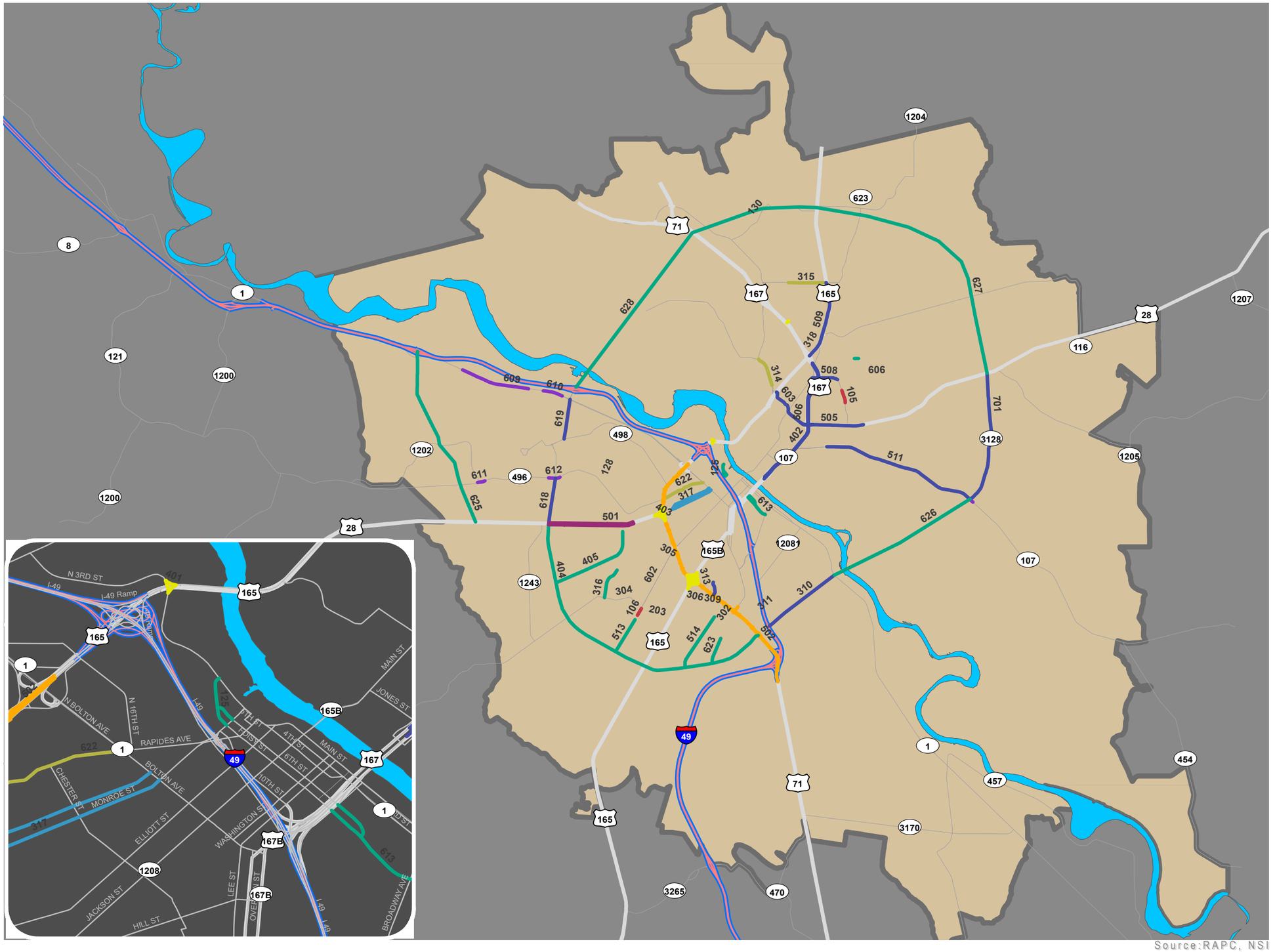
Figure 5.10
Test Projects



LEGEND

Improvement Type

- Add Center Turn Lane
- Add Turn Lanes
- Convert to Couplet
- New Roundabout
- New Roadway
- New Interchange
- New Service Roads
- Upgrade to Expressway
- Widen Road
- Red River
- MPA

Test projects are those which are deemed essential and captured during public meetings and agency consultation.

0 1 2 4 Miles

N

Source:RAPC, NSI

PREPARED BY:

RAPC DOTD

NEEL-SCHAFFER

Date:08/15/2016

CHAPTER 6

Public Transit

6.1 Introduction

This chapter describes the existing public transit especially network characteristics and ridership patterns. Also, the chapter highlights coordination and outreach efforts for human service aspect for the elderly and disabled through both fixed and on-demand response routes.

Further, the chapter elaborates on the transit need analysis undertaken for the MPA and the community priorities captured from the online survey. The chapter ends with sketch outline of federal transit legislation and available funding sources to pursue future transit projects.

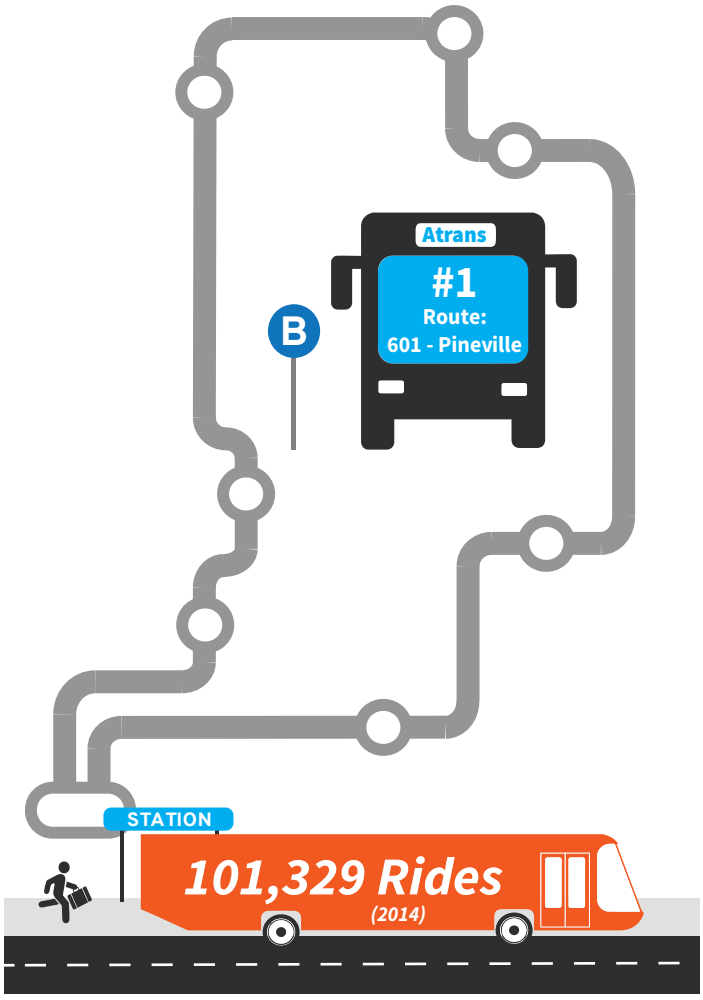
Mobility is a crucial component of people's quality of life. Public transit and other affordable, flexible transportation options are essential so people who do not own vehicles can access markets, health care services, establish and maintain relationships and preserve independence and well-being.

Additionally, public transit provides alternatives to those who own vehicles and can reduce roadway congestion, which in turn reduces the need for roadway expansion and decreases vehicle emissions.

According to 2010-2014 American Community Survey (ACS), the average commute to work time in Rapides parish is 23.1 minutes and the majority of commuters drive alone to work (83.2%). This is almost equal to the state average of 84% and significantly higher than the national average of 76%. The high ratio of single-occupancy vehicle use is largely a result of the low-density land use patterns and the absence of other transportation alternatives.

In 2014, the U.S. Census Bureau estimated that 1.6% of workers (16 years and over) commute to work by public transportation, increasing from 1.0% in the past five years, indicating investments promoting increased use of public transit could be an effective travel demand management strategy.

Figure 6.0: Atrans Route with Highest Ridership Count (2014)



Transit Commuters

51k+
total

6.2 Existing Regional Transit Network

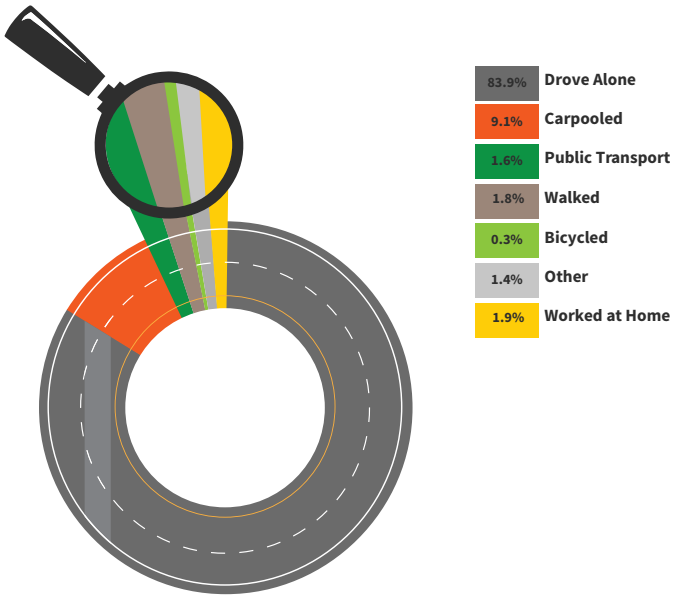
Existing transit service in the Alexandria-Pineville urbanized area is provided by City of Alexandria Transit (Atrans) and human services agencies that provide transportation for the older adults and people with disabilities.

ATRANS

Atrans services the Alexandria-Pineville UZA with a fleet of fourteen buses and three vans running along eight fixed routes. Routes run from 6:10AM to 10:00PM, Monday through Saturday with fares ranging from $0.35 to $0.75 and headways averaging 50 minutes. They also provide complimentary demand response para-transit service for qualifying persons unable to use the fixed route service. Figure 6.6 shows the existing Atrans routes.

According to the National Transit Database, 62,924 people live within the existing service area. Total ridership for Atrans in 2014 was 604,027 trips including fixed-routes, night services and demand response/ADA eligible riders. Night service operates 4 routes from 6:00PM - 10:00 PM. The City of Pineville Route (601) had the highest annual ridership in 2014 with 101,329 total riders.

Figure 6.1: Commute Pattern in the MPA



Source: American Community Survey 5-Year Estimates (2010 - 2014)

Table 6.1: Transit Commuters in the MPA

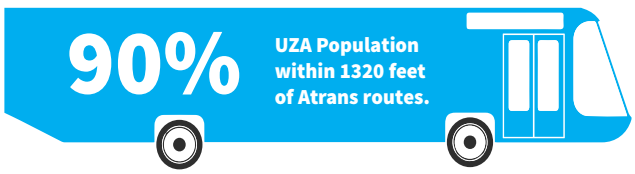
	2010	2011	2012	2013	2014
Workers 16 Years & Older	53,921	52,774	52,587	52,141	51,243
Public Transit %	1.0%	1.1%	1.1%	1.4%	1.6%

Source: American Community Survey 5-Year Estimates (2010 - 2014)

Photo 6.1: Atrans Riders Downtown Alexandria, LA

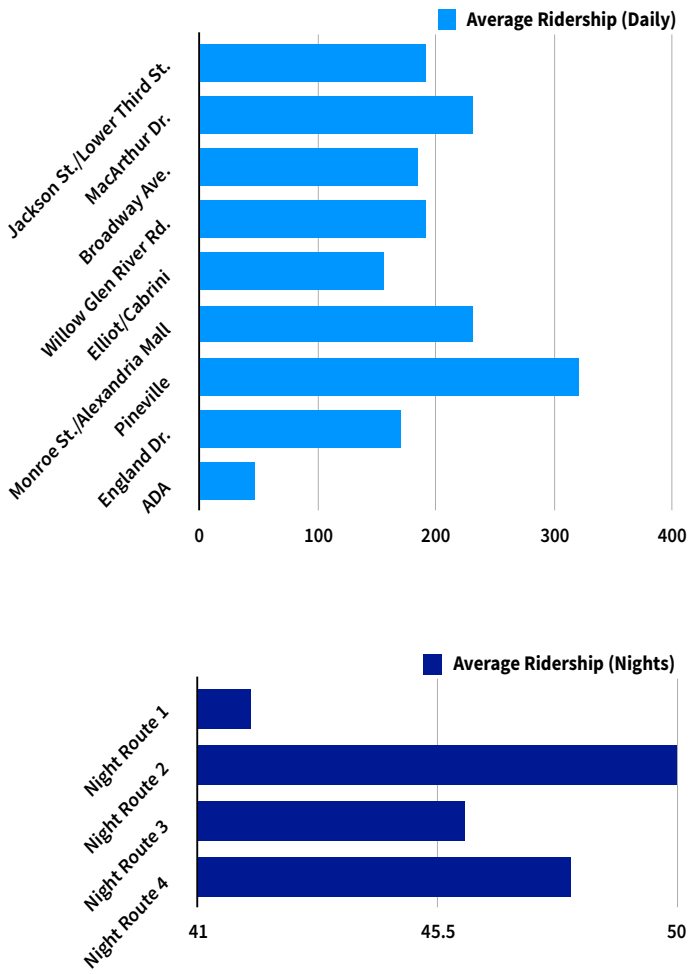
Atrans

50
minutes
average headway



Using the daily ridership database, the ridership data was separated into weekdays and Saturdays. The average weekday ridership for the entire Atrans system is 1,934 trips and the average for weekends (Saturdays) is 1,613 trips. Ridership data for the Atrans system was provided by Atrans. Data was provided for each route and for all days of operation from January 2014 through December 2014.

Figure 6.2: Atrans Average Daily Ridership by Route (2014)



Source: ATRANS, Rapides Area Planning Commission

Atrans

8

routes

Table 6.2 provides modal characteristics of Atrans transit service. Additionally, financial information including operating expenses, capital expenditure, local, state and federal funds, along with fare box revenues are illustrated in Table 6.2.

Table 6.2: Atrans Transit Service Characteristics

Year	Unlinked Passenger Trips
2010	783,218
2011	735,792
2012	774,513
2013	770,103
2014	724,570
2015	704,354

Service Supplied	Total (2014)
Annual Vehicle Revenue Miles	647,277
Annual Vehicle Revenue Hours	20,428
Vehicles Operated in Maximum Service	8

	2014 Operating	2014 Capital
Fare Revenue	$445,454	0
Local Funds	$1,199,133	$11,609
State Funds	$200,375	0
Federal Assistance	$980,440	$8,747
Other	$33,989	0
Total Expended	$2,859,391	$20,356

Source: National Transit Database

Photo 6.1: Atrans Facilities

Human Services Transit Providers

Some of the transit service providers within the Transit district are:

The Arc Rapides

The Arc Rapides provides transportation to people with special needs using 19 vehicles equipped with lifts. The operating hours are from 6:00AM to 5:00 PM, Monday through Friday. This demand-response service is provided throughout Rapides Parish. This agency receives FTA 5310 elderly and disabled grant assistance.

Rapides Council on Aging

The Rapides Council on Aging provides transportation to the elderly using four vans and 11 passenger vehicles, two of which are lift-equipped. Operating hours are from 8:00AM to 4:00PM, Monday through Friday. This route deviation service is provided throughout Rapides Parish.

Rapides Senior Citizens Center

The Senior Center provides transportation to the elderly using one lift-equipped vehicles. Operating hours are from 8:00 am to 2:00 pm, Monday through Friday. This agency is currently applying for the FTA 5311 rural operating and capital assistance to fund new rural transit services throughout Rapides Parish.

St. Mary's Residential Training School

The St. Mary's Residential Training School provides transportation for the citizens with special needs that reside at the facility. This agency received FTA 5310 elderly and disabled grant assistance.

Photo 6.2: Human Service Transit Facilities

Atrans

14

buses

Alexandria/Pineville

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Figure 6.3

Atrans Fixed Route System

LEGEND

- Aiport
- Atrans Major Bus Stops
- Broadway/Walmart
- City of Pineville
- Elliott/Harris St.
- England Dr./Airport
- Jackson/Lower 3rd St.
- MacArthur Dr./ Alexandria Mall
- Monroe St./ Alexandria Mall
- Willow Glen River Rd.
- Interstate
- Major Highway
- Minor Highway
- Roads Basic

Number of Atrans Fixed routes: 8

0 0.4 0.8 1.6 Miles N

PREPARED BY:

RAPC DOTD

Source:RAPC, Atrans 2016

Date:08/24/2016

6.3 Transit Need Analysis

Transit-Dependent Populations

Transit-dependent populations, for the purpose of this plan, refers to those who, due to disability, advanced age, or economic circumstances, are unable to provide for their own transportation. These populations include the elderly, disabled, zero-vehicle households, and people below the poverty level.

Elderly Population

The elderly population (age 60+) experiences a greater need to depend on public transit due to diminished motor and sensory skills. Diminished skills make driving more difficult and less safe, making public transit a safer and easier option for them to use. Due to extended life expectancies and an aging baby boomer generation, the elderly population has increased rapidly in recent years. Figure 6-4 shows the percentage of population that is elderly by census block group within the MPO area.

Table 6.3: Distribution of Elderly Population

Parish	Total Pop	Pop 60+	Pop 60+ Percentage	Median Age
Rapides	131,613	25,945	19.6%	37.3
Grant	22,309	4,078	18.2%	36.8

Source: American Community Survey 5-Year Estimates (2010 - 2014)

Zero-vehicle households

Zero-vehicle households are transit-dependent because they have no means of motorized transportation. The transit system allows them to get to various places, including work, school, and/or shopping. The density of zero-vehicle households in the MPO area is shown in Figure 6.5 by census block group.

Table 6.4: Zero-vehicle households

	Grant	Rapides
Zero-Vehicle Households	5.8%	7.2%

Source: American Community Survey 5-Year Estimates (2010 - 2014)

Individuals with a Disability

Individuals with a disability typically rely on public transit since their disabilities can deny them of the ability to operate an automobile. Many individuals with disabilities require a modified automobile that has a higher cost and may not be affordable to the individual. The use of transit can be an affordable alternative that offers "curb-to-curb" options. Figure 6-6 shows the percentage of the population with a disability by census block group within the MPO area.

Table 6.5: Individuals with a disability

	Grant	Rapides
Individuals with a disability	18.6%	19.1%

Source: American Community Survey 5-Year Estimates (2010 - 2014)

Individuals below Poverty Level

Persons living below the poverty level are dependent on public transit because of the disproportionately high cost to own and maintain a vehicle. Like the zero-vehicle households, the transit system allows them to get to the places that they would like to go, but at a cost that is affordable. The percentage of the population living below the poverty level by census block group within the MPO area is shown in Figure 6-7.

Table 6.6: Individual below the Poverty Level

	Grant	Rapides
Individuals below poverty	16.5%	19.0%

Source: American Community Survey 5-Year Estimates (2010 - 2014)

Population

37%

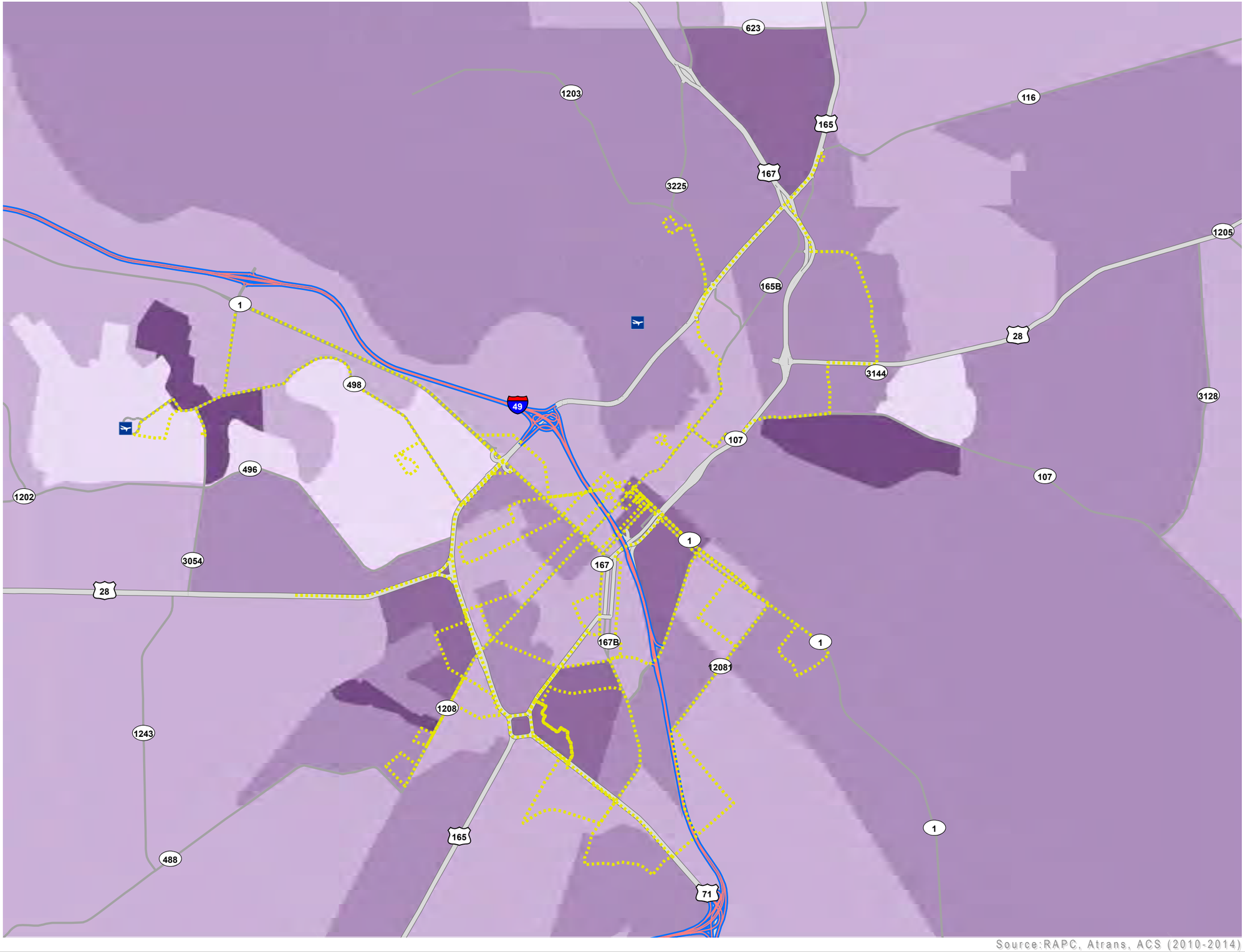
too old or young to drive

Alexandria/Pineville

Metropolitan Transportation Plan 2040

Figure 6.4

Distribution of Elderly Population



LEGEND

- Aiport
- Atrans Route

Elderly (60+ years) %

- Below 10%
- 10% - 20%
- 20% - 30%
- 30% - 40%
- Above 40%
- Interstate
- Major Highway
- Minor Highway

0 0.45 0.9 1.8 Miles

N

PREPARED BY:

RAPC DOTD

Source:RAPC, Atrans, ACS (2010-2014)

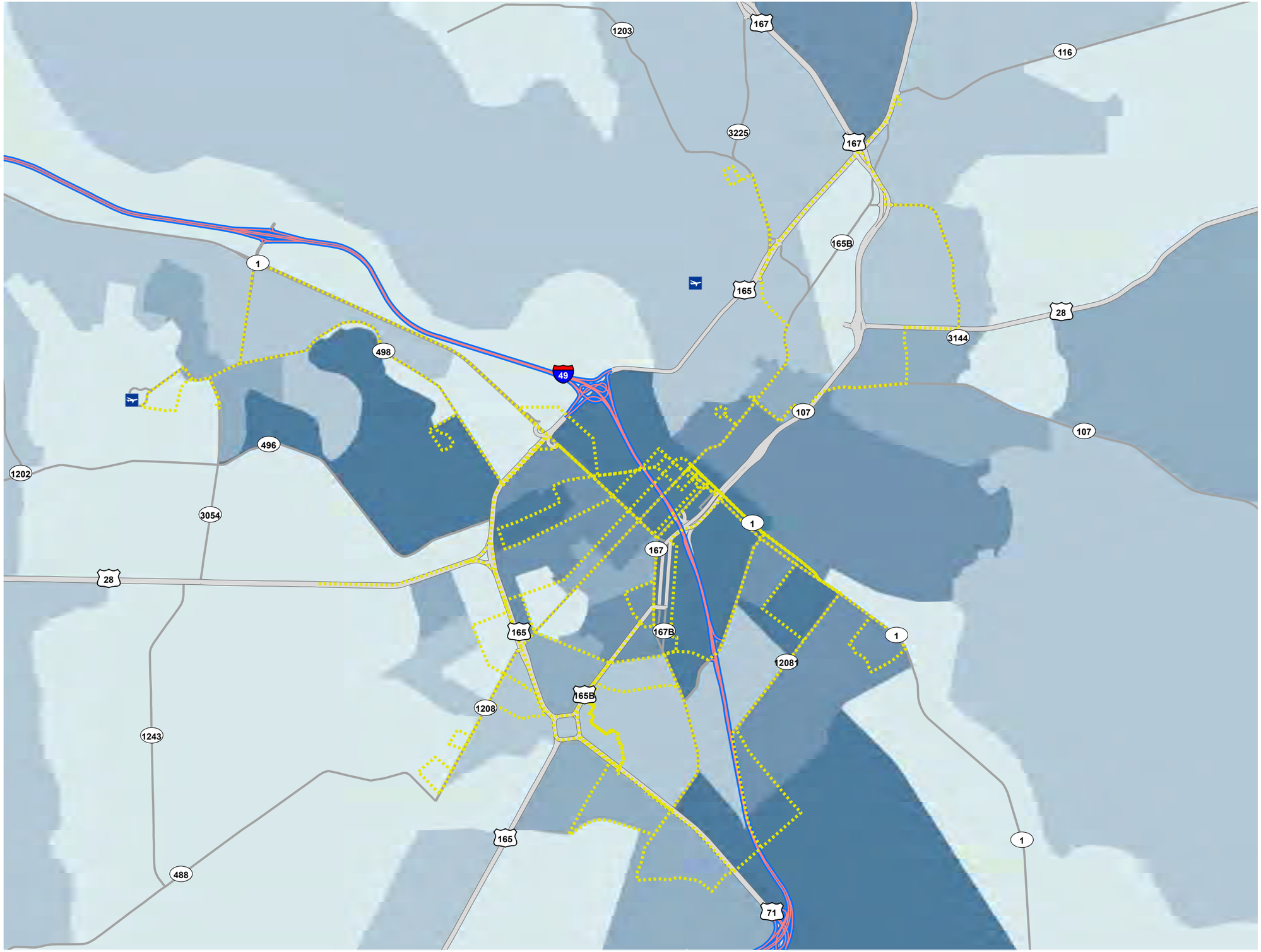
Date:08/24/2016

Alexandria/Pineville

Metropolitan Transportation Plan 2040

Figure 6.5

Distribution of Households with Zero Vehicles



LEGEND

- Aiport
- Atrans Route

Zero Vehicle HH Percentage

- Below 2.5%
- 2.6% - 7.5%
- 7.6% - 15%
- 15.1% - 25%
- Above 25%
- Interstate
- Major Highway
- Minor Highway

0 0.4 0.8 1.6 Miles N

Source:RAPC, Atrans, ACS (2010-2014)

PREPARED BY:

RAPC DOTD

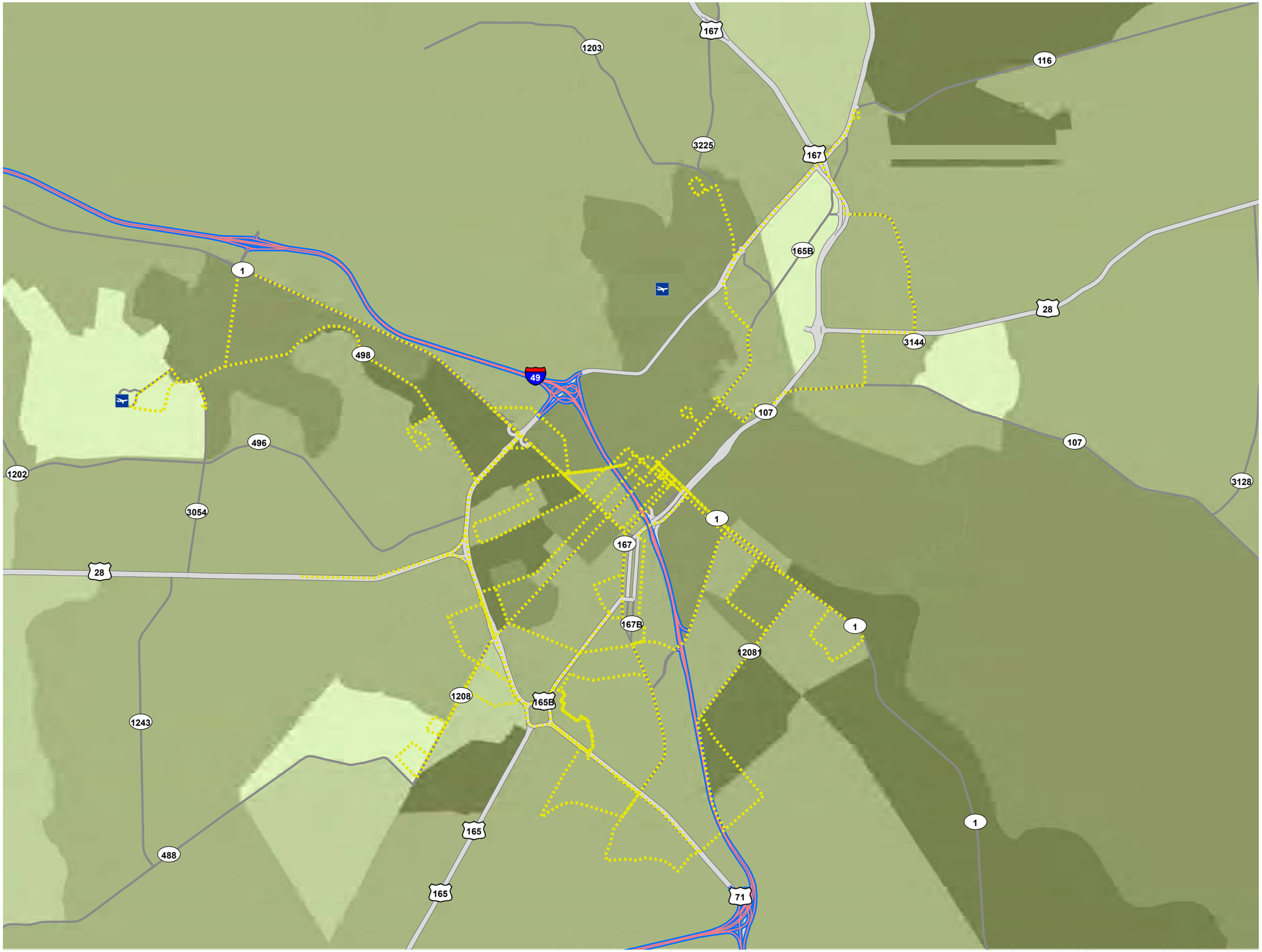
Date:08/31/2016

Alexandria/Pineville

Metropolitan Transportation Plan 2040

Figure 6.6

Distribution of Disabled Population



LEGEND

- Aiport
- Atrans Route

Disabled Percentage (20-64 years)

- Below 5%
- 5.1% - 10%
- 10.1% - 25%
- 25.1% - 35%
- Above 35%
- Interstate
- Major Highway
- Minor Highway

0 0.425 0.85 1.7 Miles

N

PREPARED BY:

RAPC DOTD

Source:RAPC, Atrans, ACS (2010-2014)

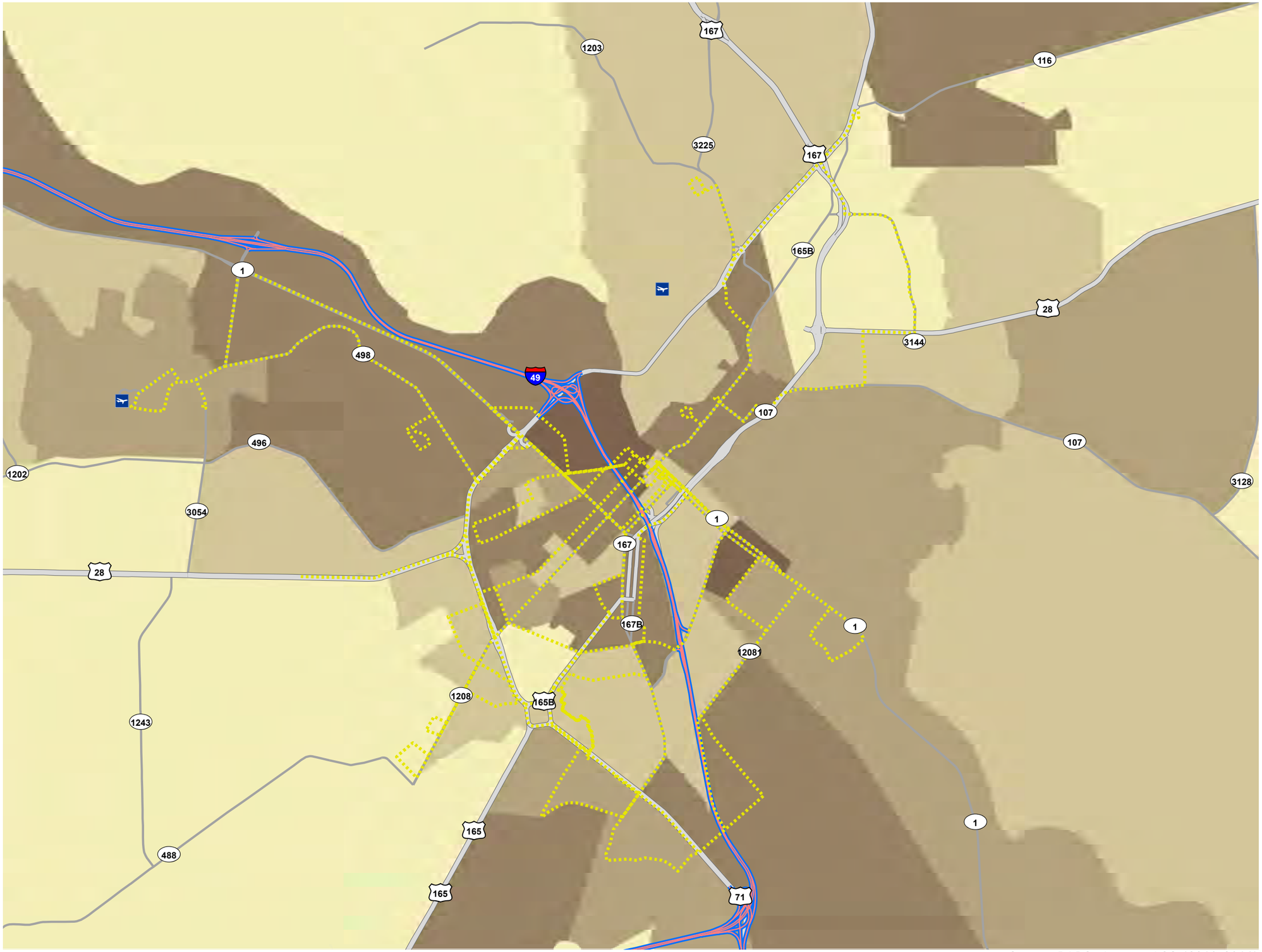
Date:08/31/2016

Alexandria/Pineville

Metropolitan Transportation Plan 2040

Figure 6.7

Distribution of Population Below Poverty



LEGEND

- Aiport
- Atrans Route

Poverty Population Percentage

- Above 10%
- 10.1% - 20%
- 20.1% - 30%
- 30.1% - 50%
- Above 50%
- Interstate
- Major Highway
- Minor Highway

0 0.425 0.85 1.7 Miles

N

PREPARED BY:

RAPC DOTD

Date:08/31/2016

Major Origins and Destinations

Key services and many other important origins and destinations in Rapides are concentrated in the Parish seat, Alexandria, located in the center of the region.

There is currently no regional transit system that provides service for residents of Rapides Parish or adjacent parishes to travel long distances. Many must travel outside the parish for medical services, education, or transportation connections — typically to Lake Charles, Shreveport, and Baton Rouge.

The southern portion of the Rapides, covering small rural towns and villages, is most easily accessed from Allen Parish to the south via Highway 165, through Oakdale, LA. Thus, most residents in the southern portion of the Parish travel outside of Rapides Parish, to Oakdale, for goods and services. The eastern part of the parish does not offer many services, so those residing in this area have to travel to destinations in their own cars.

Transit Need Analysis

Transportation planning is the first step towards ensuring responsive public transit and other transportation options for the transit dependent populations.

Transportation needs must be identified so that public transit services and other transportation options can be developed. In order to identify unmet need, a preliminary planning transit analysis was conducted. Subject to area geographic and demographic characteristics, the most important factor in determining the transit need for the MPA are transit dependent populations (%). Employment and population density were not included in this model.

Each segment of the transit dependent population was given equal weight and considered essential in defining the unmet transportation needs. Figure 6.8 was created to illustrate the areas with high relative transit need. It is important to note that this sketch is only an indication of where the most imperative transit needs are. It is not a comprehensive transit demand analysis or the only approach to determine if an area should increase transit investment.

Atrans

600k+

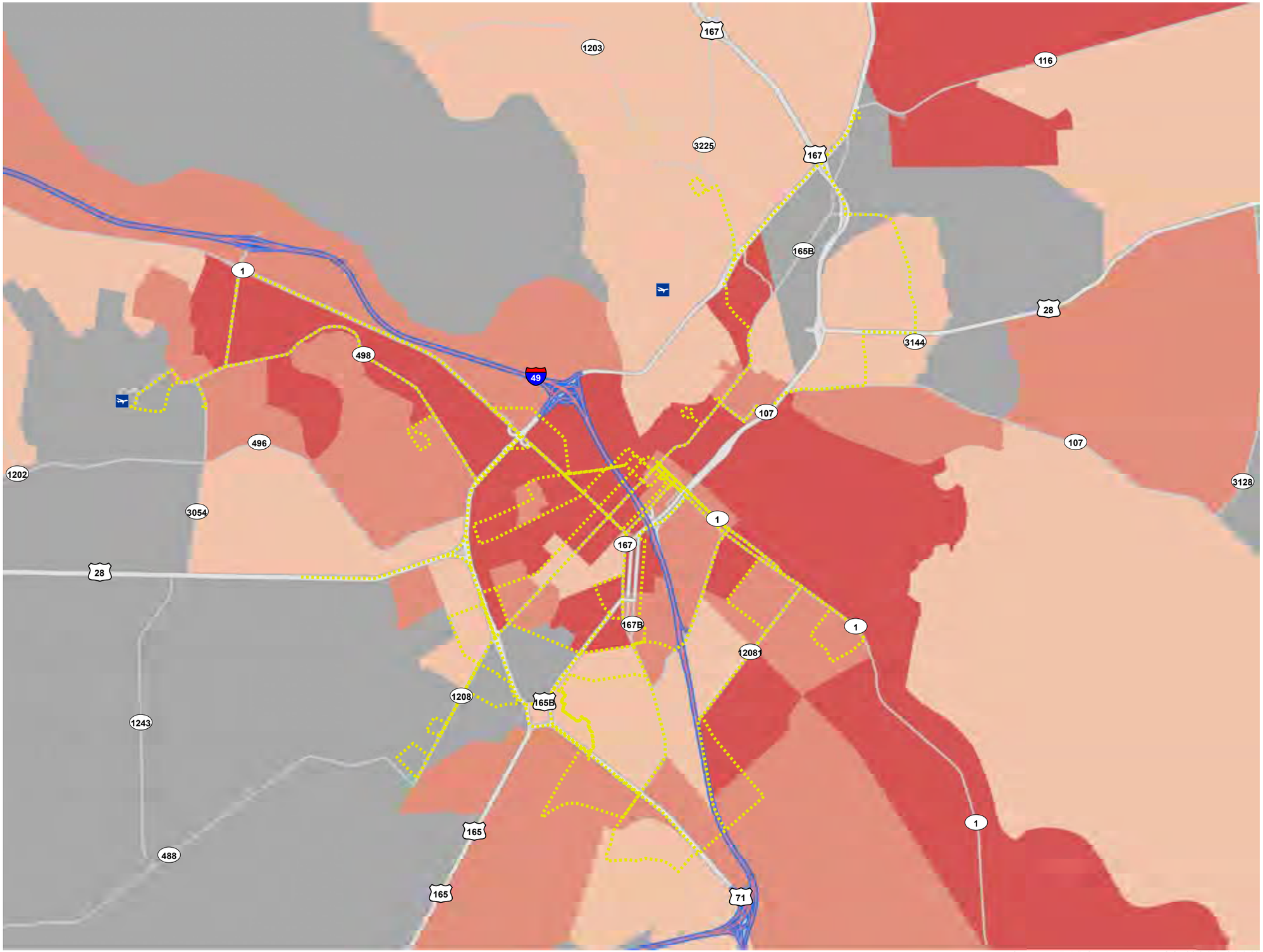
riders in 2014

Alexandria/Pineville

Metropolitan Transportation Plan 2040

Figure 6.8

Transit Need Index



LEGEND

- Aiport
- Atrans Route

Transit Need Index (1-100)

- Below 15
- 16 - 25
- 26 - 35
- Above 35
- Interstate
- Major Highway
- Minor Highway

0 0.425 0.85 1.7 Miles

N

PREPARED BY:

RAPC DOTD

Source:RAPC, Atrans, ACS (2010-2014)

Date:08/31/2016

6.4 Coordination and Outreach

Human Services Transportation Coordination

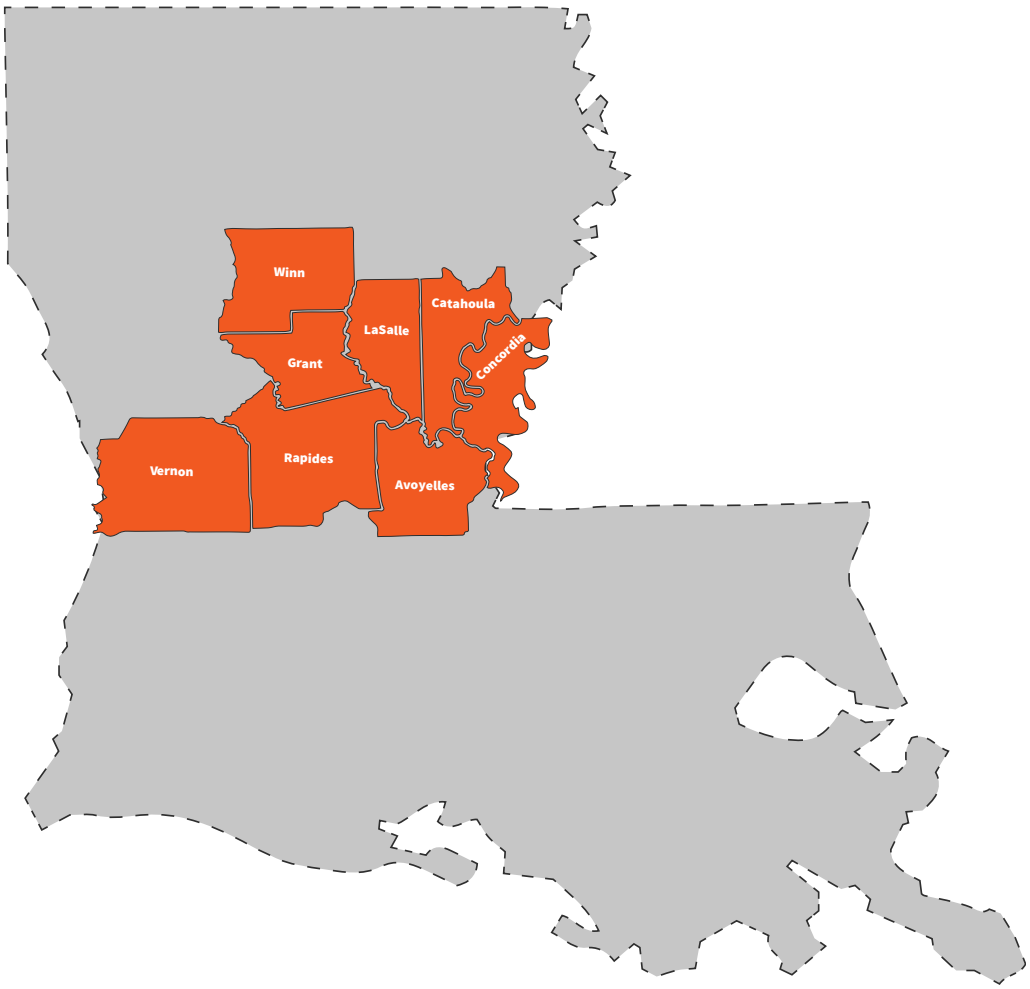
Coordination provides an opportunity to identify mobility needs and better manage mobility. During the coordination process, two or more organizations (that may not have worked together previously) interact to accomplish their transportation objectives and to achieve greater cost-effectiveness in service delivery. The ultimate goal of coordination is to stretch scarce resources and improve mobility of each individual served by the various transit providers.

The purpose of the RAPC's 2015 Coordinated Human Services Transportation Plan was to:

1. create a one time plan for improved coordination of human services transportation in Kisatchie-Delta planning area and establish an ongoing process for continued coordination; and

2. identify transportation needs of individuals with disabilities, older adults, and those with lower incomes, so as to identify and prioritize strategies for meeting those needs. The study area includes the parishes of Avoyelles, Catahoula, Concordia, Grant, LaSalle, Rapides, Vernon, and Winn

Figure 6.9: RAPC HSCP Region



Transportation Demand Management

Transportation Demand Management (TDM) focuses on managing the demand side of the transportation instead of supply side such as building or widening new roads. A common purpose of TDM is to lessen the stress on our existing roadways by influencing individual travel behavior and providing alternative options to reduce the actual travel demand, or number of vehicles. Some TDM techniques include, but are not limited to, implementing ride share programs or carpooling, alternate routing and implementing flextime work schedules.

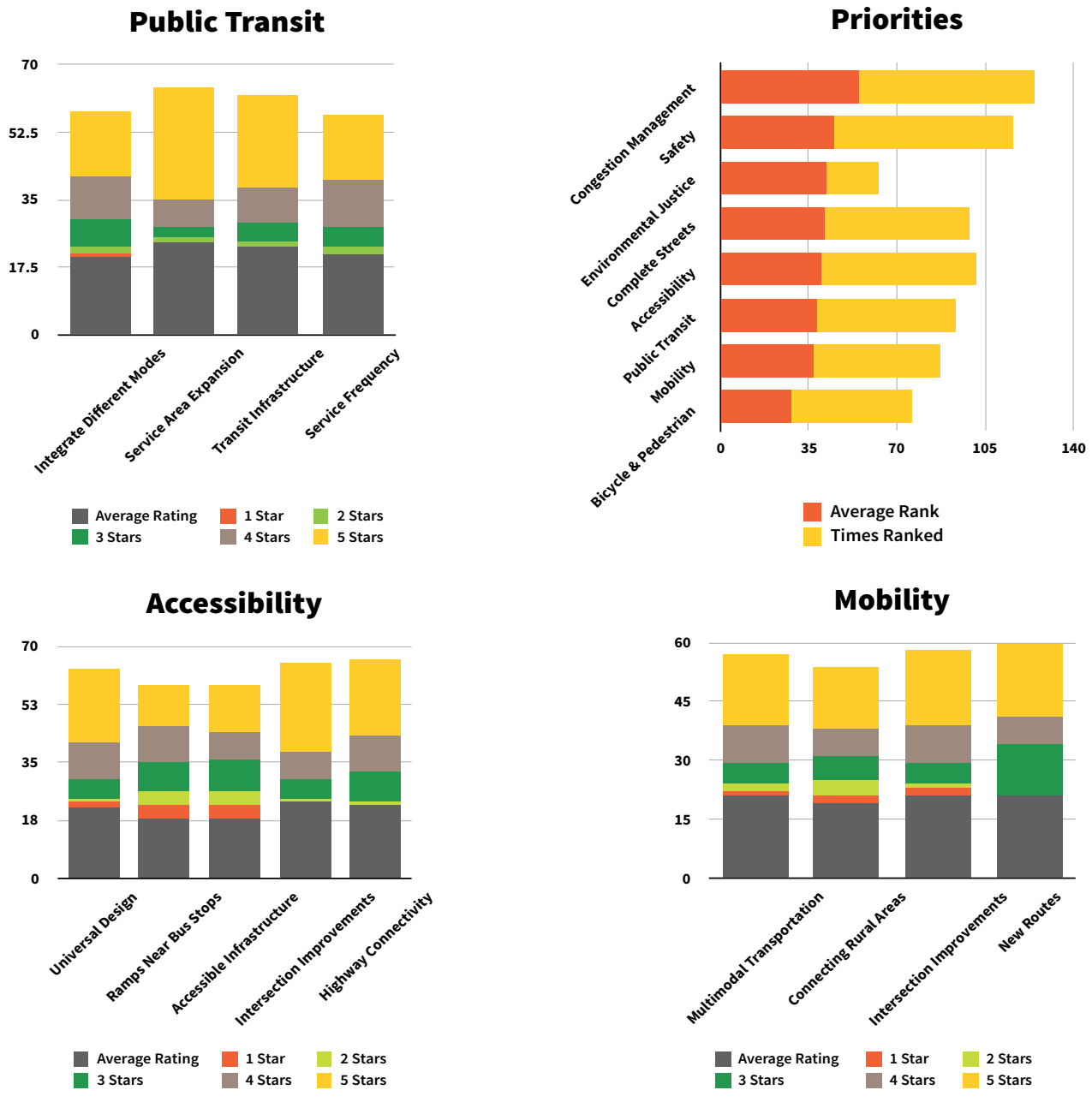
The objective of RAPC's TDM Program for 2013-2015 was to identify employers within our urbanized area and provide all relevant information to implement a carpool/van-pool program. The Alexandria-Pineville MPO area includes some large employers has created an opportunity for designing a program to market TDM within target segments of the labor market. In this two-year program, RAPC staff has reached out to major employers in our area, especially along peak-hour congested corridors (i.e. Proctor and Gamble, Walmart, Pinecrest Developmental Center– all along Highway 165 in Pineville), to try and promote carpool and van-pool programs for their employees through presentations, meetings, and marketing materials.

Figure 6.10: Typical Techniques of TDM

Community Priorities

RAPC's outreach included several meetings and a web-based survey. The purpose of outreach was to provide the public an opportunity to view our existing planning efforts and provide input that will help the MPO staff and Technical Advisory Committee members in prioritizing Highway and Transit projects. During the community engagement process, residents were asked to provide input on the existing transportation system, major transportation needs and transportation improvement priorities. According to the survey statistics, public transit was ranked as one of the top priorities for potential future development, along with congestion management, safety, environmental justice, accessibility and mobility. The four strategies for transit improvement that were given the highest scores are service area expansion, transit infrastructure, integrate different modes and service area frequency.

Figure 6.11: Findings from Public Outreach Survey



6.5 Transportation Legislation

On December 4, 2015, President Obama signed the Fixing America's Surface Transportation (FAST) Act, reauthorizing surface transportation programs through Fiscal Year 2020. The FAST Act is five-year legislation to improve the Nation's roads, bridges, transit systems, and rail transportation network. The bill reforms and strengthens transportation programs, refocuses national priorities, provides long-term certainty and flexibility for states and local governments, streamlines approval processes, and maintains a strong commitment to safety.

The following summarizes the major FAST Act features:

- Provides steady and predictable funding for five years, with an increase of ~$1 billion per year to the transit program
- Phases increased Buy America requirements, up to 70% by FY 2020
- Targets funding increases towards improving state of good repair and the bus program
- Streamlines Vehicle Procurement & Leasing to make federal investment more cost effective and competitive
- Funds Transit Research from both the Trust & General Fund to increase efficiency and accountability
- Provides coordination of public transportation services with federally assisted transportation services to enhance the mobility of seniors and individuals with disabilities
- Requires a review of safety standards and protocols to evaluate the need to establish federal minimum safety standards in public transportation and requires the results to be made public

Figure 6.13: Breakdown of FAST Act Authorized Funding

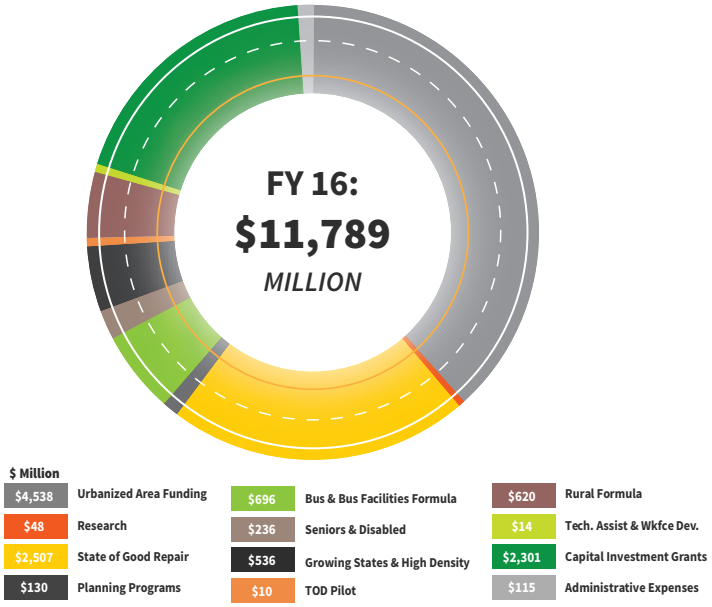


Figure 6.12: Highlights of FAST Act Program Changes

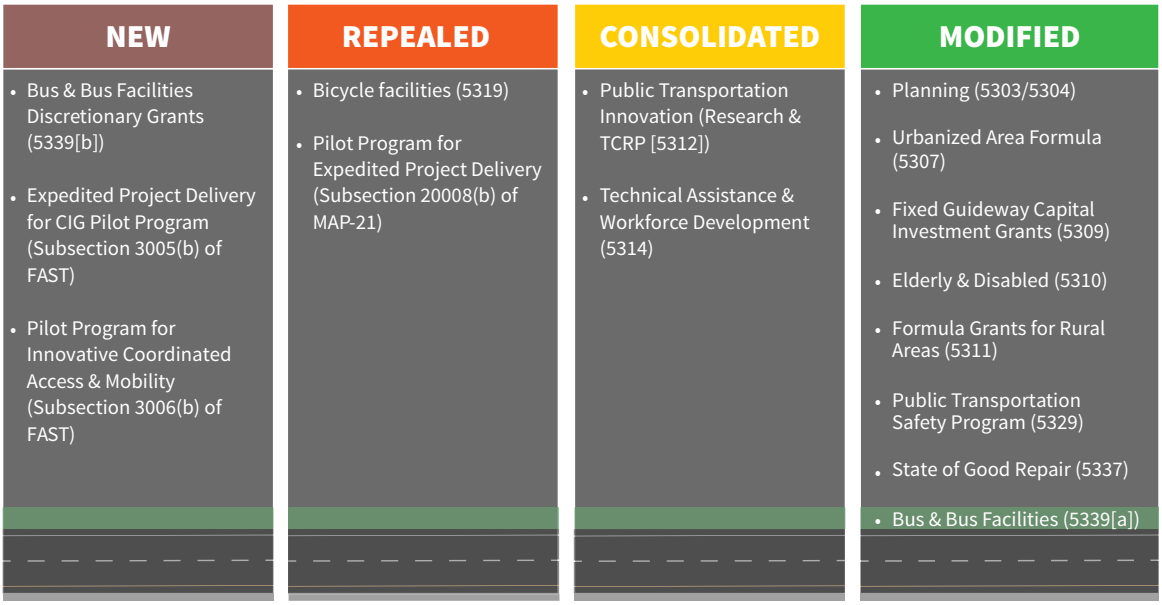


Figure 6.14: MAP-21 Transit Performance Mamagement

July 2012
Congress enacted Map 21

October 2012
Map 21 Effective

May 2013
LA DOTD Work Plan for Developing a TAMP

February 2015
LA DOTD Initial TAMP (Pilot)

1st Qt. 2016
Final Statewide Transportation Plan

March 2016
MAP 21 - TPM Highway Safety Improvement Program DOT Final Rule

March 2016
MAP 21 - TPM Safety Performance Measures DOT Final Rule

April 2016
MAP 21 - TPM System Performance Measures DOT NPRM

May 2016
MAP 21 - TPM Statewide & Metro Planning & Non-Metro Planning DOT Final Rule

September 2016
RAPC Long Range Transportation Plan 2040 Adoption

November 2016
MAP 21 - TPM Highway Asset Management Plan Anticipated DOT Final Rule

TBD 2016
MAP 21 - TPM System Performance Measures Anticipated DOT Final Rule

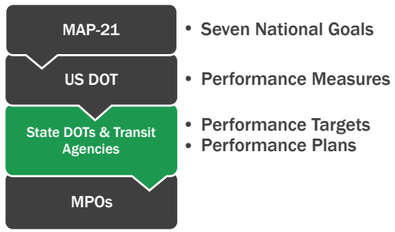
Mid 2017
MAP 21 - TPM DOT Planning Rule Anticipated Effective Date *(or 2 yrs. after publication of final rule making)*

Mid 2018
Setting of State Targets *(or 1 yr. after DOT final rule of performance measures)* [§1203; 23 USC 150(d)]

October 2018
Setting of MPO Targets *(or 180 days after State setting performance targets)* [§1201; 23 USC 134(h)(2)]

National policy in support of performance management
"Performance management will transform the Federal-aid highway program and provide a means to the most efficient investment of Federal transportation funds by refocusing on national transportation goals, increasing the accountability and transparency of the Federal-aid highway program, and improving project decision-making through "[§1203; 23 USC 150(a)].

MAP-21 Performance Management Framework



State DOT and Transit Agency Performance Targets
- **Transit Agencies (FTA Grantees)**
  - Establish SGR performance targets not later than **3 months** after TAM Rule
  - Establish Safety performance targets **1 year** after the Agency Safety Plan Final Rule
- **State DOTs**
  - Establish performance targets no later than **1 year** after 150(c) measures established

MPOs Integrate State & Transit Agencies Performance Plans
- Either directly or by reference
- Goals, objectives, performance measures, targets
- Includes: transit agency safety plan & transit asset management plan

MPO Performance Targets
- Establish performance targets within 180 days after State & public transportation providers establish performance targets;
- Coordinate with providers of public transportation to select SGR and safety targets; and
- Coordinate with State to select 150(c) targets.

What is the transit agency's role in the performance based planning process?
- Participate in the MPO Planning Process
  - Representation on the MPO
  - Metropolitan Planning Agreements
- Participate in the Rule-making Process

Representation by Providers of Public Transportation
- Have equal decision-making rights and authorities;
- Be elected or appointed board members or senior officer of transit provider - can wear two hats;

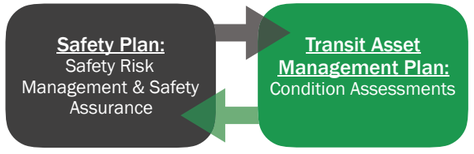
Operate in TMA and be eligible recipient of Urbanized Area Formula Funds; and
Be selected through a cooperative process.

PART 1: Proposed Safety Performance Criteria
Through MAP-21 and the FAST Act, Congress has required each "operator of a public transportation system" that receives FTA funds to develop and implement a Public Transportation Agency Safety Plan (49 U.S.C. 5329(d)). See NHTSA for safety performance measures.

Category	Criteria
Fatalities	Total number of reportable fatalities and rate per total unlinked passenger trips by mode
Injuries	Total number of reportable injuries and rate per total unlinked passenger trips by mode
Safety Events	Total number of reportable events and rate per total vehicle miles, by mode
System Reliability	Mean distance between failures by mode

Proposed Public Transportation Agency Safety Plan Elements

Safety's Relationship with Asset Management/SGR



PART 2: Transit Asset Management Plan
The Federal Transit Administration (FTA) estimates that roughly $78 billion (in 2009 dollars) would be necessary to cover the costs of rehabilitating or replacing the nation's transit assets and bring them to a "state of good repair."

Asset management is an approach that can help transit agencies decide how best to prioritize their capital investments to strategically allocate their limited resources to manage their existing assets and plan appropriately for rehabilitation and replacement.

TAM is required of all providers who are recipients or sub-recipients of Federal financial assistance under 49 U.S.C. Chapter 53, for example 5307.

Tier II TAM Plan Elements
1. Inventory of Capital Assets
2. Condition Assessment
3. Decision Support Tools
4. Investment Prioritization

State of Good Repair (SGR) Performance Measures

Category	Class
Rolling Stock	Age: % of revenue vehicles within a particular asset class that have met or exceeded their Useful Life Benchmark (ULB)
Facilities	Condition: % of facilities with a condition rating below 3.0 no the FTA Transit Economic Requirements Model (TERM) scale
Infrastructure	Performance: % of guideway directional route miles with performance restrictions by class
Equipment	Age: % of vehicles that have met or exceeded their ULB

DEFINITIONS
- **NPRM** - Notice of Proposed Rule Making
- **TPM** - Transportation Performance Management
- **TMA's** - Transportation Management Areas
- **MPO's** - Metropolitan Planning Organization
- **ULB** - Useful Life Benchmark
- **TBD** - To Be Determined
- **DOT** - United States Department of Transportation
- **LA-DOTD** - Louisiana Department of Transportation & Development
- **NHTSA** - National Highway Traffic Safety Administration

6.6 Funding Sources

The FAST Act's five years of predictable funding enables transit agencies to better manage long-term assets and address the backlog of state of good repair needs. Funding for new competitive grant programs for buses and bus facilities, innovative transportation coordination, workforce training, and public transportation research activities.

Table 6.7 describes types of funding sources availabe to transit providers and transit agencies based on applicability.

Table 6.7: Transit Funding Sources

Grant Type		Name	Description
Formula & Discretionary	5310	**Enhanced Mobility of Seniors & Individuals with Disabilities**	*Formula funding for the purpose of assisting private nonprofit groups in meeting transportation needs of the elderly and persons with disabilities. Section 3006(b) of FAST Act created a discretionary pilot program for innovative coordinated access and mobility -- open to 5310 recipients -- to assist financing innovative projects for the transportation disadvantaged that improve the coordination of transportation services and non-emergency medical transportation (NEMT) services.*
	5339	**Buses and Bus Facilities Grants Program**	*There are three components to this program. The first is a continuation of the formula bus program established on under MAP-21. The remaining two components include a bus and bus facilities competitive program based on asset age and condition, as well as a low or no emissions bus deployment program. A pilot provision allows designated recipients in in urbanized areas between 200,000 and 999,999 in population to participate in voluntary state pools to allow transfers of formula funds between designated recipients during the authorized legislation period.*
Formula	*5324*	**Public Transportation Emergency Relief Program**	*Helps states and public transportation systems pay for protecting, repairing, and/or replacing equipment and facilities that may suffer or have suffered serious damage resulting from an emergency, including natural disasters such as floods, hurricanes, and tornadoes.*
	23 USC 149	**Flexible Funding Programs - Congestion Mitigation and Air Quality Program**	*CMAQ provides funding to areas in non-attainment or maintenance for ozone, carbon monoxide, and/or particulate matter. Funds may be used for any transit capital expenditures otherwise eligible for FTA funding as long as they have an air quality benefit. States that have no non-attainment or maintenance areas still receive a minimum apportionment of CMAQ funding for either air quality projects or other elements of flexible spending.*
	5311	**Formula Grants for Rural Areas**	*Provides capital, planning, and operating funding for rural areas with populations less than 50,000, where many residents often rely on public transit to reach their destinations.*
	5307	**Urbanized Area Formula Grants**	*Provides funding to public transit systems in Urbanized Areas (UZA) for public transportation capital, planning, job access and reverse commute projects, as well as operating expenses in certain circumstances.*
	5337	**State of Good Repair Grants**	*Provides capital assistance for maintenance, replacement, and rehabilitation projects of existing high-intensity fixed guideway and high-intensity motorbus systems to maintain a state of good repair. Additionally, SGR grants are eligible for developing and implementing Transit Asset Management plans.*
	5314(a)	**Technical Assistance & Standards Development**	*Provides funding for technical assistance programs and activities to improve the management and delivery of public transportation and development of the transit industry workforce.*
	5303, 5304, 5305	**Metropolitan & Statewide Planning and Non-Metropolitan Transportation Planning**	*Supports cooperative and comprehensive planning in metropolitan areas and states, resulting in long-range plans and short-range programs reflecting transportation investment priorities.*
	5314 (b)	**Human Resources & Training**	*Provides for grants or contracts for human resource and workforce development programs as they apply to public transportation activities.*
	23 USC 133	**Flexible Funding Programs - Surface Transportation Block Grant Program**	*Provides funding that may be used by states and localities for a wide range of projects to preserve and improve the conditions and performance of surface transportation, including highway, transit, intercity bus, bicycle and pedestrian projects.*
	5311(c)(2)(B)	**Tribal Transit Formula Grants**	*Provides funding to federally recognized Indian tribes to provide public transportation services on and around Indian reservations or tribal land in rural areas.*
Discretionary	*5312*	**MOD Sandbox Demonstration Program**	*Funding for innovative business models to deliver high quality, seamless and equitable mobility options for all travelers.*
	5309(**)	**Expedited Project Delivery for Capital Investment Grants Pilot**	*Funded projects must be supported through a public-private partnership and demonstrate local financial commitment, technical capacity, and a certification that the existing transit system is in a state of good repair.*
	5309	**Pilot Program for TOD Planning**	*Provides funding to local communities to integrate land use and transportation planning with a transit capital investment that will seek funding through the Capital Investment Grant (CIG) Program.*
	5339(c)	**Low or No Emission Vehicle Deployment Program**	*The program provides funding to support the wider deployment of advanced propulsion technologies within the nation's transit fleet.*
	5312(i)	**Transit Cooperative Research Program**	*Research program that develops near-term, practical solutions such as best practices, transit security guidelines, testing prototypes, and new planning and management tools.*
		TIGER (USDOT)	*Transportation Investment Generating Economic Recovery Program (TIGER) funds innovative, multi-modal and multi-jurisdictional transportation projects that promise significant economic and environmental benefits to an entire metropolitan area, a region, or the nation.*
	5312	**Public Transportation Innovation**	*Provides funding to develop innovative products and services assisting transit agencies in better meeting the needs of their customers.*
	5307(h)	**Passenger Ferry Grant Discretionary Program**	*Provides competitive funding to public ferry systems in urbanized areas.*

CHAPTER 7

Bike & Pedestrian

7.1 Introduction

This chapter discusses non-motorized transportation in the MPA with particular emphasis on bicycling and walking modes. The chapter showcases relevant demographic trends and follows with an overview of the planning process for the Regional Bicycle & Pedestrian Plan. Also, the chapter outlines existing conditions, initiatives such as Complete Streets, and currently planned projects. The chapter ends with a summary of available funding sources for identified potential improvements based on input from public meetings as well as the Bicycle and Pedestrian Advisory Committee (BPAC).

Non-motorized modes play an important role in reducing congestion, improving air quality, and increasing mobility. Federal policy has emphasized a move towards a multi-modal approach to increase mobility for citizens. As with the motorized modes, an effective system is continuous and connects desirable destinations. Issues related to public health have also created interest in active modes of travel, such as bicycling and walking. Effectively planning for bicycle and pedestrian improvements are essential to accommodate increasing demands for alternative travel modes in the MPA.

The 2005 Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) required Metropolitan Planning Organizations (MPOs), for the first time, to consider the needs of the non-motorized users of the transportation network.

Successor bill, the 2012 Moving Ahead for Progress in the 21st Century Act (MAP-21) established a new program to provide for a variety of alternative transportation projects - the Transportation Alternative Programs, which replaced Transportation Enhancements, Recreational Trails, and Safe Routes to School, wrapping them into a single funding source.

The 2015 Fixing America's Surface Transportation Act (FAST Act) reauthorized Federal surface transportation programs for FY 2016 through 2020. Pedestrian and bicycle infrastructure projects remain broadly eligible across Federal-aid highway and transit programs. U.S. Department of Transportation (USDOT), States, MPOs, and cities should continue to promote and adopt design criteria and standards that provide for the safe and adequate accommodation of pedestrians, bicyclists, and motorized users.

7.2 Demographics

In Louisiana, planning for safe and accessible bicycle and pedestrian travel is supported at the state, regional, and local level. Establishing bicycle and pedestrian networks provides residents and visitors with cost-efficient and environmentally friendly alternatives to driving. These facilities also create opportunities for recreation and healthier lifestyles, and thus improve the quality of life in the community.

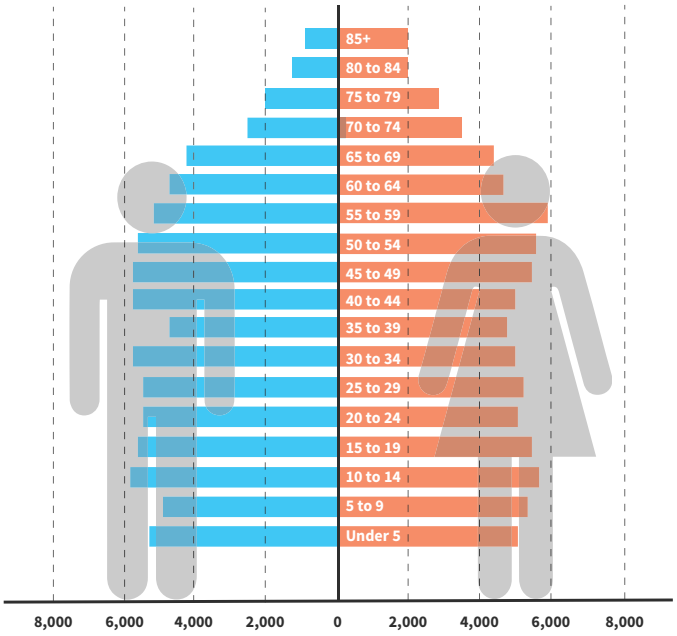
Several trails already exist in the area and there are plans for increasing this infrastructure. There is local demand for bicycle infrastructure, as shown by the past hosting of triathlons, the promotion of the Wild Azalea National Recreation Trail, La Tour de Bayou annual cycling and walking event. During the public meetings of the MTP, the public survey proposed eight priorities.

Approximately 66.7% of the respondents selected "Complete Streets" and 52.9% of the respondents selected "Bicycle and Pedestrian" as a priority. Respondents were asked to rank transportation improvement priorities on a scale from 1 to 5 and the average ranking of "Complete Streets" is 2.98 and "Bicycle and Pedestrian" is 3.59.

With a few exceptions, bicyclists have the same rights and duties as motorists. This is consistent with Federal policies promoting multi-modal travel and the current planning concept of "Complete Streets" – streets designed to accommodate a variety of users beyond motorists. These users may have various skill sets and therefore require different facilities. Therefore, planning for infrastructure for non-motorized travel first requires evaluating the types of users, their skill level, and the type of facility that each user would most likely use.

Pedestrians may be of any age group, with various movement speeds and sight lines. In general, pedestrian trips are relatively short. The main infrastructure for pedestrians is a sidewalk or a path that's shared with bicyclists. According to the 2014 5-year American Community Survey, nearly 53,633 residents living in the Alexandria Metropolitan Statistical Area (MSA), or 34.7 percent, are over age 64 or under the age of 14, making them potentially too old or too young to drive an automobile.

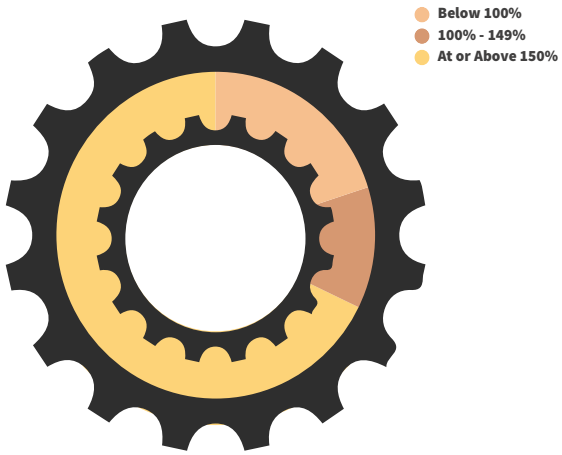
Figure 7-1: Population by Age, Cohort by Gender, Alexandria MSA



Source: U.S. Census Bureau, 2014 5-Year ACS

Another method for better understanding the demand for non-motorized travel is to look at U.S. Census data on households with no automobile and/or living below the poverty line. The Census Bureau's 2014 American Community Survey (ACS) indicates that roughly 1,660 households (2.8 percent of all households) within the MSA area do not own an automobile and 29,784 (20.2 percent of the total population) lived below the national poverty level during the previous twelve month period.

Figure 7-2: Population by Poverty Level, Alexandria MSA



Source: U.S. Census Bureau, 2014 5-Year ACS

7.3 Safety and Traffic

Planning for bicyclists and pedestrians requires an understanding of the different characteristics of both modes of travel. While bicyclists and pedestrians are often considered together as users of the transportation system, the two groups are actually very different. One common characteristic is vulnerability in crashes with motor vehicles.

Both groups are susceptible to suffering major and sometimes fatal injuries in incidents with motor vehicles, even when the vehicles are traveling at relatively low speeds. As illustrated in Table 7-1, 283 people were injured or killed from 2011 to 2015 while walking or cycling on state roads within Rapides Parish.

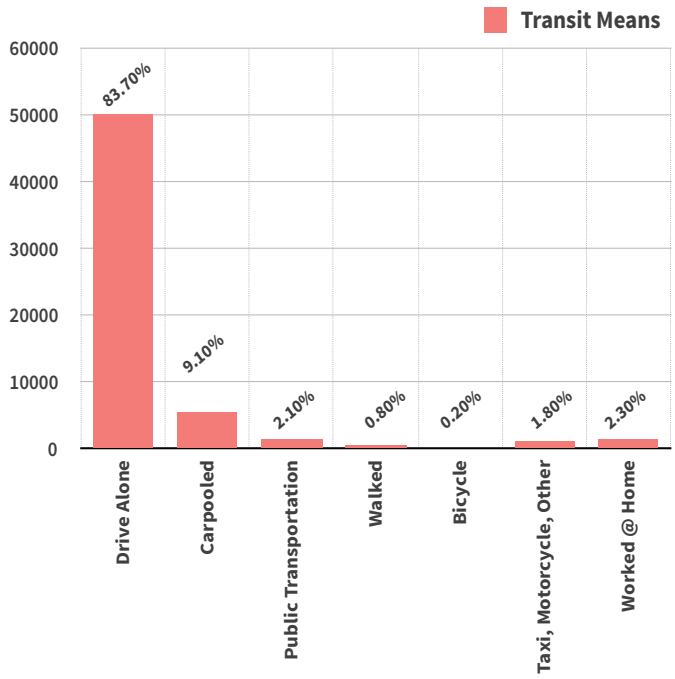
Table 7-1: Bicyclists and Pedestrian Injury and Fatality Data, Rapides Parish

	BICYCLIST			
YEAR	Fatal	Percent of All Traffic Fatalities	Injury	Percent of All Traffic Injuries
2011	0	0.00%	16	0.64%
2012	1	0.45%	14	0.48%
2013	0	0.00%	18	0.83%
2014	0	0.00%	18	0.78%
2015	0	0.00%	15	0.59%

	PEDESTRIAN			
YEAR	Fatal	Percent of All Traffic Fatalities	Injury	Percent of All Traffic Injuries
2011	6	24.00%	42	1.67%
2012	5	22.73%	48	1.93%
2013	3	18.75%	26	1.20%
2014	1	4.55%	34	1.47%
2015	5	22.73%	31	1.23%

Source: Louisiana Highway Research Group, Crash Reports 2011-2015, Rapides Parish

Figure 7-3: Means of Transportation to Work, Alexandria MSA



Source: U.S. Census Bureau, 2014 5-Year ACS

Table 7-2: Means of Transportation of Workers 16+

Transit Means	%	#
Car, Truck, or Van	92.8%	52946
Drove alone	83.7%	47754
Carpooled	9.1%	5192
• *In 2-person carpool*	6.8%	3880
• *In 3-person carpool*	0.9%	513
• *In 4-or-more person carpool*	1.4%	799
Workers per car, truck, or van	1.06	60477
Public transportation (excluding taxicab)	2.1%	1198
Walked	0.8%	456
Bicycle	0.2%	114
Taxicab, motorcycle, or other means	1.8%	1027
Worked at home	2.3%	1312

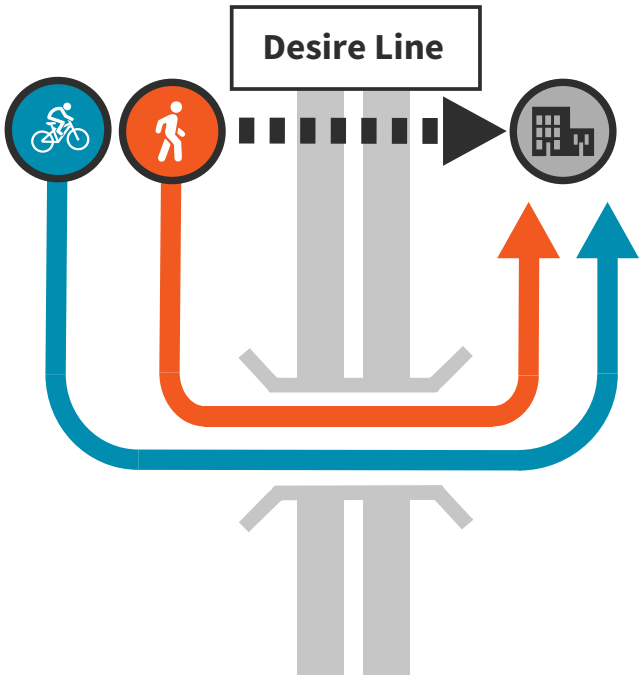
Source: U.S. Census Bureau, 2014 5-Year ACS

According to the 5-year American Community Survey (2010 - 2014), as show in Figure 7.3, approximately 114 residents in the Alexandria Metropolitan Statistical Area (MSA), or 0.2 percent of the total population, bike to work each day. Also, 456 people commute to work by walking.

Figure 7.4 shows pictures of existing facilities in the MPA. Apart from using cycling and walking as a commuting method, there are road users who bike and walk for recreational purposes. RAPC and the LADOTD provided Strava Metro bicycle and pedestrian count data to facilitate the needs assessment process. Strava is a smart-phone app that individual users can track their rides, runs, walks and hikes with.

In general, the Strava data is useful for ascertaining bike/pedestrian commute data. However, after examining the aggregated data in the MPA, it was clear that the app captured more recreational trips in comparison to commuting trips, as shown in Figure 7.5 and 7.6.

Figure 7.4: Conflict Reduction by Providing Access



Source: FHWA, www.fhwa.gov

Photo 7.1: Existing Bicycle & Pedestrian Facilities in Alexandria/Pineville Area

Source: RAPC 2015-2016

Alexandria/Pineville

Metropolitan
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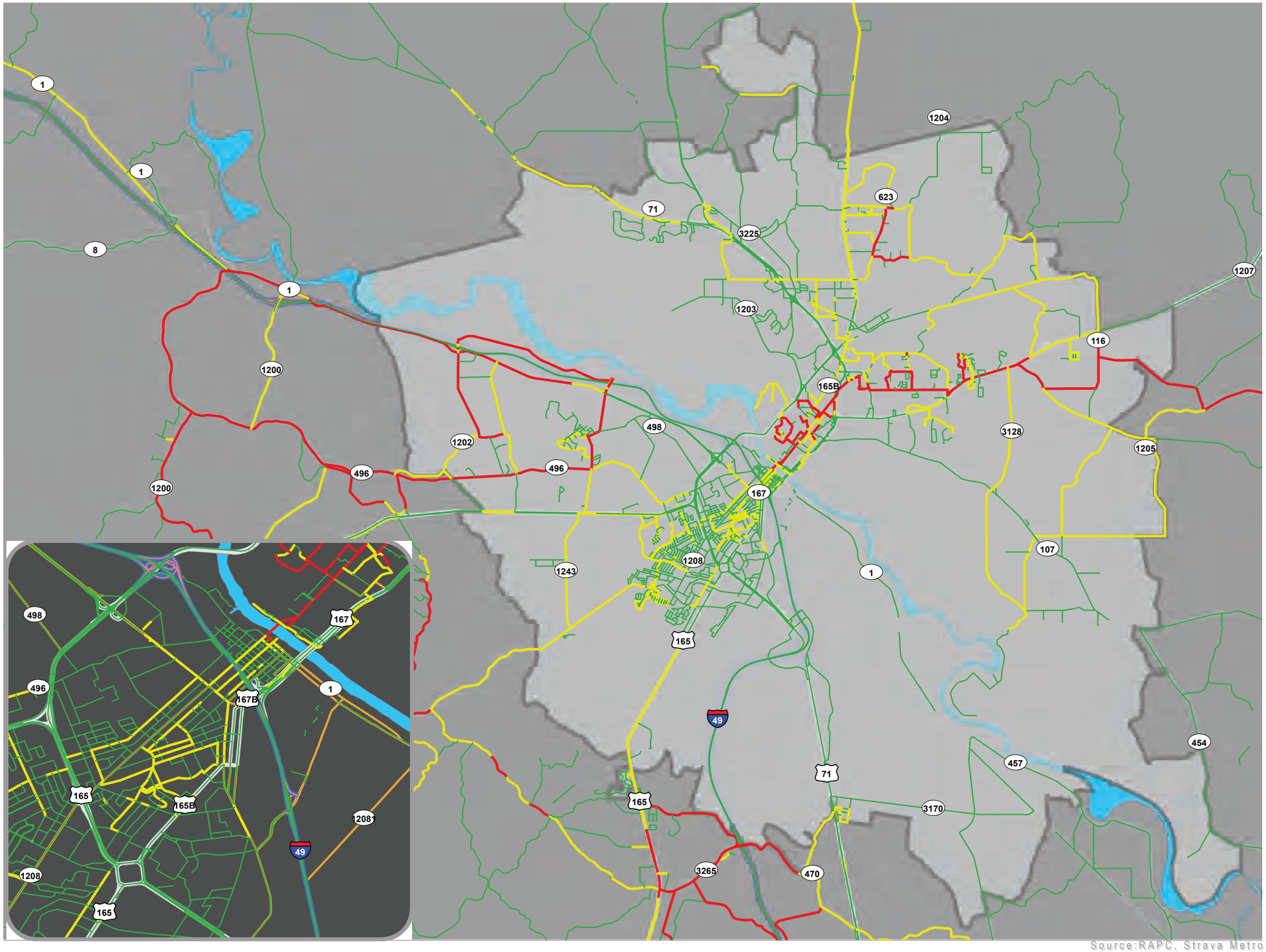
2040

Figure 7.5

Strava Metro
Bike Ride Count



LEGEND

- Below 25
- 26 - 100
- Above 100
- MPA
- Interstate
- Major Highway
- Minor Highway
- Red River

Bike Ride Count time period:
March 2014 - March 2015

0 1 2 4 Miles

N

PREPARED BY:

RAPC DOTD

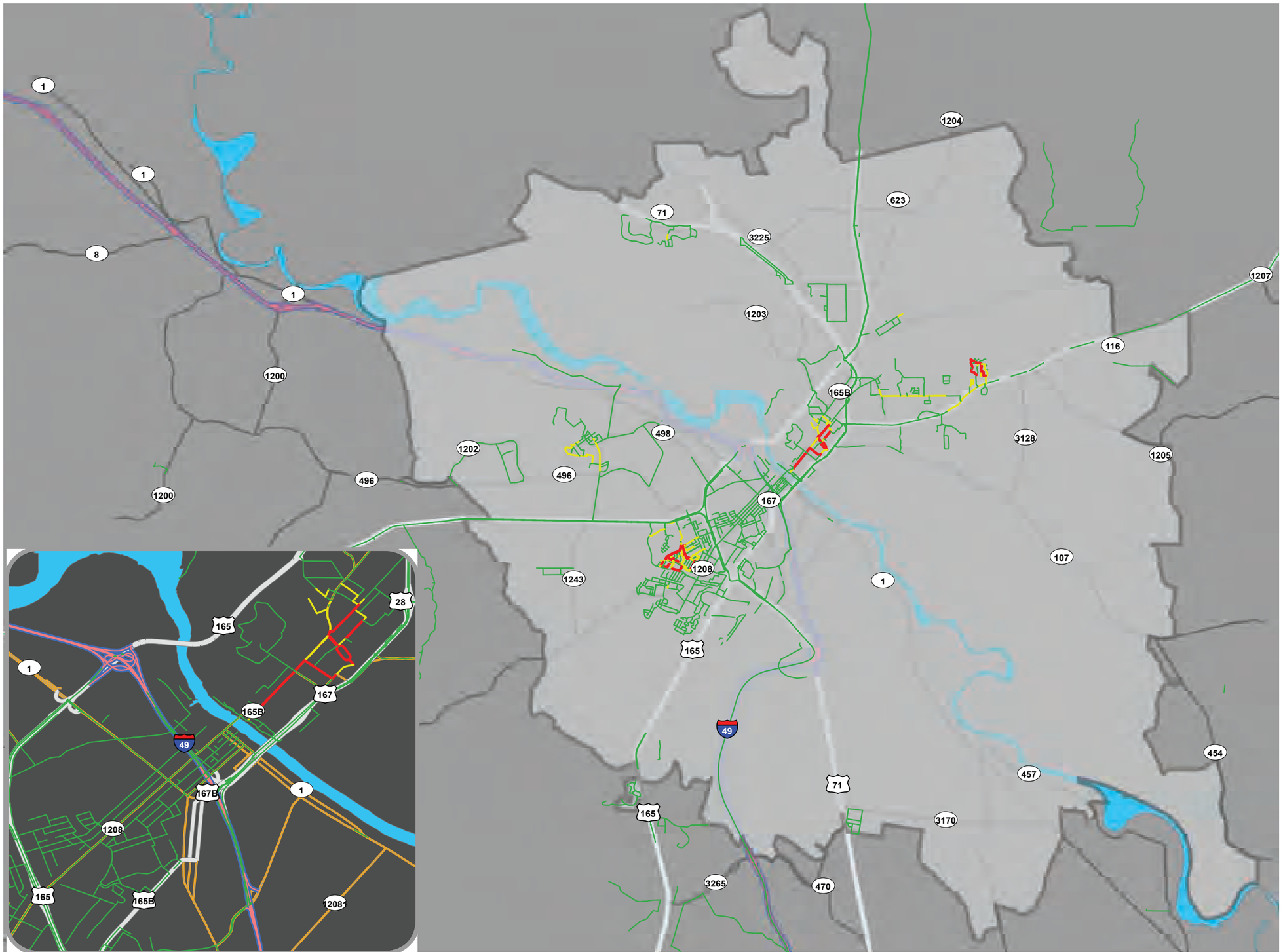
Date:08/22/2016

Alexandria/Pineville

Metropolitan Transportation Plan 2040

Figure 7.6

Strava Metro Pedestrian Ride Count



Source:RAPC, Strava Metro

LEGEND

Pedestrian Count

- Below 25
- 25 - 50
- Above 50
- MPA
- Interstate
- Major Highway
- Minor Highway
- Red River

Pedestrian Count time period: March 2014 - March 2015

0 1 2 4 Miles

N

PREPARED BY:

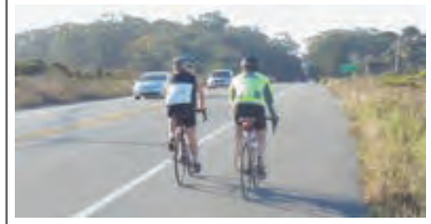
RAPC DOTD

Date:08/22/2016

7.4 Types of Non-Motorized Facilities

Table 7-3: Bicycle and Pedestrian Facilities

As noted above, different users of the non-motorized transportation system have different abilities and different potential destinations. The following sections describe the types of non-motorized infrastructure that are used in many communities throughout the nation.

Facility Type	Description	Silent Features (min./max. dimensions)	Sample Pictures
Paved Shoulder	**Paved shoulders provide separated space for the operation of bicycles. However, paved shoulders are not considered travel lanes, and therefore may be used for temporary storage of disabled vehicles and vehicle parking, unless prohibited.**	Shoulder widths are typically a function of the amount of bicycle usage, motor vehicle speeds, topography, percentage of truck and bus traffic, etc., although widths are sometimes purely a function of available right-of-way.	
Bike Lane	**Designated by a white stripe, a bicycle symbol, and signage that alerts all road users that a portion of the roadway is for exclusive use by bicyclists.**	Min 4 feet, preferable 5 feet Conventional bike lanes and buffered bike lanes are usually placed by the right side	
Bike Routes/ Marked Shared Lanes	**All roadways, except where prohibited by law, are shared by bicycles and motor vehicles. A shared-lane pavement marking can also be used to provide a higher level of guidance to bicyclists and motorists.**	Signs that say SHARE THE ROAD or BICYCLES MAY USE FULL LANE help alert motorists that they may encounter bicyclists and encourage them to be respectful. a lane width of 14 to 15 - for vehicles to pass bicyclists without switching lanes Low traffic volume, neighborhood roads are safer and comfortable than major roadways for bicyclists.	
Bike Trail/ Shared-Use Paths/Side-paths	**Shared-use paths provide off-road connections that can be used for recreation and commuting.**	These paths are often found along waterways, abandoned or active railroad and utility rights-of-way, limited access highways, or within parks and open space areas.	
Sidewalk/ Walkways	**Sidewalks and walkways are "pedestrian lanes" that provide people with space to travel within the public right-of-way that is separated from roadway vehicles.**	Minimum width of 5 feet for a sidewalk or walkway, which allows two people to pass comfortably or to walk side-by-side. Preferred 6 feet - FHWA	

Source: Pedestrian and Bicycle Information Center; FHWA Bicycle and Pedestrian Program Guidance
Photo Source: Rural California, cycling made more pleasant with bike lanes or cycle able paved shoulders. Half Moon Bay CA. ©Photograph by H-JEH Becker, 2012
40th Street/MacArthur BART Bicycle Access Project, City of Oakland http://www2.oaklandnet.com/government/o/PWA/o/EC/s/BicycleandPedestrianProgram/OAK043755; http://www.streetsblog.org/2006/11/13/birth-of-a-class-iii-bike-route/ http://www.chron.com/news/houston-texas/article/Grant-money-to-string-beads-of-city-s-bike-paths-3656812.php; http://www3.alexandriava.gov/freedmens/photos/neighborhood/TypicalOldTownSidewalkPaving.JPG

7.5 Regional Bicycle and Pedestrian Plan

In June 2014, the Alexandria/Pineville MPO received approval from LADOTD to develop a region-wide bicycle and pedestrian plan. The plan proposal was approved by the LADOTD and the agreement was signed on October 31st, 2014. The Regional Bicycle and Pedestrian Plan (State Project No. H. 972104) is a two-year project from November 2014 to November 2016. Through the development of a bicycle and pedestrian plan, the MPO staff has solicited needs for non-motorized vehicle uses in the urbanized area; captured the preferences for alternative travel modes; facilitated transportation planning and implementation decisions on bicycle/pedestrian issues; and coordinated regional efforts on the safety education of motorists, cyclists and pedestrians.

The planning process is divided into eight phases, including:

1. Existing Conditions Report;
2. Previously Planned and Funded Improvements to the System;
3. Identification of Stakeholders and Formation of Bicycle and Pedestrian Advisory Committee (BPAC);
4. Needs Assessment and Public Outreach;
5. Goals, Objectives, Strategies and Performance Measures;
6. Planned Infrastructure, Prioritization and Potential Funding Sources;
7. Draft Plan for Public Input; and
8. Plan Adoption.

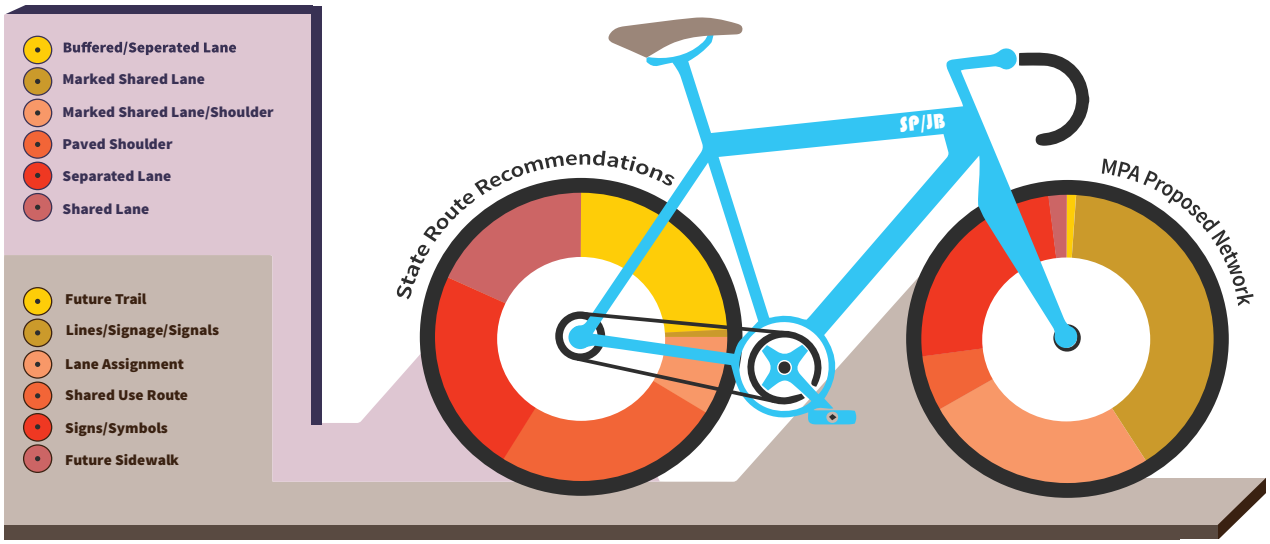
The BPAC was formed in May 2015, consisting of members from the following organizations:

- Elected Officials
- Parish and city employees
- Planning
- Engineering
- Convention and Visitors Bureau
- Interested citizens and grassroots organizations
- LADOTD
- MPO Staff
- FHWA

The MPO staff presented demographic data, GIS data, crash data analysis, and maps during BPAC meetings. Members of the BPAC then brainstormed strengths, weakness, opportunities and responses (SWOR) regarding bicycling and walking within the study area and proposed goals and strategies addressing these goals. The MPO staff compiled inputs from the BPAC, research, and data analysis results and came up with recommended strategies.

Figure 7.7 illustrates various bike and pedestrian facility improvements both at the State and MPA level.

Figure 7.7: Distribution of Proposed BPP Network



Source: BPAC - RAPC, LADOTD

The following goals were identified:

Goal 1: ***Improve mobility by expanding cycling and pedestrian infrastructure.***

Mobility of alternative transportation modes is the ability to move freely and easily via public transit, bicycle or walking. If the streets are uncomfortable, sometimes impossible for walking or biking, then an individual's mobility may be restricted, especially for those who do not own a motor vehicle and have limited public transit options. Expanding pedestrian and cycling infrastructure ensures that more people can safely and efficiently walk or bike to their destinations, thereby increasing their mobility.

- **Strategy 1**: Create a safe and comprehensive network of bicycle and pedestrian facilities integrated into the regional transportation system.
- **Strategy 2:** Integrate bicycle and pedestrian facilities with regional transit services, parks, shopping centers and schools.
- **Strategy 3:** Increase recreational and long-distance trails, linking the city and the National Forest trails and adding economic incentives of tourism and outdoor activities.
- **Strategy 4:** Integrate bicycle and pedestrian planning into local transportation planning process, such as requirements in new street construction, at suitable locations and corridors.
- **Strategy 5:** Develop performance measures for the implementation of the bike/pedestrian plan.

Goal 2: ***Improve connectivity of existing infrastructure.***

During the BPAC meetings, members of the committee emphasized the importance of increasing the popularity of biking and walking and commented that opportunities for bicycling and walking are dispersed throughout the urban and rural areas of the Alexandria Metropolitan Planning Area, including the downtown areas of Alexandria, Pineville and Boyce, along existing trails, and near recreational and tourism assets. Based on this observation, it is recommended to place emphasis on enhanced connectivity among existing infrastructure.

- **Strategy 1:** Complete a comprehensive inventory of existing road features on location and condition, especially for sidewalk and bicycle facilities.
- **Strategy 2:** Identify gaps, opportunity, and potential locations for improvements of connectivity of the existing network. Improve, rebuild, or retrofit infrastructure which has exceeded its useful and functional life. For example, older sidewalks need to be reconstructed to ensure ADA compliance.
- **Strategy 3:** Recommend incorporating bicycle and pedestrian facilities along the existing and planned network.
- **Strategy 4:** Coordinate and collaborate among agencies, including LADOTD, the MPO and local agencies for data sharing and information exchanging.

Goal 3: ***Improve safety for all road users and implement user-friendly countermeasures for bicyclists and pedestrians.***

While a higher number of crashes involving bicyclists and pedestrians tend to occur in high-density urban areas, the BPAC expressed a significant concern for safety in the Alexandria/Pineville area, which is mid-to-low density and suburban or rural in nature. Potential strategies to improve safety for bicyclists, pedestrians, and motor vehicle road users include separated bike lanes/sidewalks, high-visibility crosswalks, treatments that are ADA-compliant, reconfiguration of travel lanes, etc.

- **Strategy 1:** Support, create and implement a Complete Streets policy.
- **Strategy 2:** Identify the locations of high pedestrian and bicycle usage. Apply proper signage and lane markings in these locations.
- **Strategy 3:** Special emphasis should be given to ensuring proper infrastructure is in place for school traffic. Partner with LADOTD program coordinators to assist agencies in seeking resources to implement pedestrian safety improvement projects.
- **Strategy 4:** Implement proven and effective safety countermeasure such as "road diets" and "Pedestrian Hybrid Beacons" as recommended by FHWA at problem locations.
- **Strategy 5:** In lieu of the Regional Strategic Highway Safety Plan, provide assistance to cities and parishes to identify/correct immediate risks to bicyclists associated roadway features, such as railway crossings and pavement joints, etc.

Goal 4: ***Educate and promote proper uses of bicycle and pedestrian facilities and encourage inter-agency collaboration.***

The majority of trips in the study area are made by personal automobile. The BPAC placed a huge emphasis on educating and promoting the proper use of alternative modes of transportation on all aspects, including laws and regulations as well as benefits and their necessity.

- **Strategy 1:** Increase public awareness and knowledge about the economic, environmental and health benefits of walking and biking as practical modes of transportation.
- **Strategy 2:** Increase the public awareness and knowledge about the laws and regulations, proper use, roles and responsibilities for both non-motorized road users and motorized road users.
- **Strategy 3:** Cultivate and nurture collaborative relationship with public elected officials on the benefits of including walking and biking.
- **Strategy 4:** Consult and seek partnerships with advocacy groups to integrate route preference to the planning, designing, engineering and construction stages of bicycle and pedestrian facilities.
- **Strategy 5:** Participate and promote National/Statewide/Local bicycle safety campaigns and events, such as the Bike Safety Month, Walk to School Day, Le Tour de Bayou, etc.

7.6 Existing and Planned Non-Motorized Infrastructure

The first step in planning for non-motorized transportation facilities is to inventory the current infrastructure. Very few cities have detailed data on sidewalks; however, the MPO and LADOTD have contracted with Fugro N.V to collect road feature data for asset inventory, which can be used to develop a GIS based public roadway inventory. Data pertaining bicycling and walking facilities to be collected and delivered by this project including:

- number of travel lanes;
- start and end location of sidewalk on both sides of road;
- street signs; and
- striping.

The delivery of data is pending. The Fugro data on pavement condition will be used to supplement the information presented in the current MTP and explained in detail within the Regional Bicycle and Pedestrian Plan, given that the data is provided before the closing of the current project.

The City of Alexandria has provided a list of capital projects within the city limits from 2011 to 2015 as well as anticipated projects. Table 7.3 summarizes anticipated projects whereas Table 7.4 summarizes street-scaping, sidewalk and bike lane projects in the City of Alexandria that have been recently completed or financed. Figure 7.8 details existing and proposed bicycle facilities within the region. Figure 7.9 mapped out bicycle facility recommendation from LADOTD on state routes.

Table 7.4: Anticipated City of Alexandria Bicycle & Walking Infrastructure Projects

	Project Name	Project Summary	Project Limit
1	Bolton Ave. Phase III	Streetscape, Sidewalk and Lighting	Lee Street to Elliott Street
2	Bolton/Rapides Ave. Intersection Improvements	Roundabout	Bolton at Lee Street
3	6th and 7th/Cotton Street to Monroe	New Bridge over Rapides Bayou and Street Construction	Third Street to Monroe Street.
4	Fosiy Street Reconstruction	Replace Box Culvert and Rebuild Street	Monroe to Mason Street
5	Hudson Blvd. Reconstruction	Reconstruction of Existing Street	Hynson Bayou to Eddie Williams
6	Tulane Ave. Reconstruction	Reconstruction of Existing Street	Clinton Street to Eddie Williams
7	Horseshoe Drive Reconstruction	Reconstruction of Existing Street	Jackson Street to MacArthur Drive
8	Provine Place Extension	New Street	Cloverleaf to McKeithan Drive
9	Masonic Drive Road Diet	Bike lane and median with Single lane traffic each way	Texas Ave. to Lee Street
10	Lee Street Streetscape	Streetscape, Sidewalk, Lighting	Masonic Drive to Bolton Ave.
11	Applewhite Street Bridge Replacement	Replace Bridge	Applewhite at Chatlin Lake Canal
12	Baldwin Ave. Extension	New Construction	Allen Street to Sterkx Road
13	Belleau Wood Crossing at Bayou Roberts	New Street and Box Culvert	Belleau Wood at Bayou Roberts
14	Empire Drive Reconstruction & Drainage	Reconstruction of Existing Street	Sterkx to Baldwin
15	North Drive/Memorial Drive Intersection Imp.	Roundabout	North Drive and Memorial Drive
16	Toria Drive Crossing Goodearth Ditch	Bridge and Street Construction	Toria Drive at Goodearth Ditch
17	Versailles Blvd. at Provine Place Intersection Imp.	Roundabout	Versailles Blvd. at Provine Place
18	Tulane Ave. Bridge Replacement	Replace Existing Bridge	Tulane at Hynson Bayou
19	Provine Place Sidewalk Improvements	Sidewalks on Provine Place	Ansley to Versailles

Source:City of Alexandria, Engineering Department

Table 7.5: Bicycle and Pedestrian Facilities Project Status

Project Name	Completed	Description	Project Limits
City Projects from October 2011 to Oct. 2015 Except MPO Projects			
Masonic Drive Streetscape Phase I	July. 2011	Sidewalk and Streetscape including lighting	Lee Street to Texas Ave.
Enterprise Road Sidewalk Improvements	Nov. 2011	New Sidewalk on South side of Enterprise	La. Hwy. 1 to Cole Street
Aaron Street Sidewalk Improvements	Feb. 2012	New Sidewalks on North side of Arron Street	Willow Glen River Road to Davis Street
Monroe Street Sidewalk Improvements	Aug. 2012	New Sidewalks on North side of Monroe	Prospect Street to Harmon Park
Lincoln Road Street and Drainage Improvements	Dec. 2012	Lincoln Road reconstruction including widening sidewalks on both sides.	Hudson Street to Sugarhouse Road
Masonic Drive at Horseshoe Drive Int. Improv.	Dec. 2012	Widening and addition of left turn lanes on Horseshoe Dr.	Intersection of Masonic Drive and Horseshoe Drive
Bolton Ave. Core Zone	July. 2013	Sidewalk and Streetscape including lighting	Elliott Street to Monroe Street
Bike Lane Striping	July. 2013	Bike lane striping on each side of Bolton Ave. and Lee Street	Bolton Ave. from Lee Street to Rapides Ave. and Lee Street
Green Oaks Street and Drainage Improvements	Sep. 2013	Reconstruction of Green Oaks Street	Third Street to 7th Street
Toria Drive Construction	July. 2014	Complete Street Construction	Tot Drive to Ragan Street
Belleau Wood Extension	July. 2015	Extension of Belleau Wood	Jackson Street to North Property line of Walmart
Bolton Ave. Phase II	July. 2015	Sidewalk and Streetscape including lighting	Monroe Street to Rapides Ave.
Duel Left Turn Lane Jackson at Peterman	Aug. 2015	Added Duel Left Turn Lanes at Jackson and Peterman	Jackson and Peterman
Jackson Street Sidewalk Improvement	Dec. 2015	Sidewalk Replacement and Bulb Outs on Jackson, 8th Street and 9th Street including parking striping on 8th and 9th Streets.	Jackson Street from 8th Street to 9th Street including 8th and 9th Streets.
Hudson Blvd. - Hynson Bayou Bridge Replacement	Dec. 2015	Replacement of Existing Bridge over Hynson Bayou	Hudson Blvd. at Hynson Bayou
Jones Ave. Bike Lane	March. 2016	Bike lane on each side of Jones Ave.	Willow Glen River Road to Broadway Ave.
Funded City Project under Design and Construction except MPO Projects			
Third Street Improvements	Under Contract	Streetscape, Lighting, Surfacing Bike Lane	Third Street from Mason to Broadway
Masonic Drive Phase II	Under Design	Streetscape, Sidewalk, Lighting, Pedestrian Crossing	Masonic Drive from Texas to MacAuther Drive
Masonic Drive Phase III	Under Design	Streetscape, Sidewalk, Lighting, Pedestrian Crossing	South side of Masonic Drive from Rensselaer to Texas Ave.
Hudson Blvd. - Chatlin Lake Bridge Replacement	Under Design	Replacement of Existing Bridge over Chatlin Lake Canal	
Prescott Road Sidewalk Improvements	Under Construction	Install Sidewalks on North side of Prescott Road	Roanoke Street to Cherokee Elementary
Cloverleaf Blvd. Extension	Under Design Funded FY 16-17	Widening and Connection to Provine Place	Hwy 28 West to Provine Place
Private Project to be Accepted by City			
Pecan Bayou Subdivision	Under Construction	Various Street for Subdivision	Versailles Blvd. South of Provine Place
The Lake District Subdivision	Under Construction	Various Street for Subdivision	Versailles Blvd. South of Ansley Blvd.
Ansley Blvd. Extension	Under Construction	New Street	Dead end of Ansley Blvd. to Versailles Blvd.
Provine Place	Under Construction	New Street	Versailles Blvd. to Cloverleaf Blvd.

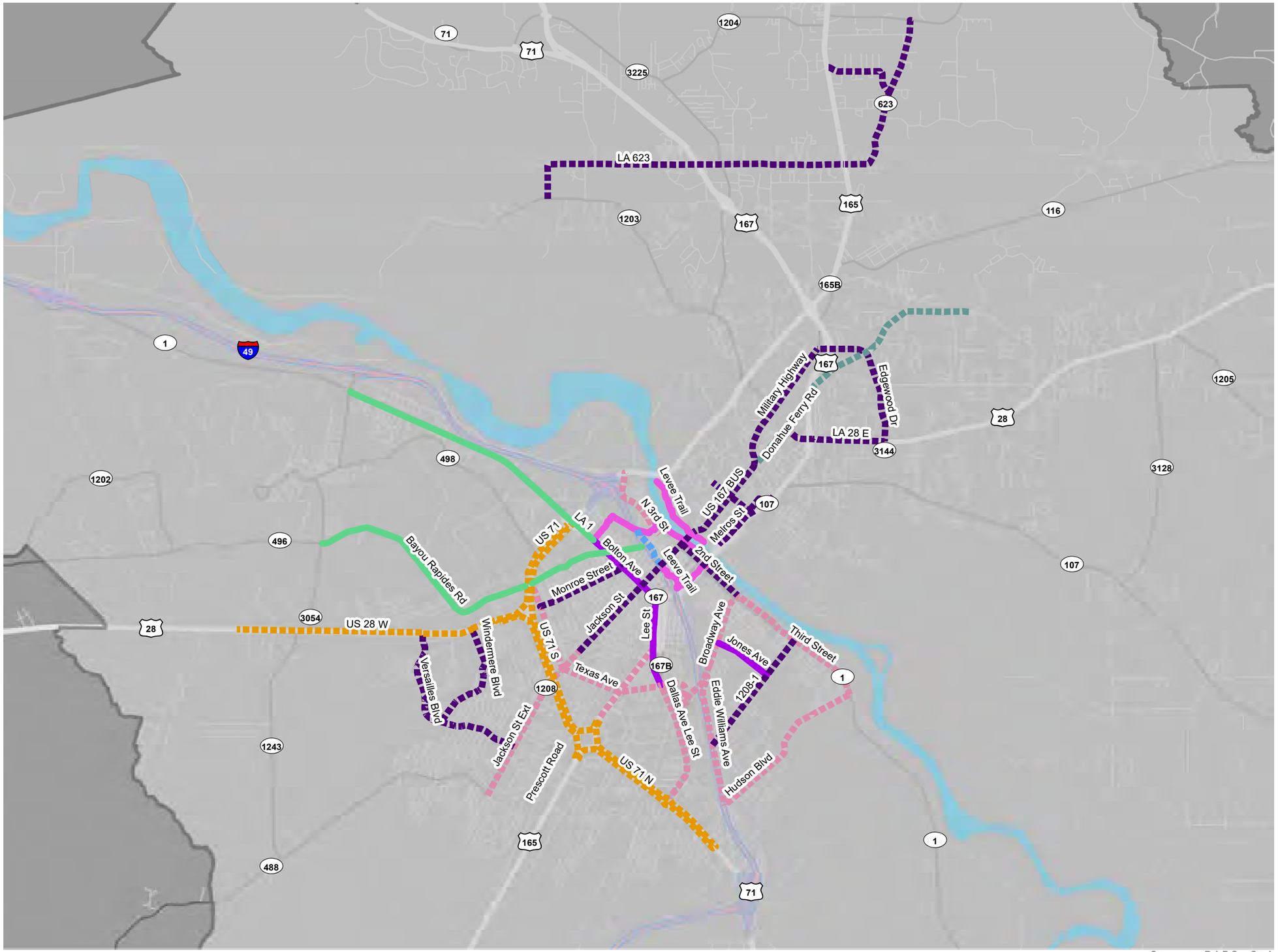
Source:City of Alexandria, Engineering Department

Alexandria/Pineville

Metropolitan Transportation Plan 2040

Figure 7.8

Existing & Proposed Bike Network



Source: RAPC, CoA

LEGEND

- Proposed Network Treatment Type
- Existing Shared Route
- Existing Trail
- Existing Bike Lane
- Future Trail
- Signs and Symbols
- Edge Line + Signage
- Lane Assignment
- Shared Use Route
- MPA
- Interstate
- Major Highway
- Minor Highway
- Roads Basic
- Red River

0 0.5 1 2 Miles

N

PREPARED BY:

RAPC DOTD

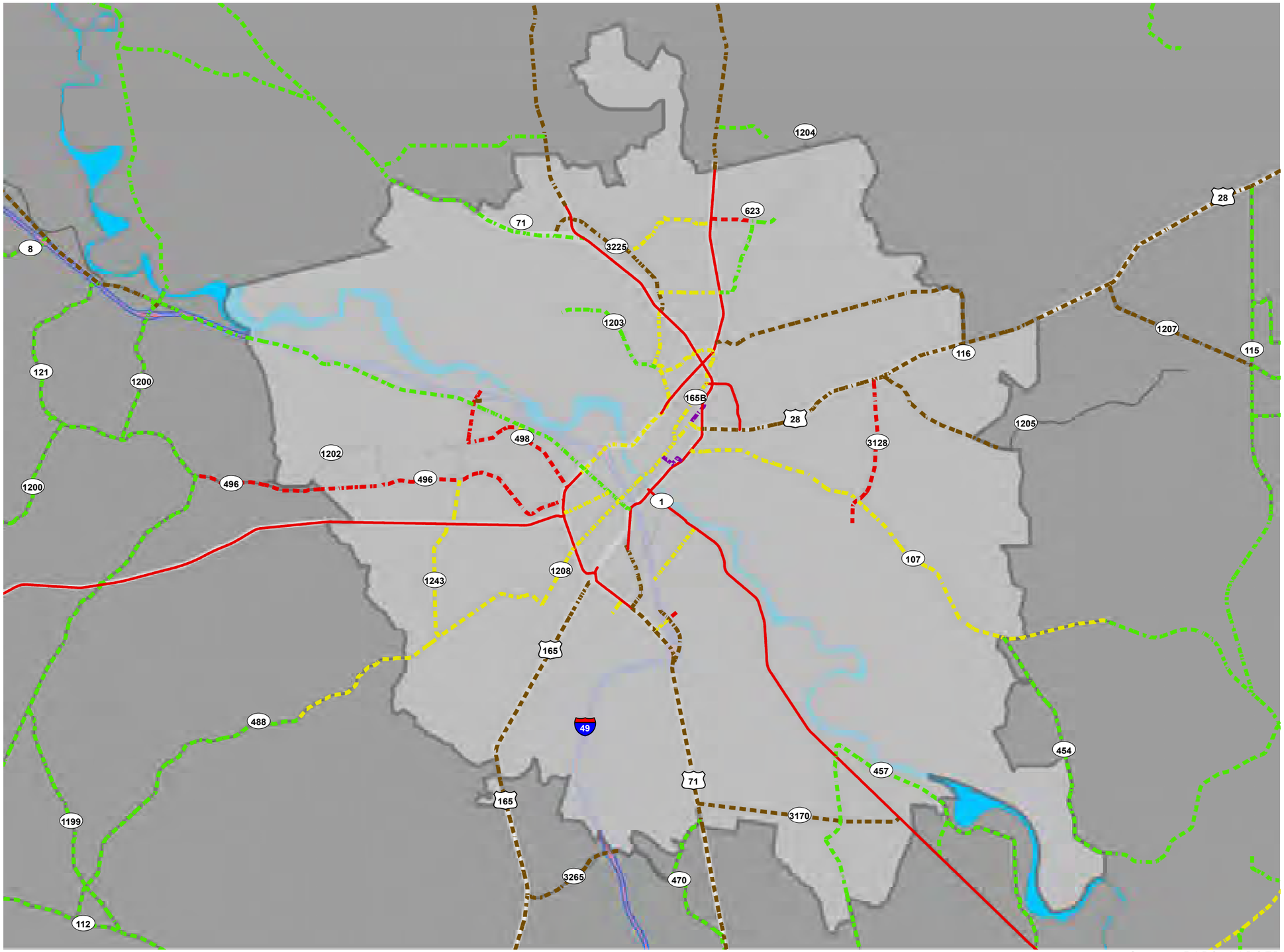
Date:08/22/2016

Alexandria/Pineville

Metropolitan Transportation Plan 2040

Figure 7.9

State Route Recommendations



LEGEND

- Shared Lane
- Marked Shared Lane
- Marked Shared Lane/Shoulder
- Paved Shoulder
- Bike Lane/Buffered Bike Lane
- Buffered/Separated Bike Lane
- Separated Bike Lane
- MPA
- Interstate
- Major Highway
- Minor Highway
- Red River

0 1 2 4 Miles

N

PREPARED BY:

RAPC DOTD

Source: RAPC, LADOTD

Date:08/22/2016

7.7 Funding Sources

Typically an important factor in prioritizing projects is the availability of funds. This section lists a variety of potential sources for funding.

Local Funding Resources

Local jurisdictions have various options for funding pedestrian and bicycle improvements. The first option is for a municipality to dedicate a portion of their general funds to support the costs of upgrading and maintaining the non-motorized transportation network. Likewise, local governments can issue general obligation bonds, which require a voter referendum. Special assessment districts, Tax Increment Financing, impact fees, dedicated sales and property taxes can also be local sources of funding for bicycle and pedestrian facilities. In addition, developers can be encouraged to integrate bicycle and pedestrian facilities into new developments.

State Funding Resources

There are no dedicated bicycle and pedestrian funding programs funded by the State of Louisiana. Federally funded programs are administered by LADOTD, which may provide local match funding for incidental bicycle and pedestrian projects as part of its Complete Streets Policy. The State's capital outlay budget has also historically provided funding for certain bicycle and pedestrian projects.

Federal Funding Resources

There are various Federal sources of funding for non-motorized projects and programs. The U.S. Department of Transportation (USDOT) is the largest source of this funding, channeling financial assistance for bicycle and pedestrian facilities through the FHWA and FTA. Most of these grant programs require an 80 percent Federal share and 20 percent non-Federal match. However, other federal agencies also provide funding sources for bicycle and pedestrian projects.

National Highway Performance Program (NHPP)

The National Highway Performance Program (NHPP) under the FAST Act (§ 1106; 23 U.S.C. Section 119), is a funding program that provides assistance for bicycle and pedestrian improvements along urban and rural roads. The NHPP provides support for the condition and performance of the National Highway System (NHS), for the construction of new facilities on the NHS, and to ensure that investments of Federal-aid funds in highway construction are directed to support progress toward the achievement of performance targets established in a State's asset management plan for the NHS.

Surface Transportation Block Grant Program (STBG)

The Surface Transportation Block Grant Program (STBG) under FAST Act (§ 1109; 23 U.S.C. 133), promotes flexibility in State and local transportation decisions and provides flexible funding to best address State and local transportation needs. In general, STBG projects are located only on federal-aid eligible roads. There are a number of exceptions to this requirement, such as the ability to use up to 15% of a State's rural sub-allocation on minor collectors. Other exceptions include: bridge and tunnel projects; safety projects; fringe and corridor parking facilities/programs; recreational trails, pedestrian and bicycle projects, and safe routes to school projects; boulevard/roadway projects largely in the right-of-way of divided highways; inspection/evaluation of bridges, tunnels, and other highway assets; port terminal modifications; and projects within the pre FAST Act title 23 definition of "transportation alternatives."

Transportation Alternatives (TA) Set-Aside

The FAST Act eliminates the MAP-21 Transportation Alternatives Program (TAP) and replaces it with a set-aside of the Surface Transportation Block Grant (STBG) program funding for transportation alternatives. These set-aside funds include all projects and activities that were previously eligible under TAP, which combined the former Transportation Enhancement Activities Program (TEA), Safe Route to School Program (SRTS) and the Recreational Trails Program (RTP), encompassing a variety of smaller-scale transportation projects such as pedestrian and bicycle facilities, recreational trails, safe routes to school projects, community improvements such as historic preservation and vegetation management, and environmental mitigation related to storm water and habitat connectivity.

Highway Safety Improvement Program (HSIP)

The Highway Safety Improvement Program (HSIP), 23 U.S.C. Section 148, provides assistance to states to dramatically reduce traffic-related fatalities and injuries on all public access roadways. Each state must initially apply HSIP funding to improving rural roadways that are at a high risk for traffic-related crashes. Once states have met Federal requirements for improving safety on their high risk rural roads, they can utilize the remaining funding for any safety related improvement. Safety projects that are eligible for this funding include any improvements that reduce the risk of traffic related crashes for bicyclists or pedestrians such as, intersection improvements, signage near school zones, and traffic calming.

State and Community Traffic Safety Program
The State and Community Traffic Safety program, Section 402, is available to assist states and communities with improving highway safety by reducing traffic related crashes and accidents. Funded by the Governors Highway Safety Association, this resource is provided to each state based on a level of need formula and they are responsible for administering the program.

States shall meet various stipulations before they are allowed to receive financial assistance from Section 402. For example, they are required to annually prepare safety and performance plans that demonstrate that the states' efforts have reduced highway traffic related crashes. States can utilize Section 402 funds for bicycle and pedestrian safety education campaigns, security measures such as police patrols, and traffic calming through speed reduction.

Federal Transit Administration
The Federal Transit Administration (FTA) (49 U.S.C. Section 5307) provides capital improvement and transportation planning assistance funding to transit operators in urban communities, as designated by the US Census Bureau, with 50,000 to 200,000 in population size. These 5307 funding resources are formula based and distributed by population size and density.

Section 5310, Enhanced Mobility of Seniors and Individuals with Disabilities, provides formula funding to states for the purpose of assisting private nonprofit groups in meeting transportation needs of the elderly and persons with disabilities. Mention Section 5311 for rural areas.

Eligible recipients for FTA capital formula grants include any publicly owned transit operator or governmental agency that has the authority to accept and disperse Federal resources. Eligible capital improvements that enhance multi-modal connections to transit include adding bicycle racks to vehicles, providing bicycle storage near transit centers, and providing accessible pathways near bus stops.

Transportation Investment Generating Economic Recovery (TIGER) Grant
Transportation Investment Generating Economic Recovery (TIGER) grants provides discretionary funding to invest in road, bike/pedestrian, rail, transit and port projects that promise to achieve national objectives. Since 2009, there were 16 bicycle and pedestrian projects selected, worth over $213M funding. TIGER provides capital funding directly to any public entity, including municipalities, parishes, MPOs, State DOTs and transit agencies.

Federal Lands Transportation Program
The Federal Land Transportation Program (FLTP) under FAST Act (§ 1119-1120; 23 U.S.C. 201, 203), provides funding for transportation projects that improve access within Federal lands (national forests, national parks, national wildlife refuges, national recreation areas, and other Federal public lands).

Community Development Block Grant (CDBG) Program
The Community Development Block Grant (CDBG) program provides annual grants on a formula basis to entitled cities and counties/parishes to develop viable urban communities by providing decent housing and a suitable living environment, and by expanding economic opportunities, principally for low- and moderate-income persons.

7.8 Implementation Plan

As part of the Regional Bicycle and Pedestrian Plan, the Bicycle and Pedestrian Advisory Committee (BPAC) rated potential bicycle and pedestrian projects. The resulting project prioritization is listed in Table 7.6, serving as a guideline for implementation. The BPAC is also in charge of identifying actions and strategies to implement these projects and other recommendations of the Regional Bicycle and Pedestrian Plan.

Table 7.6: Facility Cost by Improvement Type

Facility Type	Elements	Sub-Elements	Cost Per Mile	Facility Type Cost
Paved Shoulder	Paved Shoulder	Super-paved Asphaltic Concrete	$106,000	**$10,600**
Marked Shared Lane	Shared Lane Pavement Marking	Plastic Pavement Legends and Symbols (Arrow)	$4,378.20	**$13,000**
	Shared Lane Pavement Marking	Plastic Pavement Legends and Symbols (Bicycle)	$8,181.40	
	Bikes May Use Full Lane Sign	R4-11/Type A Sign (6.25SQFT@$15.01/SQFT)	$375.24	
		U-Channel Post	$324.44	
Bike Lane	Inside Stripe	Plastic Pavement Striping (6" wide solid line) (Thermoplastic 90 mil)	$11,105.02	**$42,000**
	Outside Stripe	Plastic Pavement Striping (6" wide solid line) (Thermoplastic 90 mil)	$11,105.02	
	Bike Lane Symbol and Arrow	Plastic Pavement Legends and Symbols (Arrow)	$6,567.30	
	Bike Lane Symbol and Arrow	Plastic Pavement Legends and Symbols (Bicycle)	$12,272.10	
	Bike Lane Sign	R4-11/Type A Sign (6.25SQFT@$15.01/SQFT)	$375.24	
	Bike Lane Sign	U-Channel Post	$324.11	
	Colored Pavement in Conflicted Areas			
Buffered Bike Lane	Inside Stripe (*2)	Plastic Pavement Striping (6" wide solid line) (Thermoplastic 90 mil)	$11,105.02	**$36,000**
	Outside Stripe	Plastic Pavement Striping (6" wide solid line) (Thermoplastic 90 mil)	$11,105.02	
	Diagonal Stripe	Plastic Pavement Striping (6" wide solid line) (Thermoplastic 90 mil)	$555.25	
	Bike Lane Symbol and Arrow	Plastic Pavement Legends and Symbols (Arrow)	$4,378.20	
	Bike Lane Symbol and Arrow	Plastic Pavement Legends and Symbols (Bicycle)	$8,181.40	
	Bike Lane Sign	R4-11/Type A Sign (6.25SQFT@$15.01/SQFT)	$375.24	
	Bike Lane Sign	U-Channel Post	$324.44	
	Colored Pavement in Conflicted Areas			
Seperated Bike Lane	Inside Stripe (*2)	Plastic Pavement Striping (6" wide solid line) (Thermoplastic 90 mil)	$11,105.02	**$49,000**
	Outside Stripe	Plastic Pavement Striping (6" wide solid line) (Thermoplastic 90 mil)	$11,105.02	
	Diagonal Stripe	Plastic Pavement Striping (6" wide solid line) (Thermoplastic 90 mil)	$555.25	
	Bike Lane Symbol and Arrow	Plastic Pavement Legends and Symbols (Arrow)	$8,756.40	
	Bike Lane Symbol and Arrow	Plastic Pavement Legends and Symbols (Bicycle)	$16,362.80	
	Bike Lane Sign	R4-11/Type A Sign (6.25SQFT@$15.01/SQFT)	$375.24	
		U-Channel Post	$324.44	

Source: LADOTD Statewide Bicycle Plan, RAPC

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

The total cost estimate for all bike and pedestrian facilities as illustrated in Table 7.7 is $1.64 million; whereas the cost by improvement type is shown in Table 7.6. Currently, the MPO is drafting a bike and pedestrian plan which will focus on prioritizing and refining recommendations based on feasibility, funding, speed limit on planned routes, traffic volume, shoulder width, etc.

Table 7.7: Recommended Bicycle and Pedestrian Facilities with Cost

Priority	Project Location	Delineation	Recommendation	Length (miles)	Final Cost	Note
High	Masonic Drive Phase II	Masonic Drive from Texas to MacArthur Drive	Streetscape, Sidewalk, Lighting, Pedestrian Crossing	0.46	$48,818.88	Sidewalk
High	Jackson Street	Texas Ave to 2nd Street	Reconfiguration Roadway/Lane Assignment	2.24	$93,517.29	Bike Lane
High	Monroe Street	MacArthur Dr to Bolton Ave	Edge Line, signage and Symbols	1.25	$16,574.10	Marked Shared Lane
High	Masonic Drive Road Diet	Texas Avenue to Lee Street	Bike lane and median with Single lane traffic each way	1.2	$43,229.48	Buffered Bike Lane
High	10th Street Trail	10th Street to Elliot Street	Bike Trail	0.62	$65,799.36	Paved Shoulder
High	Pineville Main Street	Hardtner Street to Donahue Ferry Rd	Edge Line, signage and Symbols	1.26	$52,603.48	Bike Lane
High	Masonic Drive Phase III	South side of Masonic Drive from Rensselear to Texas Ave.	Streetscape, Sidewalk, Lighting, Pedestrian Crossing	0.54	$57,309.12	Sidewalk
High	Jackson Street Bridge	2nd Street to Hardtner Street	Edge Line, signage and Symbols	0.15	$1,988.89	Marked Shared Lane
High	Jackson Street Extension	Horseshoe Drive to Texas Ave.	Reconfiguration Roadway/Lane Assignment	2.01	$83,915.07	Bike Lane
High	Lee Street	Dallas Ave to S. MacArthur Street	Reconfiguration Roadway/Lane Assignment	1.21	$50,516.04	Bike Lane
High	Donahue Ferry Rd	Main Street to Pinehurst Dr	Shared use route with signage	3.77	$49,987.49	Marked Shared Lane
High	Prescott Road Sidewalk Improvements	Roanoke Street to Cherokee Elementary	Install Sidewalks on North side of Prescott Road	0.73	$38,736.72	Sidewalk on one side of road
High	Bolton Ave. Phase III	Lee Street to Elliott Street	Streetscape, Sidewalk and Lighting	0.4	$42,451.20	Sidewalk
High	Versailles Blvd	Coliseum Blvd. to Jackson Ext.	Edge Line, signage and Symbols	2.43	$101,449.56	Bike Lane
High	Broadway Avenue	Lee Street to 2nd Street	Reconfiguration Roadway/Lane Assignment	1.67	$69,720.48	Bike Lane
Medium	Lee Street Streetscape	Masonic Drive to Bolton Ave.	Streetscape, Sidewalk, Lighting	0.7	$74,289.60	Sidewalk
Medium	Provine Place Sidewalk Improvements	Ansley to Versailles	Sidewalks on Provine Place	0.45	$47,757.60	Sidewalk
Medium	Dallas Avenue	Lee Street to Broadway Ave.	Reconfiguration Roadway/Lane Assignment	0.6	$21,614.74	Buffered Bike Lane
Medium	2nd Street	Jackson Street to Broadway Ave.	Edge Line, signage and Symbols	1.02	$13,524.47	Marked Shared Lane
Medium	Texas Ave	MacArthur Dr to Lee St	Reconfiguration Roadway/Lane Assignment	3.14	$131,091.20	Bike Lane
Medium	3rd Street	Broadway to Hudson Blvd	Reconfiguration Roadway/Lane Assignment	1.06	$38,186.04	Buffered Bike Lane
Medium	1208-1	3rd Street to Eddie Williams Ave	Sign and Symbols/Lane Assignment	1.81	$23,999.30	Marked Shared Lane
Medium	Hudson Blvd	3rd Street to Eddie Williams Ave	Reconfiguration Roadway/Lane Assignment	2.34	$84,297.49	Buffered Bike Lane
Medium	Eddie Williams Ave	Broadway to Hudson Blvd	Reconfiguration Roadway/Lane Assignment	1.82	$65,564.72	Buffered Bike Lane
Medium	LA 623	LA 1204 to Hickory Hill Rd, plus Shanghai Rd	Edge Line, signage and Symbols	7.91	$104,880.90	Marked Shared Lane
Low	Windermere Blvd	Coliseum Blvd. to Versailles	Edge Line, signage and Symbols	1.57	$20,817.07	Marked Shared Lane
Low	MacArthur Drive/US 71	LA 1(Bolton) to Lee Street	Sign and Symbols/Lane Assignment	6.01	$79,688.27	Marked Shared Lane
Low	Coliseum Blvd	Monroe to Vandenburg Dr.	Sign and Symbols/Lane Assignment	3.52	$46,672.67	Marked Shared Lane
Low	Military Highway	Donahue Ferry Rd to Edgewood Dr	Edge Line, signage and Symbols	1.84	$24,397.08	Marked Shared Lane
Low	Edgewood Drive	Military Highway to 28 East	Edge Line, signage and Symbols	1.74	$23,071.15	Marked Shared Lane
Low	LA 28 East	Edgewood Dr. to Donahue Ferry Rd	Edge Line, signage and Symbols	1.43	$18,960.77	Marked Shared Lane
					$1,635,430.22	

Source: RAPC

CHAPTER 8

Regional Safety & Security

8.1 Introduction

This chapter continues the state of Louisiana's tradition on prime emphasis on roadway safety of our citizens. The chapter begins with an overview of the Louisiana Strategic Highway Safety Plan; coordination efforts of the CenLA Highway Safety Coalition; and ongoing work on the Regional Highway Safety Plan. Also, the chapter provides an in-depth crash data analysis for the MPA leading to recommendations for possible improvements. The chapter ends with a discussion on regional safety issues.

According to the National Highway Traffic Safety Administration (NHTSA) Fatality Analysis Reporting System (FARS) , from 2009 to 2013, an average of 30,418 fatalities occurred on roadways in the United States each year.

Enacted on December 4th, 2015, The FAST Act continues the Highway Safety Improvement Program (HSIP) to further achieve a significant reduction in traffic fatalities and serious injuries on all public roads. The HSIP requires a data-driven, strategic approach to improving highway safety on all public roads that focuses on performance.

Every crash, regardless of the severity, costs governments and tax payers' money and time in damages, emergency services, delays, and lost productivity. According to the MTP online public engagement survey, safety ranked as the second highest priority in the Alexandria/Pineville Metropolitan Planning Area. Therefore, one of the goals of this plan is to improve travel safety by reducing the risk of crashes on the roadways.

In contrast to safety concerns, security threats connot intention, whether committed by an individual or a group. Prior to September 11, 2001, these risks were typically related to vandalism. Since September 11, 2001, there is added emphsis on security risks, especially on transporation infrastructure. Security risks range from vandalism during pre-9/11 era to acts of terrorism.

Since September 11th, the country has been forced to assess our vulnerability and prepare for different threats. In Louisiana, hurricanes and floods are a special issue of concern. "Safety and security" are listed as one of the ten planning factors within the FAST Act.

8.2 LA Strategic Highway Safety Plan

Traffic safety programs are relatively uniform from state to state in their approach to make the highway system safer for their users. The typical traffic safety program combines several different features from a Safety Management System (SMS), which all states were mandated to have under ISTEA in 1991.

The State of Louisiana developed its original Strategic Highway Safety Plan (SHSP) in 2006, in response to the SAFETEA-LU requirements, which specifically established HSIP as a core Federal program. The SHSP is a data-driven, five-year comprehensive plan that establishes statewide goals, objectives, key emphasis areas, and proven strategies to reduce traffic fatalities and serious injuries.

MAP-21 doubled the funding under the HSIP program, signaling a continued focus on roadway safety and brought in an emphasis on performance measure. This focus is carried on by the most recent transportation legislation, the FAST Act of 2015, which keeps intact the established structure of the various highway-related programs and continues efforts to streamline project delivery.

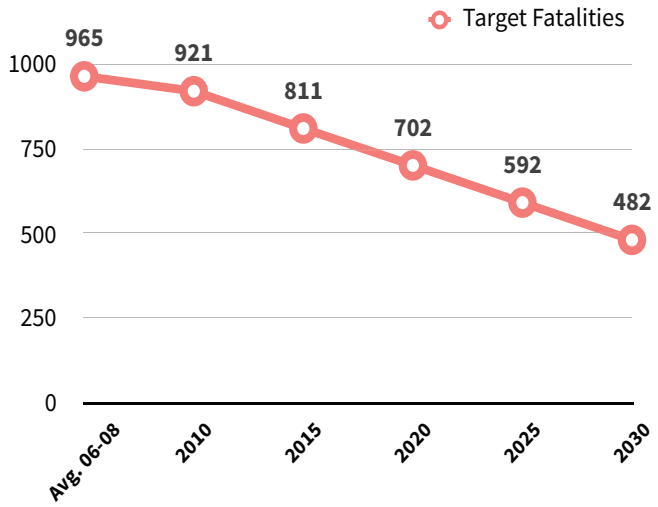
Since crashes are most likely caused by a number of different factors, the SHSP was developed using the 4E's approach, which are engineering, education, law enforcement, and emergency medical services.

In 2011, the Louisiana Department of Transportation and Development (LADOTD) updated the original SHSP and identified the leading factors contributing fatalities in the state. Based on analysis of the data and other considerations, LADOTD, the Louisiana State Police (LSP), and the Louisiana Highway Safety Commission (LHSC) recommended adoption of four emphasis areas for focusing attention, energy, and resources:

- Alcohol-Related Driving;
- Occupant Protection;
- Infrastructure and Operations; and
- Crashes Involving Young Drivers.

To address these areas, the SHSP puts forth a number of strategies to reduce fatal and injury crashes with the intent of reaching the new state goal: halve fatalities by 2030. Benchmarks for achieving this goal are illustrated in Figure 8.1.

Figure 8.1: Benchmark to Achieve 50% Reduction in Fatalities by 2030 in Louisiana



Source: Louisiana Strategic Highway Safety Plan, 2011

Beginning in 2015, the process of revising and updating the SHSP was initiated. The newly updated SHSP is anticipated to be completed in 2016.

The vision of the Louisiana SHSP is to reach "Destination Zero Deaths" on Louisiana roadways. The mission of the SHSP is to reduce the human and economic toll on Louisiana's surface transportation system due to traffic crashes through widespread collaboration and an integrated 4E approach. The updated SHSP will keep the same goal to halve fatalities by 2030. Although this goal will not change from year to year, the annual reduction rate needed to achieve the goal could vary based on each year's progress.

8.3 CenLA Highway Safety Coalition

At the local level, LADOTD has divided the state into ten regions, corresponding to the LADOTD Districts and the Louisiana State Police Troop Commands. Each region is charged with forming a safety coalition comprised of representatives related to the 4E's, and developing a Safety Action Plan linked with the SHSP. In some regions, the MPO leads the coalitions, while in other regions, a safety council, the LADOTD District, State Police Troop, or local law enforcement have taken the lead. Funding is provided by the FHWA, LADOTD, and the Louisiana Highway Safety Commission.

The coalition containing the Alexandria/Pineville Metropolitan Central Louisiana region, formally known as the CenLA Highway Safety Coalition, is staffed by Rapides Area Planning Commission (RAPC) and supported by the parish and city jurisdictions in the ten-parish region: Sabine, Natchitoches, Winn, Grant, La Salle, Catahoula, Concordia, Rapides, Avoyelles, and Vernon parishes.

*Figure 8.2:*Louisiana SHSP Regional Coalition and DOTD District Boundaries

Source: Louisiana Department of Transportation and Development

The Safety Coalition consists of stakeholders from the following agencies, including but not limited to:

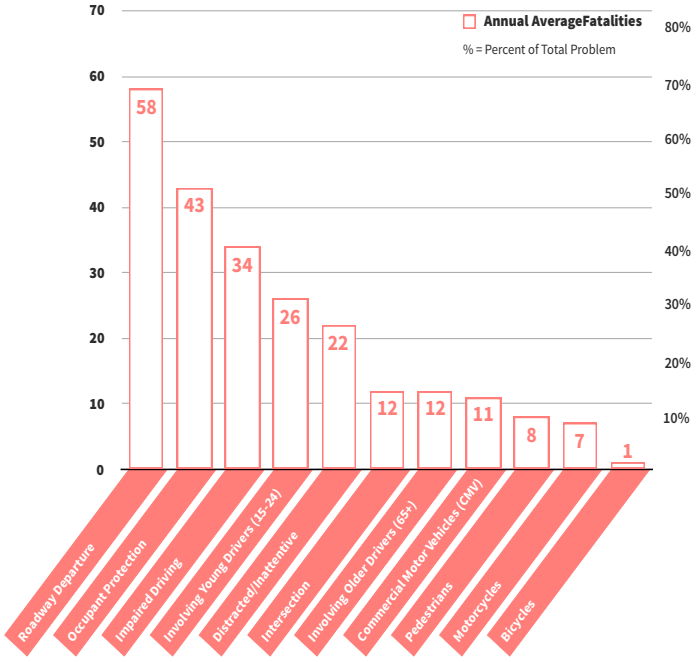
- DOTD districts
- LSP troop commands
- Local law enforcement
- MPOs
- Emergency response
- Parish engineers
- Education
- LHSC grantees

Regional Strategic Highway Safety Plan

The Regional Strategic Highway Safety Plan (RSHSP) in Central Louisiana is a strategic plan intended to provide a transparent, structured framework for informing project and investment decisions that help reduce the human and economic toll from accidents on the region's surface transportation system. In the initial drafting of the plan, the team used a baseline of the average number of fatalities over the course of 2009 through 2013 (Figure 8.3) to calculate the necessary rate of decline to achieve the goal of reducing fatalities by half by 2030.

The local plan, currently under development, has the same goals as the statewide strategic highway safety plan. The unified initiative is branded as "Destination Zero Deaths." At the regional level, implementation of the 4E's is advanced through consistent collaboration among federal, state, and local partners and use of a systemic regional approach. Infrastructure and non-infrastructure measures are undertaken in the effort to reach "Destination Zero Deaths" on all public roadways in the Central Region. The Coalition named team leaders for each emphasis area. The team leaders oversee planning and action steps to achieve goals set for each emphasis initiative. Table 8.1 explains the planning process for the RSHSP.

Figure 8.3: Annual Average Fatalities in Central Louisiana



Source: Louisiana Highway Research Group (2009 - 2013)

Table 8.1: Planning Process for the RSHSP

Timeframe	Activity
July-22, 2014	• Organizational in nature; identify champion, coalition coordinator and key stakeholders • Overview of the SHSP, organizational structure, and its mission and vision • Explain purpose of the regional safety coalition • Identify additional stakeholders
April 29, 2015	• Official kick-off date for the CenLA Highway Safety Coalition • Overview of the SHSP, organizational structure, and its mission and vision to a larger group • Explain purpose of the regional safety coalition; Describe roles and responsibilities (coalition leader, coalition members, EA leaders) • Overview of high level data and identification of emphasis areas • Develop a name, vision, mission, and goal for the coalition • Highlight funding sources and project application process • Regional coalition member voted on emphasis areas
June 25, 2015	• "Speed planning" meeting • Present and discuss second level data (behavioral). Dig deeper – what are the key issues for the EA's); fact sheets • Present and discuss local infrastructure data (LTAP); • Identify appropriate statewide SHSP strategies and action steps that will address these regional problems (SHSP EA action plans). • Identify countermeasures that will address these regional problems (NCHRP 500 series). • Invite all stakeholders to discuss current transportation safety initiatives and programs in region • Identify additional data needs and gaps • Coalition member roles and responsibility commitment
September 17, 2015	• Review outcomes from previous meeting; • Meet by emphasis area team to review draft Action Plans; identify gaps in draft Plans, specify actions (what exactly do you want to achieve), brainstorm new transportation safety initiatives and programs for the region, and identify action step leaders for emphasis areas: o Infrastructure & Operations o Impaired Driving
November 16, 2015	• Review outcomes from previous meeting; • Meet by emphasis area team to review draft Action Plans; identify gaps in draft Plans, specify actions (what exactly do you want to achieve), brainstorm new transportation safety initiatives and programs for the region, and identify action step leaders for emphasis areas: o Occupant Protection o Young Drivers
March 30, 2016	• Review outcomes from previous meetings • Discuss achievements and successes • Group Discussion - Review all draft action plans and make final edits/suggestions • Group Discussion - Prioritize initiatives/actions for implementation • Select output and outcome measures for evaluation purposes • Discuss future meeting structure (i.e. monthly, quarterly, summits)
Ongoing	• Moving forward • Bi-monthly meetings • Adoption, implementation and updates of action plans

RSHSP Action Plan

This section of the MTP includes the current action plans for the RSHSP in Central Louisiana. The Coalition members voted on four emphasis areas to address in order to reduce traffic fatalities in the Central Louisiana region:

- Infrastructure & Operations;
- Occupant Protection;
- Impaired Driving; and
- Young Drivers.

Each emphasis area action plan listed objectives, strategies, and action steps to achieve the goal of RSHSP. A summary of key strategies under each emphasis area are summarized here:

Infrastructure and Operations

The infrastructure and operations of roadways plays an important role in the safety of transportation systems. Safety features, such as rumble strips, roundabouts, back plates with retro reflective borders, pedestrian hybrid beacons, roadway configuration, and other counter-measures are listed in the "Guidance Memorandum on Promoting the Implementation of Proven Safety Counter-measures" issued by the FHWA in 2012. All of these measures are known to reduce fatalities and serious injuries. In the Central Region, roadway departure and intersection fatalities account for approximately 70 percent of roadway fatalities. A roadway departure crash is defined as a crash which occurs after a vehicle crosses an edge line or a center line, or otherwise leaves the traveled way.

The safety objectives and strategies in the RSHSP are:

***Objective 1:** To identify high crash locations and/or safety concerns and develop a strategy for project implementation based on crash data findings, best practices in traffic safety, and availability of funding sources.*

- Strategy 1.1: Collaborate with DOTD District 08 and District 58, CenLA committees and the Safety Coalition partners to identify location with high potential for safety improvements and assess data.
- Strategy 1.2: Organize a multidisciplinary Road Safety Assessment Team that will work together with DOTD and consultants in implementing low-cost safety improvements along rural and urban state roads.

***Objective 2:** To reduce the number of roadway departure accidents by integrating safety into engineering and construction projects, particularly for improvements to horizontal curves in both urban and rural areas.*

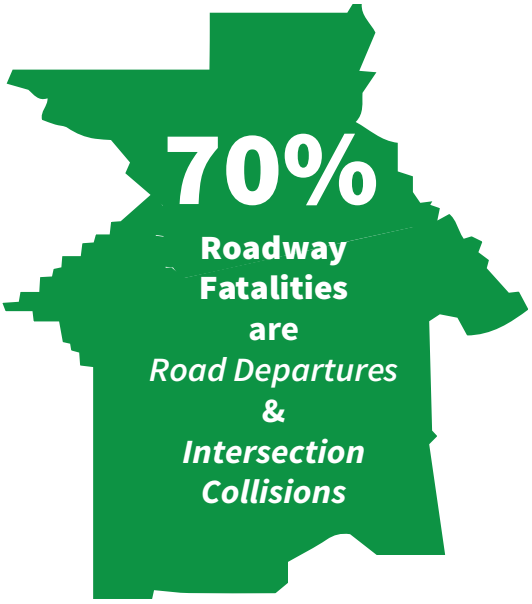
- Strategy 2.1: Assist parish governments and local agencies in seeking out various opportunities for implementing safety projects on horizontal curves on local roads.
- Strategy 2.2: Minimize the likelihood of crashing into an object or overturning if the vehicle travels off the shoulder.

***Objective 3:** To increase safety at roadway intersections, while improving mobility and connectivity.*

- Strategy 3.1: Collaborate with appropriate LADOTD District and Sub-district traffic engineers in implementing low-cost yet effective projects on high-crash intersections.

***Objective 4:** To improve pedestrian and bicycle safety by providing safe and accessible routes for pedestrians and bicyclists.*

- Strategy 4.1: Conduct sidewalk and bicycle route assessments to develop good projects for bicycle and pedestrian safety.



Impaired Driving

In the United States, approximately one person dies every 51 minutes from a motor vehicle accident that involves an alcohol-impaired driver. The Centers for Disease Control and Prevention reported that 10,322 people were killed in impaired driving crashes in 2012, accounting for nearly 31 percent of all traffic-related deaths in the United States. At the regional level, SHSP data reports from the Louisiana Highway Safety Research Group indicated that, alcohol involvement is the contributing factor in 40 percent of fatalities across the ten parishes of Central Louisiana.

In an effort to reduce the toll of devastation due to this preventable act, the CenLA Highway Safety Coalition linked to the statewide goal by setting a regional goal to reduce fatalities among alcohol impaired drivers from the current average of 34 per year to 26 per year by 2016, and formed objectives and strategies to achieve this goal and link to the statewide goal of reducing fatalities by half by 2030.

***Objective 1:** Increase the number of officers trained in NHTSA/IACP or Louisiana approved advanced DWI enforcement courses by ten percent annually.*

- Strategy 1.1: Increase basic training opportunities for local law enforcement agencies and advanced training for state troops.

***Objective 2:** Increase impaired driving prevention and public education programs in the Central Region.*

- Strategy 2.1: Develop and implement a campaign to increase awareness of the dangers, costs and consequences of impaired driving in conjunction with regional high visibility enforcement and No Refusal Weekend activities.

***Objective 3:** Increase the number of impaired driving related high-visibility enforcement activities in the Central Region.*

- Strategy 3.1: Increase the number of joint saturation patrols among the Region's law enforcement agencies.

- Strategy 3.2: Increase the number of DWI/Sobriety checkpoints conducted in the Region and the ability to quickly test and process impaired drivers.

Occupant Protection

According to the Centers for Disease Control and Prevention, motor vehicle crashes are the leading cause of death among people aged 1-54 in the United States. Seatbelt usage is the most effective way to save lives and reduce injuries in crashes, yet many adults, youth and children continue to fail to buckle up. In the Central Region, data gathered from 2011-2015 shows that 46 percent of roadway fatalities and 20 percent of serious or moderate injuries were due to occupants not being restrained.

Both seatbelt and child restraint safety are major components of the regional transportation safety plan. The goal is to reduce crashes with non-restrained occupants from the current average of 43 per year to 32 per year by 2020. This metric links the Central Region to the statewide goal of reducing fatalities by half by 2030.

The CenLA Highway Safety Coalition has established the following objectives and strategies for the Central Region:

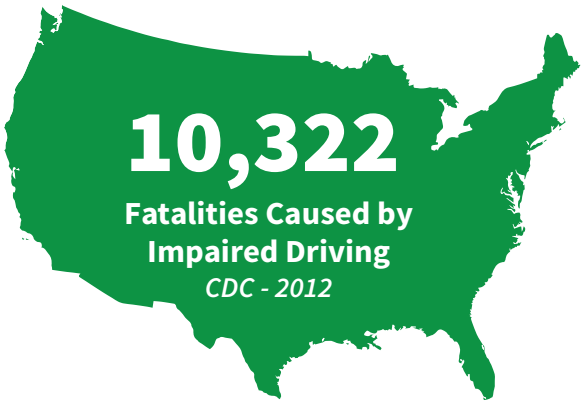
***Objective 1:** Encourage use of effective seat belt enforcement.*

- Strategy 1.1: Target and coordinate seat belt enforcement.

***Objective 2:** Expand Outreach, Marketing, and Training Opportunities on Occupant Protection*

- Strategy 2.1: Increase awareness of occupant protection.

- Strategy 2.2: Increase training opportunities for occupant protection practitioners.



Young Drivers

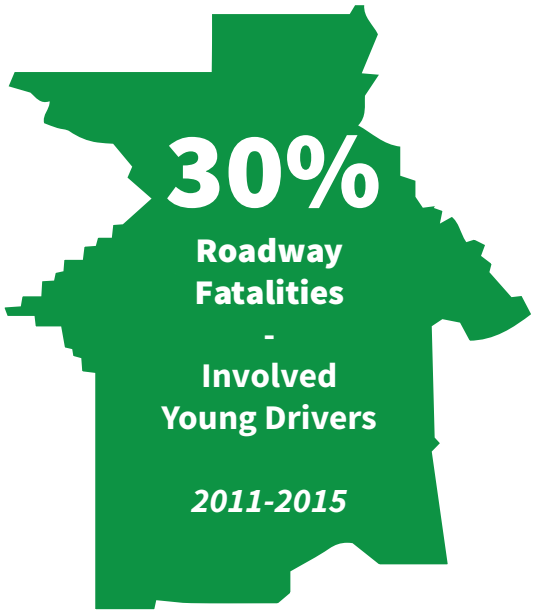
According to the National Highway Traffic Safety Administration, teenage drivers are twice as likely as adult drivers to be in a fatal crash. Immaturity and inexperience are primary factors contributing to these deadly crashes. Both lead to high-risk behavior behind the wheel: driving at nighttime, driving after drinking any amount of alcohol, and driving distracted by teenage passengers and electronic devices. In the Central Region, data gathered from 2011-2015 shows that 30 percent of roadway fatalities involved young drivers. In the Regional Strategic Highway Safety Plan, the goal is to reduce the number of crashes involving young drivers from the current average of 26 per year to 20 per year by 2020. This metric links the Central Region to the statewide goal of reducing fatalities by half by 2030.

Objective 1: Encourage safe driving practices by young drivers.

- Strategy 1.1: Target and coordinate enforcement.

Objective 2: Expand Outreach, Marketing, and Training Opportunities for Young Driver Issues.

- Strategy 2.1: Increase awareness of young driver issues.
- Strategy 2.2: Increase training opportunities for young driver program.



RSHSP Current/Ongoing Efforts

Prior to, or accompanied by, the establishment of the CenLA Highway Safety Coalition, there are several programs addressing the above emphasis areas undertaken by the 4E's of traffic safety. These programs are incorporated and reinforced through the support and recommendations from local plans and the Statewide Strategic Highway Safety Plan.

Infrastructure & Operations:

- Systematic Approach for problem identification and location selection
- Incorporate safety counter measures in Stage 0 and project design, such as roundabouts, rumble-strip, pedestrian flashing beacons, etc.
- Road Safety Assessment for any roadway improvements in locations with high potential for safety improvements, i.e. location identified by DOTD with significant higher rate of crashes than state average on similar roadway conditions.

Impaired Driving:

- Check point and saturation patrols
- Participate in national and statewide impaired driving campaigns, for instance, Drive Sober or Get Pulled Over

Occupant Protection:

- Child Seat Check and Certified Child Passenger Safety Technicians: there are three child seat fitting stations in the Central Louisiana region, two of which are within the metropolitan area. Full information on Child Passenger Safety is listed on the Louisiana Highway Safety Commission website
- Regularly participate and promote National and Statewide occupant protection campaigns, for instance, Click It or Ticket and Buckle Up in Your Truck

Young Driver:

- The Sudden Impact Program and State Police education outreach are the two most influential education programs in Central Louisiana.

Source: http://www.lahighwaysafety.org/child.htm

8.4 Crash Data Analysis

Crash records from Rapides Parish for the time period September 2011 to September 2015 was used in the crash analysis of the MPA. The crash records included the time and location of the crash, severity of the crash, and the existing conditions when the crash occurred. During this four year period, there were 11,386 crashes within the urban area, with severity ranging from fatal, severe, moderate, and complaint, to no injury.

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.

The first factor this study focuses on is the time at which the crashes occurred. Table 8.2 includes the time the crashes occurred. Approximately 85 percent of the crashes occurred from 8:00 AM to 8:00 PM, when people are traveling to work, school, and other various activities. The largest number of crashes occurred between 3:00 PM and 5:00 PM, when the traffic is likely to be the heaviest.

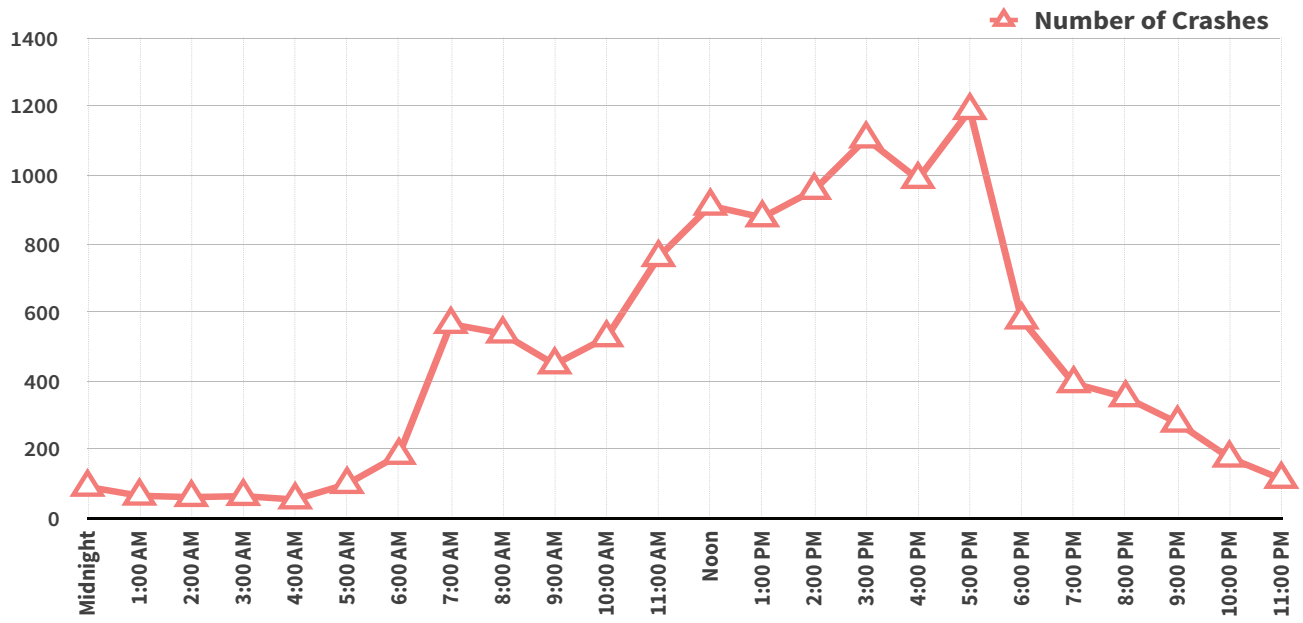
As shown in Figure 8.4, the number of crashes started to increase around 7:00 AM, decreased slightly around 9:00 AM to 10:00 AM, then increased again around noon and peaked from 3:00 PM to 5:00 PM.

Table 8.2: Crashes by Time of Day

Hour Beginning	Number of Crashes	Percent of Total Crashes
Midnight	91	0.80%
1:00 AM	65	0.57%
2:00 AM	61	0.54%
3:00 AM	64	0.56%
4:00 AM	54	0.47%
5:00 AM	99	0.87%
6:00 AM	184	1.62%
7:00 AM	566	4.97%
8:00 AM	538	4.73%
9:00 AM	448	3.93%
10:00 AM	527	4.63%
11:00 AM	761	6.68%
Noon	911	8.00%
1:00 PM	877	7.70%
2:00 PM	957	8.41%
3:00 PM	1,107	9.72%
4:00 PM	989	8.69%
5:00 PM	1,190	10.45%
6:00 PM	579	5.09%
7:00 PM	393	3.45%
8:00 PM	352	3.09%
9:00 PM	278	2.44%
10:00 PM	176	1.55%
11:00 PM	114	1.00%
Unlisted	5	0.04%
TOTAL	**11,386**	**100.00%**

Source: LADOTD, September 2011 – September 2015 Crash Reports, Rapides Parish Urban Area

Figure 8.4: Crashes by Time of Day



Another factor to consider is the surface condition during the time of the crash. A breakdown of the surface conditions is shown in Table 8.3. Approximately 1,700 crashes occurred during wet pavement conditions. Nearly 9,500 crashes, over 83 percent, occurred during dry conditions. Although wet roadway surface conditions could have been a factor in some instances, the majority of the crashes were unaffected by wet conditions. Given the percentage (roughly 28 percent) of days of wet condition in the year in the study area, surface condition is still a critical factor leading to crashes.

The lighting during the time of the crash is also taken into account in this analysis. Table 8.4 includes a breakdown of the crashes that occurred under various lighting conditions. Over 79 percent of the crashes occurred during daylight. About 10 percent of crashes occurred when it was dark outside with street lights, and 7 percent of the crashes occurred at night with only a traffic signal or with no street lights. Street lighting is listed as a primary contributing factor in nine of the recorded crashes.

Table 8.3: Crashes by Surface Condition

Surface Condition	Number of Crashes	Percent of Total Crashes
Dry	9,533	83.73%
Wet	1,760	15.46%
Snow/Slush	15	0.13%
Ice	67	0.59%
Contaminant	0	0.00%
Unknown	7	0.06%
Other	2	0.02%
Not Reported	2	0.02%
Total	11,386	100.00%

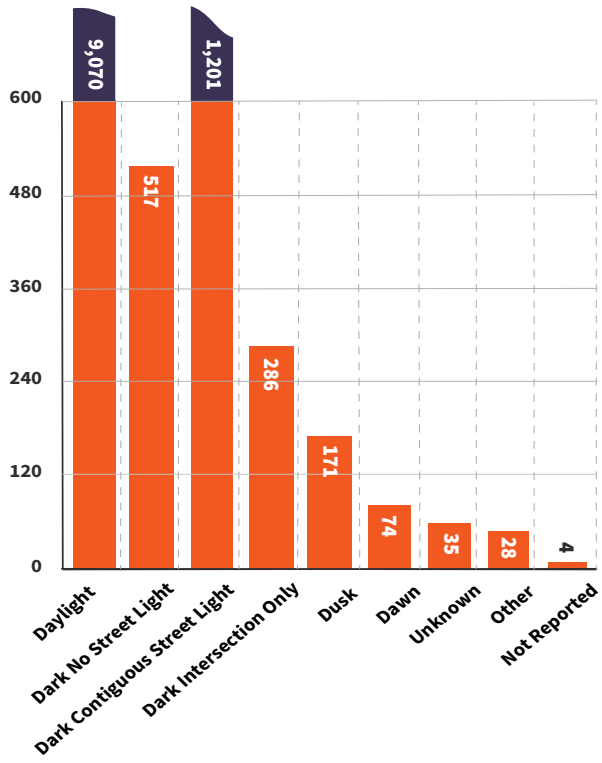
Table 8.4: Crashes by Roadway Lighting

Lighting	Number of Crashes	Percent of Total Crashes
Daylight	9,070	79.66%
Dark-No Street Light	517	4.54%
Dark-Continuous Street Light	1,201	10.55%
Dark-Intersection only	286	2.51%
Dusk	171	1.50%
Dawn	74	0.65%
Unknown	35	0.31%
Other	28	0.25%
Not Reported	4	0.04%
Total	11,386	100.00%

Figure 8.5: Crashes by Surface Condition

Source: LADOTD, September 2011 – September 2015 Crash Reports, Rapides Parish Urban Area

Figure 8.6: Crashes by Roadway Lighting



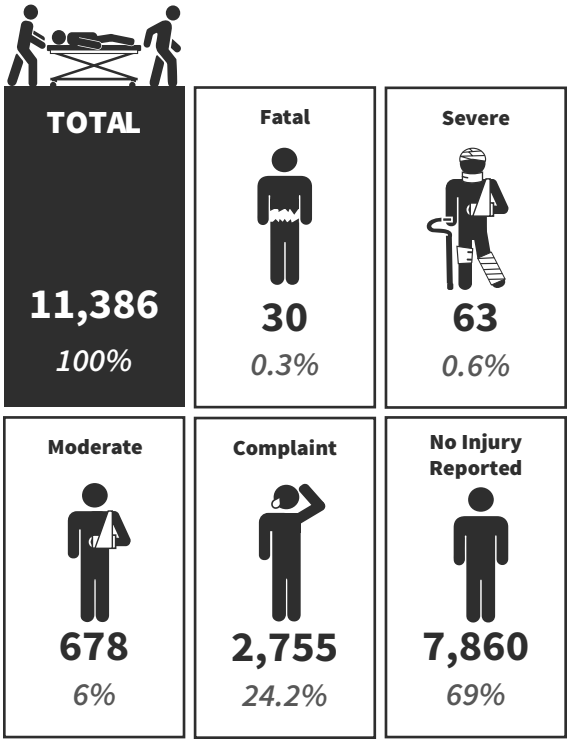
Source: LADOTD, September 2011 – September 2015 Crash Reports, Rapides Parish Urban Area

Crash severity is also important to take into consideration. A breakdown of the crash severity is shown in Table 8.5. Within the urban area in Rapides Parish, 11,386 crashes occurred between 2011 and 2015, claiming 33 lives and causing 5,785 injuries. Less than one percent of the total crashes resulted in a fatality or severe injury. 69 percent of the crashes had no injuries reported. Another factor this study looks at is the type of collisions that occurred. Table 8.6 shows a breakdown of the collision types that occurred between 2011 and 2015.

Table 8.5: Crashes by Severity

Crash Severity	Number of Crashes	Percent of Total Crashes
Fatal	30	0.26%
Severe	63	0.55%
Moderate	678	5.95%
Complaint	2,755	24.20%
No Injury Reported	7,860	69.03%
Unlisted	0	0.00%
Total	11,386	100.00%

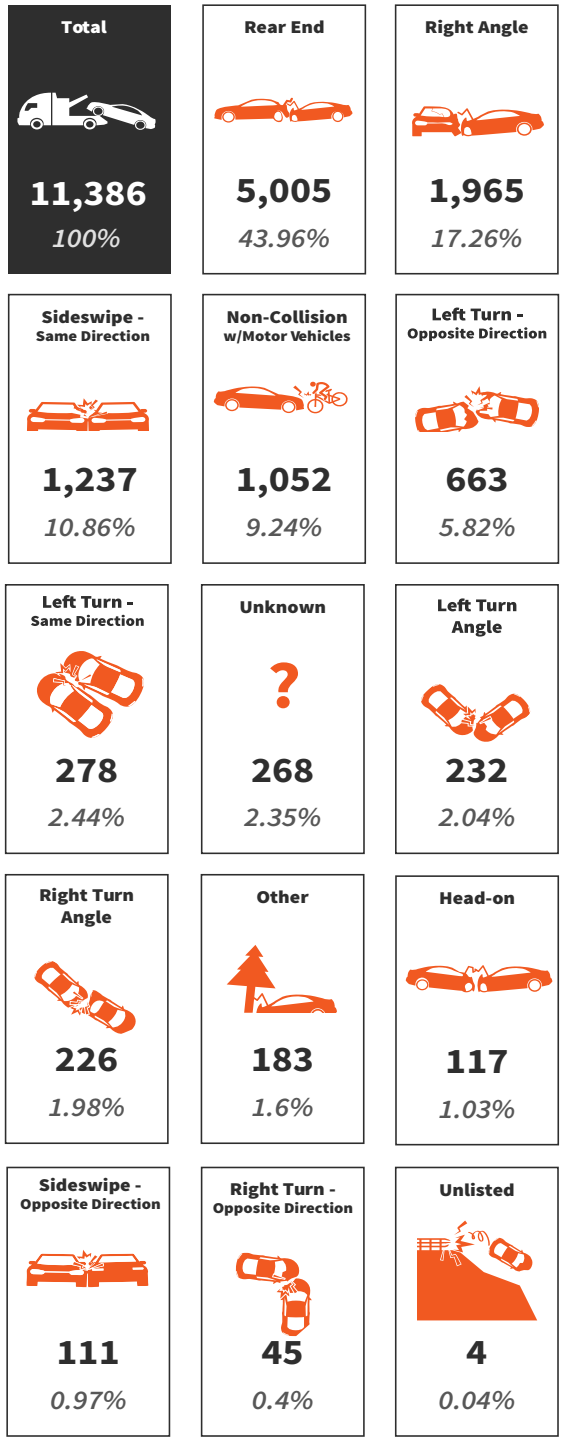
Figure 8.7: Crashes by Severity



Source: LADOTD, September 2011 – September 2015 Crash Reports, Rapides Parish Urban Area

The four highest collision types, making up 44 percent of the crashes in urban areas in Rapides Parish, were rear end collisions, right angle collisions, side swipe same direction, and non-collision with motor vehicle (NCWMV). Rear-end crashes account for the majority of the collisions and are typically concentrated at or near signalized intersections. According to the crash data, right-angle collisions are the second most common collision type. Typically, right-angle collisions have a greater potential for injury than side-swipe or rear-end collisions.

Figure 8.8: Crashes by Collision Type



Further analysis on NCWMV crashes showed a trend in the time and severity of the crashes. NCWMV crashes resulted in 16 fatal crashes between 2011 and 2015, contributing to over half of the total number of fatal crashes. Table 8.7 shows the time and severity distribution of the NCWMV crashes. According to the data, approximately 46 percent of all NCWMV crashes occurred at night between the hours of 6PM and 6AM. Fifty-six percent of the fatal crashes and about 81 percent of the severe crashes related to NCWMV occurred during those night hours.

The last factor this study looks at is whether or not alcohol was involved in these crashes. Alcohol is a factor in many of the crashes across the United States.

Of the 11,386 crashes in the MPA, only 320 (2.8 percent) involved alcohol.

Of these 320 crashes, 13 were fatal. The total fatalities caused by alcohol involved crashes was 14 and the total number of people injured was 303, resulting in a 42 percent share of total fatalities.

Table 8.6: Crashes by Collision Type

Collision Type	Number of Crashes	Percent of Total Crashes
Non-Collision with Motor Vehicle	1,052	9.24%
Rear End	5,005	43.96%
Head On	117	1.03%
Right Angle	1,965	17.26%
Left Turn Angle	232	2.04%
Left Turn Opposite Direction	663	5.82%
Left Turn Same Direction	278	2.44%
Right Turn Angle	226	1.98%
Right Turn Opposite Direction	45	0.40%
Sideswipe - Same Direction	1,237	10.86%
Sideswipe Opposite Direction	111	0.97%
Other	183	1.61%
Unknown	268	2.35%
Unlisted or error input	4	0.04%
Total	**11,386**	**100.00%**

Source: LADOTD, September 2011 – September 2015 Crash Reports, Rapides Parish Urban Area

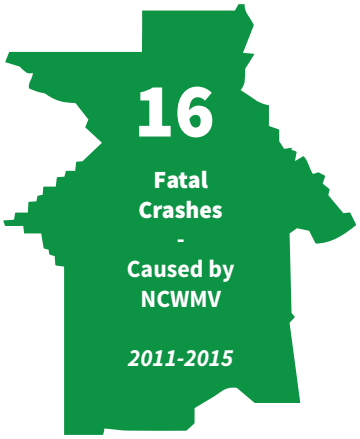


Table 8.7: Crashes by Time of Day

Hour Beginning	NCWMV Crashes	Fatal	Severe
Midnight	34	1	1
1:00 AM	32	1	1
2:00 AM	33	0	1
3:00 AM	36	0	3
4:00 AM	26	0	1
5:00 AM	31	2	1
6:00 AM	39	0	2
7:00 AM	47	0	0
8:00 AM	31	0	0
9:00 AM	32	0	0
10:00 AM	40	1	0
11:00 AM	52	0	0
Noon	48	0	0
1:00 PM	54	1	0
2:00 PM	50	2	1
3:00 PM	52	0	1
4:00 PM	49	1	0
5:00 PM	70	2	0
6:00 PM	50	0	0
7:00 PM	53	0	2
8:00 PM	55	1	2
9:00 PM	54	2	2
10:00 PM	47	2	1
Midnight	34	1	1
Unlisted	0	0	0
Total	**1,052**	**16**	**21**
Night	485	9	17
% Night	46.10%	56.25%	80.95%

Source: LADOTD, September 2011 – September 2015 Crash Reports, Rapides Parish Urban Area

Crash Locations

Intersection and intersection related crashes made up 57 percent of the total crashes in the urban area in Rapides Parish. 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 8.8 shows the top 20 intersections with the highest number of crashes as well as the severity of the crashes.

Table 8.9 shows the collision types that occurred at the top 20 intersections. Table 8.10 displays the locations of the top intersections with rear end frequency and

Table 8.11 right angle crashes respectively, along with the intersection control at the problem intersection.

The locations of the crashes are shown in Figure 8.9.

Alternatively, the LADOTD conducts an annual network screening process for problem identification. These locations are determined based on their crash rates in relation to statewide average. A list of the top 20 intersection location with high potential for safety improvements is provided in Table 8.12.

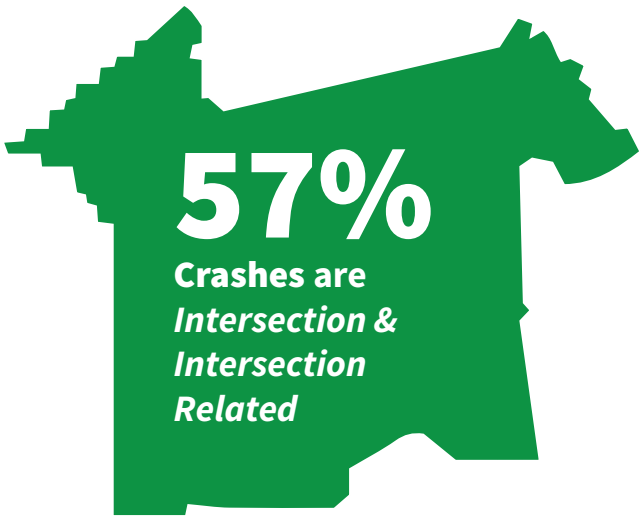


Table 8.8: Top 20 Intersections with High Crash Frequency by Severity

Location	Crashes	Fatal	Severe	Moderate	Complaint	No Injury
MacArthur Dr (US 71)@Elliot St	206	0	0	7	52	147
MacArthur Dr (US 71)@Monroe HWY (US 165)	193	0	0	3	29	161
MacArthur Dr (US 71)@Masonic Drive(US 165X)	185	0	0	1	31	153
MacArthur Dr (US 71)@Jackson St (LA1208-3)	157	0	0	5	28	124
MacArthur Dr (US 71)@Bayou Rapides Rd (LA 496)	152	0	0	5	31	116
MacArthur Dr (US 71)@Cottonwood	127	0	0	2	31	94
MacArthur Dr (US 71)@LA1208-2	108	0	0	5	35	68
MacArthur Dr (US 71)@LA 28 W	97	0	0	3	26	68
Coliseum Blvd (LA 28)@Heyman ln	90	0	0	4	24	62
MacArthur Dr (US 71)@Texas Ave	81	0	0	4	23	54
MacArthur Dr (US 71)@US165#2	79	0	0	3	16	60
MacArthur Dr (US 71)@Louise St	78	1	0	7	14	56
MacArthur Dr (US 71)@LA28#2	76	0	0	1	10	65
Coliseum Blvd (LA 28)@Calvert Dr	75	0	1	7	17	50
Jackson Ext. (LA 1208-3)@Wimbledon St	68	0	1	3	16	48
MacArthur Dr (US 71)@Halsey St	67	0	0	2	15	50
Jackson Ext. (LA1208-3)@McNutt Dr	64	1	1	2	14	46
Jackson Ext. (LA1208-3)@Dorchester Dr	61	0	0	1	16	44
US165@MACARTHUR	54	0	0	0	8	46
MacArthur Dr (US 71)@LA28X	54	0	0	0	8	46
Lee St (US167X)@Broadway Ave	53	0	1	0	17	35
Total	**2,125**	**2**	**4**	**65**	**461**	**1,593**

Source: LADOTD, September 2011 – September 2015 Crash Reports, Rapides Parish Urban Area

Table 8.9: Top 20 Intersections with High Crash Frequency by Collision Type

Location	Crashes	Non-Collision with Motor Vehicle	Rear End	Head On	Right Angle	Left Turn Angle	Left Turn Opposite Direction	Left Turn Same Direction	Right Turn Angle	Right Turn Opposite Direction	Sideswipe Same Direction	Sideswipe Opposite Direction	Other	Unknown
MacArthur Dr (US 71)@Elliot St	206	10	96	1	50	5	14	7	3	0	11	1	3	4
MacArthur Dr (US 71)@Monroe HWY (US 165)	193	4	165	0	0	0	0	1	5	0	16	0	0	2
MacArthur Dr (US 71)@Masonic Drive(US 165X)	185	2	149	0	0	0	1	0	0	0	32	0	0	1
MacArthur Dr (US 71)@Jackson St (LA1208-3)	157	9	72	1	20	3	4	3	9	0	34	0	2	0
MacArthur Dr (US 71)@Bayou Rapides Rd (LA 496)	152	1	89	0	38	2	4	3	3	0	7	0	4	1
MacArthur Dr (US 71)@Cottonwood	127	5	66	0	18	0	16	5	3	1	7	1	4	1
MacArthur Dr (US 71)@LA1208-2	108	3	17	3	46	3	22	2	6	0	4	0	1	1
MacArthur Dr (US 71)@LA 28 W	97	3	38	0	22	4	0	1	0	0	27	0	1	1
Coliseum Blvd (LA 28)@Heyman ln	90	0	38	0	42	2	2	2	1	0	2	0	0	1
MacArthur Dr (US 71)@Texas Ave	81	3	21	0	41	0	6	2	2	0	4	0	1	1
MacArthur Dr (US 71)@US165#2	79	1	57	0	0	0	0	2	4	1	12	1	1	0
MacArthur Dr (US 71)@Louise St	78	4	10	0	48	2	3	1	0	0	1	3	4	2
MacArthur Dr (US 71)@LA28#2	76	2	51	0	4	0	0	0	0	0	17	0	2	0
Coliseum Blvd (LA 28)@Calvert Dr	75	2	20	0	20	1	25	0	0	0	4	0	0	3
Jackson Ext. (LA 1208-3)@Wimbledon St	68	1	28	0	10	0	13	2	3	0	11	0	0	0
MacArthur Dr (US 71)@Halsey St	67	2	46	0	9	0	4	0	0	0	6	0	0	0
Jackson Ext. (LA1208-3)@McNutt Dr	64	2	22	0	5	2	24	0	3	1	4	0	1	0
Jackson Ext. (LA1208-3)@Dorchester Dr	61	1	22	0	16	2	8	2	5	0	5	0	0	0
US165@MACARTHUR	54	2	45	0	0	0	1	1	0	0	3	0	1	1
MacArthur Dr (US 71)@LA28X	54	0	13	1	20	2	2	5	4	1	5	0	1	0
Lee St (US167X)@Broadway Ave	53	1	21	0	8	0	12	0	0	0	6	0	4	1
Total	2,125	58	1,086	6	417	28	161	39	51	4	218	6	30	20

Source: LADOTD, September 2011 – September 2015 Crash Reports, Rapides Parish Urban Area

Table 8.10: Top 10 Intersections with High Rear End Crash Frequency

Intersection	Crash	Rear-End Crash	Intersection Control
MacArthur Dr (US 71)@Monroe HWY (US 165)	193	165	Yield
MacArthur Dr (US 71)@Masonic Drive(US 165X)	185	149	Yield
MacArthur Dr (US 71)@Elliot St	206	96	Signal
MacArthur Dr (US 71)@Bayou Rapides Rd (LA 496)	152	89	Signal
MacArthur Dr (US 71)@Jackson St (LA 1208-3)	157	72	Signal
MacArthur Dr (US 71)@Cottonwood	127	66	Stop
MacArthur Dr (US 71)@US 165#2	79	57	Yield
MacArthur Dr (US 71)@LA 28 #2	76	51	Signal
MacArthur Dr (US 71)@Halsey St	67	46	Stop
US165@MACARTHUR	54	45	Yield

Source: LADOTD, September 2011 – September 2015 Crash Reports, Rapides Parish Urban Area

Table 8.11: Top 10 Intersections with Right Angle Crash Frequency

Intersection	Crash	Right Angle Crash	Intersection Control
MacArthur Dr (US 71)@Elliot St	206	50	Signal
MacArthur Dr (US 71)@Louise St	78	48	Signal
MacArthur Dr (US 71)@LA 1208-2	108	46	Signal
Coliseum Blvd (LA 28)@Heyman ln	90	42	Signal
MacArthur Dr (US 71)@Texas Ave	81	41	Stop
MacArthur Dr (US 71)@Bayou Rapides Rd (LA 496)	152	38	Signal
MacArthur Dr (US 71)@LA 28 W	97	22	Signal
MacArthur Dr (US 71)@Jackson St (LA 1208-3)	157	20	Signal
Coliseum Blvd (LA 28)@Calvert Dr	75	20	Signal
MacArthur Dr (US 71)@LA 28X	54	20	Signal

Source: LADOTD, September 2011 – September 2015 Crash Reports, Rapides Parish Urban Area

Table 8.12: Top 20 Intersections with High Potential for Safety Improvements

Highway Class	Intersection ID	Crashes 3-yr Average	Crashes per MV	Times State Average
Urban 2-lane	US71@US165	36.3	2.32	3.9
Urban 2-lane	US71@NORTH	15.0	1.53	2.6
Urban 2-lane	US71@US165X	25.7	1.43	2.4
Urban 4-lane	US167X@BROADWAY	20.7	1.46	2.8
Urban 4-lane	LA12083@DORCHESTER	20.0	1.39	2.7
Urban 4-lane	LA12083@WIMBLEDON	19.0	1.32	2.5
Urban 4-lane	LA12083@MCNUTT	17.3	1.20	2.3
Urban 4-lane	LA12083@TEXAS	16.7	1.19	2.3
Urban 4-lane Divided	US71@LA12082	28.3	3.63	7.4
Urban 4-lane Divided	US71@ELLIOTT	48.3	3.55	7.2
Urban 4-lane Divided	US71@LA496	40.0	3.15	6.4
Urban 4-lane Divided	LA28@CALVERT	18.0	2.20	4.5
Urban 4-lane Divided	LA28@HEYMAN	24.3	1.56	3.2
Urban 4-lane Divided	US71@LA12083	34.3	1.52	3.1
Urban 4-lane Divided	US71@COTTONWOOD	29.0	1.48	3.0
Urban 4-lane Divided	US71@RANDOM	14.3	1.47	3.0
Urban 4-lane Divided	US71@LEE	18.0	1.38	2.8
Urban 4-lane Divided	US71@TEXAS	21.0	1.21	2.5
Urban 4-lane Divided	US71@LOUISE	18.7	1.07	2.2
Urban 6-lane	US165X@FENNER#2	13.7	1.54	3.9

Source: Louisiana Department of Transportation and Development, updated 2013

Alexandria/Pineville

Metropolitan
Transportation Plan
2040

Figure 8.9

Intersection with
High Crash Frequency

Source: RAPC, LADOTD

LEGEND

- Intersection
- Interstate
- Major Highway
- Minor Highway
- MPA
- Red River

0 0.125 0.25 0.5 Miles

N

PREPARED BY:

RAPC DOTD

Date:08/22/2016

8.5 Recommendations

Within the urban area in Rapides Parish, a total of 11,896 crashes occurred between September 2011 and September 2015. The majority of these crashes took place between the hours of 8:00 AM and 8:00 PM, with the most crashes occurring from 3:00 PM to 5:00 PM. These crashes could likely be attributed to intersections and/or roadways not being designed to operate efficiently when presented with large traffic volumes and could be fixed by adjusting signal timing or adding lane(s). Approximately 83 percent 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 percent of crashes occurred during the daylight. Ten percent occurred when it was dark outside with only a signal or with no street lights. The crashes that occurred under these conditions could be attributed to poor lighting and could be reduced by providing proper lighting at intersections with no lighting.

Within the urban area in Rapides Parish, there were 30 fatal crashes and 3,496 injury crashes between September 2011 and September 2015. Alcohol is still a major factor in fatal crashes in the study area.

The four highest collision types, making up 44 percent of the crashes in urban areas in Rapides Parish, were:

- **Rear end collisions;**
- **Right angle collisions;**
- **Side swipe same direction; and**
- **Non-collision with motor vehicle (NCWMV).**

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 driver inattentiveness. Other potential causes include large turning volumes, slippery pavement, inadequate roadway lighting, crossing pedestrians, poor visibility of a traffic signal, and inadequate signal timing or an unwarranted signal.

Rear-end crash frequency may be reduced by adjusting the yellow clearance intervals in compliance with the Institute of Transportation Engineers (ITE) recommended clearance interval practices.

The number of crashes may further be reduced by reconfiguring the travel and turning lanes as well as frontage roads. This can be accomplished in a variety of methods including converting the two-way frontage roads to one-way frontage roads, providing indirect left-turns, or by displacing left-turn movements.

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

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

Right Angle Collisions

Right angle crashes are the second most prevalent collision type that occurs 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.

Jackson Street near the Metro Center Mall is an area with a concerning right-angle crash history.

This area of Jackson Street is commercially developed with numerous commercial drives, consisting of four lanes with no left-turn lanes. Significant numbers of right-angle, left-turn, and rear end crashes occur within this section of Jackson Street. The crash data shows that the numerous commercial drives contribute to the crashes. Crashes may be reduced by implementing some form of access management.

A first step in access management may include re-striping the four lane section as three lane section with a continuous left-turn bay. This would also provide enough space for an exclusive bike lane. A full traffic engineering and roadway capacity analysis would further investigate the feasibility of the re-striping. In spring 2011, the LADOTD began managing access in this area by installing delineators to restrict turning-movements at key intersections.

In general, the recommendations for reducing angle crashes include:

- Verify that the sight distance is not restricted at all intersection approaches. Options to alleviate 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 roadway and surroundings.

- Check the visibility of the traffic signal at all approaches. In order to provide better visibility of the traffic signal, options include installing or improving warning signs, overhead signal heads, installing 12” signal lenses, visors, back plates, or relocating/adding signal heads.

- Verify that the signal timing is adequate to serve the traffic volumes at the trouble intersections. Options include adjusting phase change interval, providing a red-clearance interval, providing progression, and utilizing signal actuation with dilemma zone protection.

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

Side Swipe Same Direction Collision

In the study area, side swipe in the same direction crashes account for the third largest amount of crashes. Although usually not fatal, these crashes still impose huge economic and human impacts on our road system. These crashes can be attributed to a number of factors. The vehicles involved are usually traveling at high speeds, increasing the amount of force involved in the crash and making it likely that serious damage will result.

Other potential causes include failure to recognize a “blind spot”, incompatible traffic volume with road capacity, large traffic volumes, inadequate roadway lighting, poor visibility of a traffic signal, and inadequate signal timing or an unwarranted signal.

An effective countermeasure to reduce side swipe collisions is the “Road Diet” or road configuration. A roadway reconfiguration known as a Road Diet offers several high-value improvements at a low cost when applied to traditional four-lane undivided highways. In addition to low cost, the primary benefits of a Road Diet include enhanced safety, mobility and access for all road users and a "complete streets" environment to accommodate a variety of transportation modes.

A classic Road Diet typically involves converting an existing four-lane, undivided roadway segment to a three-lane segment consisting of two through lanes and a center, two-way left-turn lane, thus reducing conflicts of conflicts between high-speed through traffic, left-turning vehicles and other road users.

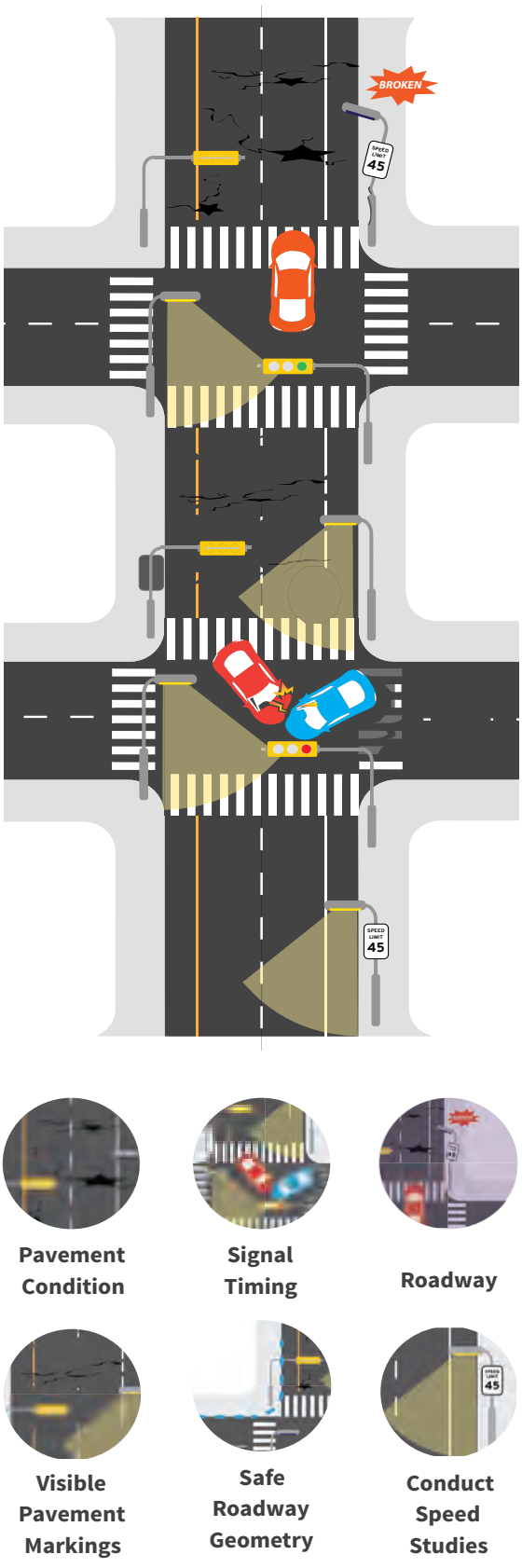
Non-Collision with Motor Vehicle (NCWMV)

NCWMV crashes are the fourth most prevalent in the study area. According to the data, approximately 46 percent of all NCWMV crashes occurred at night between the hours of 6:00 PM and 6:00 AM. About 56 percent of the fatal crashes, and 81 percent of the severe crashes related to NCWMV, occurred during those night hours. A number of factors could be the cause for NCWMV crashes, including speeding, pavement surface conditions, lighting and markings, roadway geometry, and signal timing.

In general, 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 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.

Figure 8.10: Safety Strategies



8.6 Regional Security

Hurricanes and flooding are a special issue of concern to south Louisiana, which can affect other portions of the state. Our communities are vulnerable to storm surge inundations. Evacuation, at times, is the only prudent response to impending storm conditions.

The MPA can receive increased traffic due to these evacuations and the contraflow policy that guides them. These events do not imply security threats within the context of post-September 11 concerns, but they do pose a substantial risk to the security of the affected region.

Issues

The State of Louisiana Emergency Operations Plan (EOP) was developed under the auspices of the Governor's Office of Emergency Preparedness and Homeland Security (GOHSEP). The Louisiana EOP includes guidance for preparedness for the full range of natural, technological, terrorist, and attack-related emergencies and disasters. It conforms to Federal law and regulations and the Louisiana Homeland Security and Emergency Assistance and Disaster Act as amended.

Figure 8.11: ITS Phase Deployment

Source: Alexandria Regional ITS Architecture, LADOTD

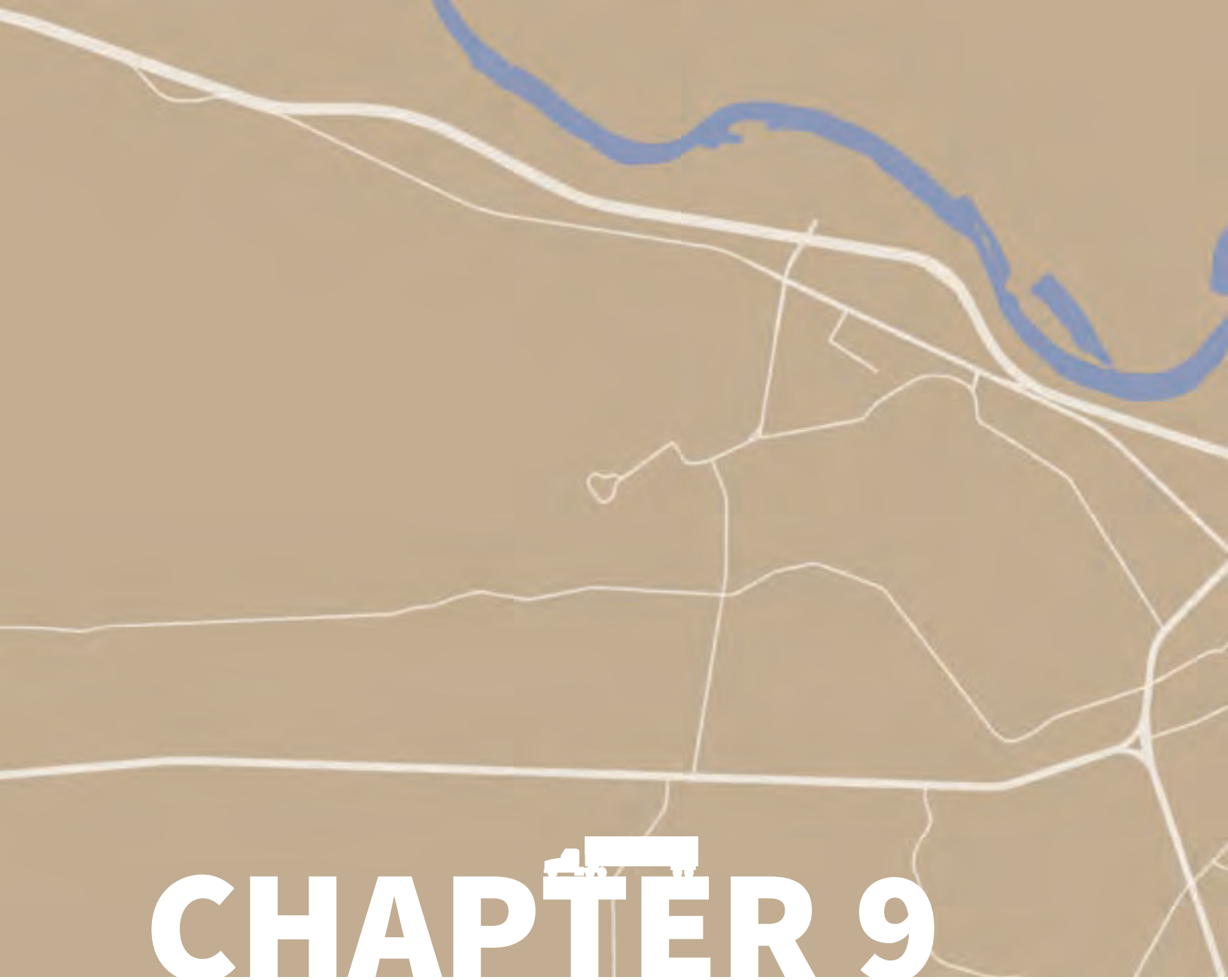
This plan provides a general framework for state agencies, parish agencies, volunteer groups, and private organizations to prepare for and respond to terrorist attacks, emergencies, and disasters. Although the plan does not identify a specific role for the Metropolitan Planning Organization, it is within the spirit of the plan that MPOs can participate with local and state government agencies and community organizations to support the work envisioned within the plan framework.

The Alexandria/ Pineville MPO region is saturated with infrastructure critical to our national economy. This includes:

- roadway infrastructure that provides for quick access of both people and goods throughout the study area, and all across the nation (including I-49, US 71, US 165, and US 167);
- rail infrastructure that provides direct access to the energy, oil, and gas industries, as well as their associated petrochemical refining facilities;
- the Central Louisiana Regional Port serves the region along the banks of the Red River. According to the port's official website, it had nearly 500,000 tons of cargo go through the docks in 2005. It is the largest shipper and receiver of military equipment along in-land waterways in the US, receiving large usage by the U.S. Army from nearby Fort Polk in Leesville, LA; and
- the Alexandria International Airport serves the MPA, and provides flights to Atlanta, Dallas, and Houston.

Even though this infrastructure presents numerous potential security issues, the MPO does not envision itself as having a role in the assessment or response to security incidents.

The England Airpark conducts security assessment on a regular basis for the Alexandria International Airport.



CHAPTER 9
Freight

9.1 Freight Movement in the MPA

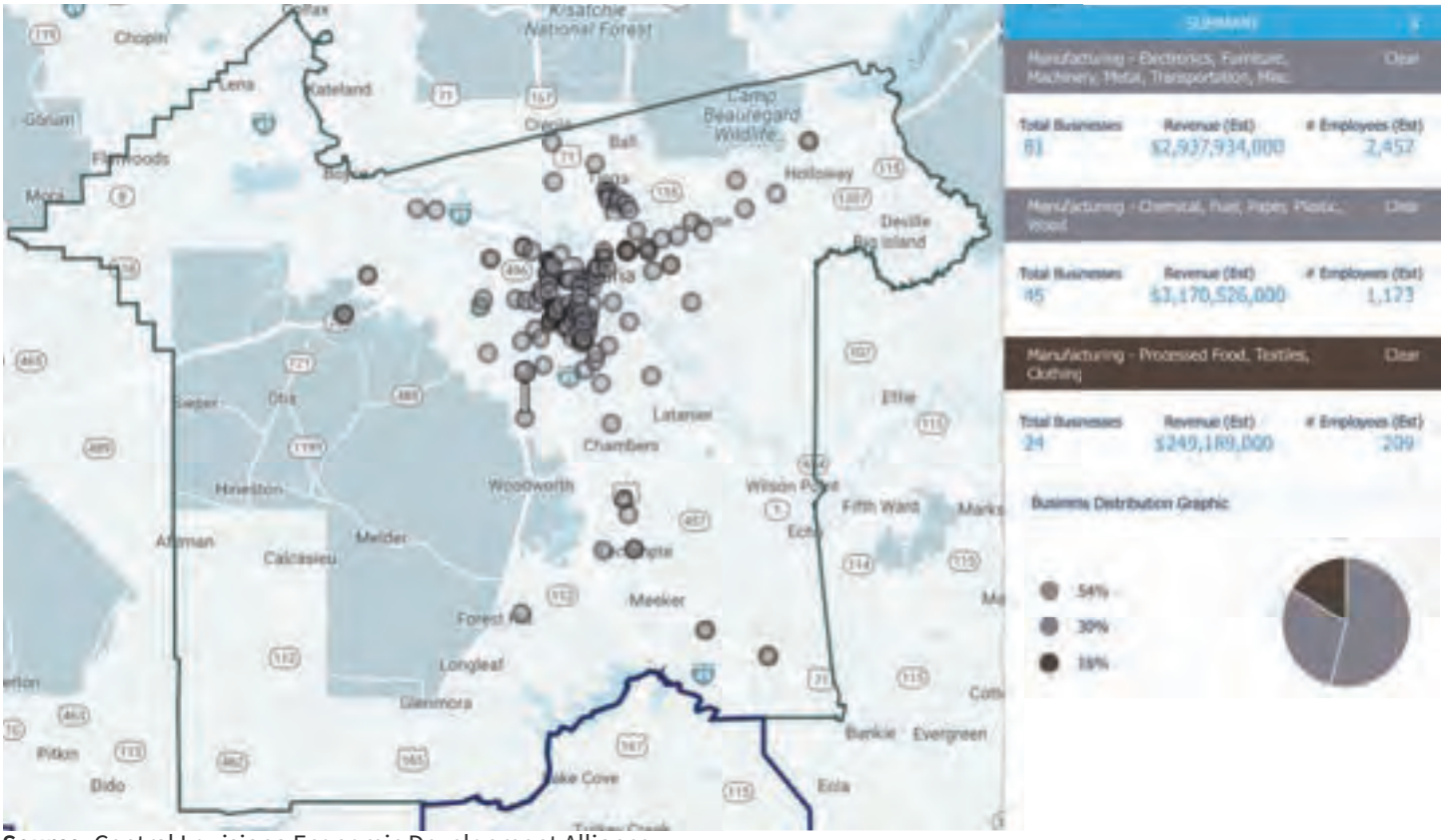
The chapter provides an eagles view of the freight movement patterns within the MPA. The chapter begins with existing freight network highlighting the State's tiered facilities within the MPA. In end, the chapter forays into potential freight improvements.

The average individual consumes two cargo containers of goods per year, roughly. While this may come as a stunning revelation to some, many goods producers are aware of this fact and understand the strain that this may put on a transportation network, especially when coupled with the movement of people between home, work, recreation, shopping, etc. Understanding the many facets of the supply chain in production and delivery of goods provides key insight into the use of our network by the freight industry.

Our Metropolitan Planning Area serves a population of over 107,600 and is the destination for many consumer goods; however, with several large manufacturers, our area also serves as an origin point for many goods, especailly timber and light industrial.

According to the Central Louisiana Economic Development Alliance's business map (based on proprietary data from InfoUSA as recent as February 2016), Rapides Parish is home to over 150 manufacturing businesses with the vast majority (~92 percent) falling within the metropolitan planning area. The MPA also reaches into southern Grant Parish, which adds another five manufacturing businesses. Manufacturers are a major driver for freight movements as they require some goods to be shipped to them prior to product finalization and then ship the finished products back out to relevant markets.

Figure 9.1: Major Manufacturers in Rapides Parish



Source: Central Louisiana Economic Development Alliance

9.2 Existing Freight Network

Highway

Since nearly every freight shipment will move by truck at some point, let's start with a look at the highway network that is vitally important to freight. The major routes for goods movement include I-49, US Hwy 165, US Hwy 167, and LA Hwy 28. However, according to LADOTD's draft Louisiana Freight Mobility Plan, LA Hwy 107, and LA Hwy 1 are also important to freight movements.

Figure 9.2: Highway Truck Tonnage, 2012

Source: LADOTD Louisiana Freight Mobility Plan

According to Figure 9.2, I-49 handles more than 1,600,000 tons of goods per year; with at least 400,000 tons allocated to highways 165, 167, 28, and 107 each; and at least 50,000 tons moving along Hwy 1.

I-49 Transports

1.6M

tons of cargo per yr

Rail

Our Metropolitan Planning Area is fortunate to be served by two Class I railroads: Kansas City Southern, which runs through our area from Baton Rouge to Shreveport; and Union Pacific, which runs through our area from New Orleans to Shreveport as well as from Lake Charles to Monroe. The Union Pacific railroad between New Orleans and Alexandria as well as between Alexandria and Monroe carry over 20,000,000 tons of cargo each year; while the Union Pacific line between Alexandria and Shreveport carries between 10,000,000 and 20,000,000 tons up to the Rapides Parish line. These numbers are significant in that they translate to roughly 750,000 less trucks on the road per year per line (see Cargo Capacity illustration).

The MPA is also serviced by a short line railroad, Louisiana Southern Railroad (LAS), which is part of the Kansas City Southern system. It runs between Pineville and Gibsland through Winnfield but is not capable of carrying 286,000 lbs., a major capacity constraint. It accounts for no more than 1,000,000 tons of cargo per year. This line primarily carries and, chemicals and petroleum, metals and ores, as well as paper and forest products.

Figure 9.3: Rail Net Tonnage, 2012

Source: LADOTD Louisiana Freight Mobility Plan

Water

In addition to the highway and rail network, our Metropolitan Planning Area makes use of a major natural resource, the Red River. Splitting our Metropolitan Planning Area almost perfectly in half, the Red River runs from the northwest through the southeast of our study area and is responsible for moving tons of freight each year. The shallow draft (9ft) waterway is served by an inland port, the Central Louisiana Regional Port (CLRP).

The CLRP boasts an annual tonnage of 233,450 in addition to intermodal access to our two Class I railroads as well as Interstate I-49 and other major highways. The 233,450 tons of waterborne freight[1] moves to and from our numerous commercial, industrial, and manufacturing facilities as well as Fort Polk in Leesville with the primary cargo consisting of fertilizer, military cargo, aggregates, citric acid, equipment, and bio-fuels. The cargo capacity comparisons between modes of transportation is illustrated in Figure 9.4.

[1] **Source:** Ports Association of Louisiana

Air

Central Louisiana is served by the Alexandria International Airport (AEX) at the former England Air Force base. The annual enplanements at the airport for the past five years are shown in the following table:

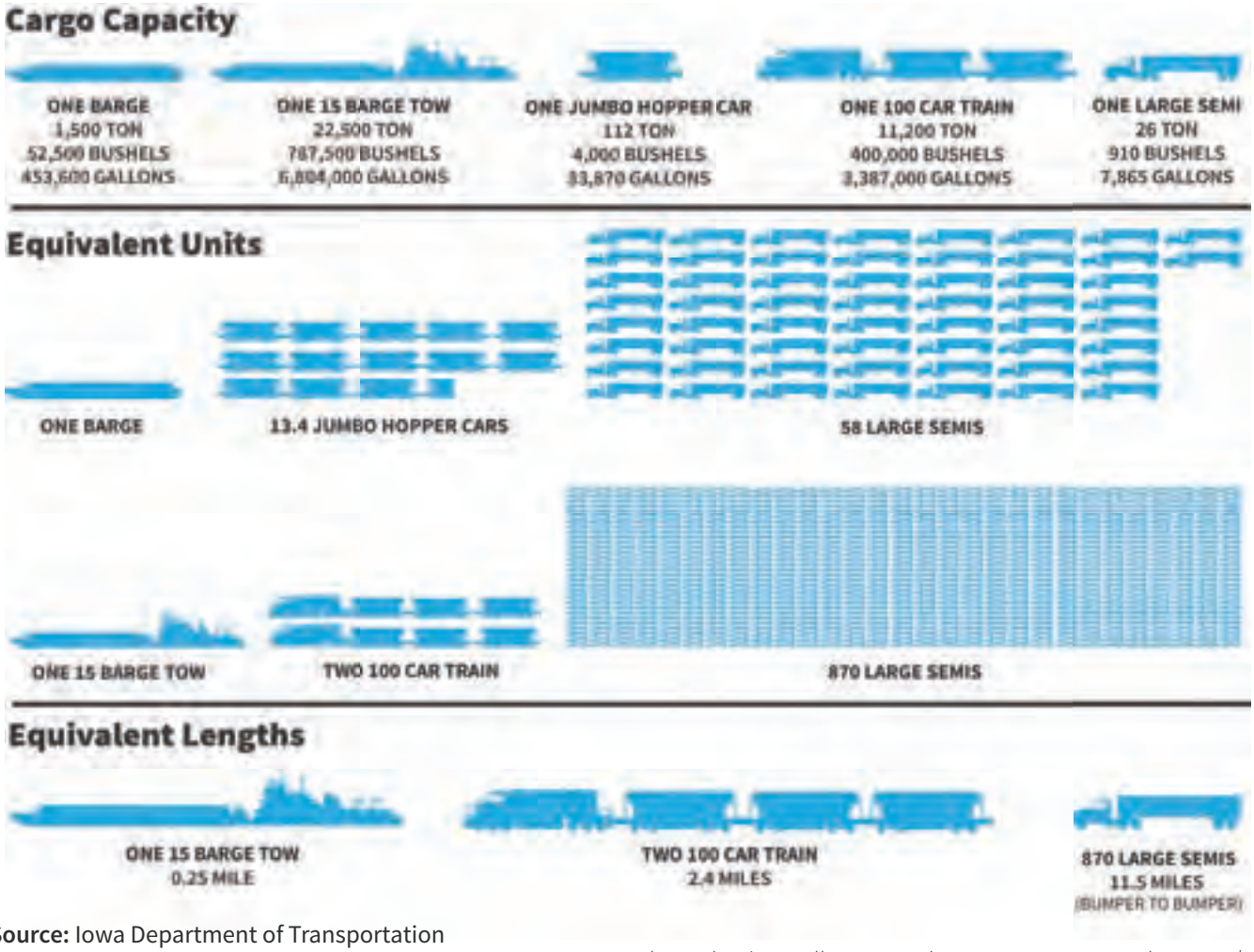
Table 9.1: Rail Net Tonnage, 2012

Year	2010	2011	2012	2013	2014
Enplanements	179,129	188,286	189,476	183,899	175,526

Source: LADOTD Statewide Transportation Plan

However, air freight in our area is very minimal, whether measured by tonnage of cargo and mail or measured by value. According to the Louisiana Statewide Transportation Plan, AEX only moved a total of 132 tons of cargo over a five year period between 2006 and 2010, with only nine tons of that cargo moving in the final year. Furthermore in 2012, when measured by value, our airport shipped out goods worth $7,215.00 and landed goods worth $16,270.00.

Figure 9.4: Cargo Capacity Comparisons



Source: Iowa Department of Transportation

9.3 Louisiana's Tiered Freight Network

Rail Transports

30M

tons of cargo per yr

In the last two federal transportation bills, MAP-21 and most recently the FAST Act, freight has begun to take a more dominant role in planning for future infrastructure investments. As a result of new funding recommendations and requirements, states and MPOs alike have started developing better plans for freight corridor investment – or at the very least, better considering freight during infrastructure investment plans.

In fact, USDOT "doubled down" on freight funding recently by setting aside hundreds of millions in discretionary, competitive funding through the Transportation Investment Generating Economic Recovery (TIGER) and the Fostering Advancements in Shipping and Transportation for the Long-Term Achievement of National Efficiencies (FASTLANE) grants; with the latter being aimed solely at freight transportation projects.

In response to the new federal direction, LADOTD has completed a preliminary draft of the Louisiana Freight Mobility Plan. While the plan has not yet been finalized nor released for public review, data and other information from the draft have been made available to the MPO for use during our MTP update.

LADOTD's approach was to take the complete transportation network – highway, rail, air, and water – and divide it into a tiered system with the following criteria:

Tier 1

1. The National Primary Freight Network as defined FHWA (with the addition of LADOTD comments);
2. All Class I Railroads;
3. Airports with greater than $100 million in air cargo annually;
4. Waterways with greater than 10 million gross tons annually and/or 1,000 lockages; and
5. Port Terminals with greater than 50 million short tons annually.

**For our MPA, only Union Pacific and Kansas City Southern railroads (excluding the LAS) qualify for Tier 1.*

Tier 2

1. Remainder of the Interstate System,
2. Railroads not included in Tier 1 that have greater than 500,000 gross tons per mile annually;
3. Airports not included in Tier 1 that have greater than $10 million in value annually;
4. Waterways not included in Tier 1 that have greater than 5 million gross tons annually; and
5. Port Terminals not included in Tier 1 that have between 20 and 50 million short tons annually.

**For our MPA, only Interstate 49 qualifies for Tier 2.*

Figure 9.5: Tier -1 Network

Source: LADOTD Louisiana Freight Mobility Plan

Tier 3

1. Rural Principal Arterials not included in Tier 1 and 2 that have greater than 25 percent average daily truck traffic (ADT);

2. Roadways that provide access to energy exploration, development, installation, or production areas, or connect the Tier 1 or Tier 2 networks that accommodate 50,000 20 foot equivalent units per year; or 500,000 tons per year of bulk commodities;

3. Railroads not included in Tier 1 and 2 that are active;

4. Airports not included in Tier 1 and 2 that have commercial service;

5. Waterways not included in Tier 1 and 2 that have greater than 1 million gross tons annually; and

6. Port Terminals that have between 2 and 20 million short tons annually.

**See Figure 9.7 for the MPA's Tier 3 assets.*

Tier 4

1. Corridors that serve several freight-related businesses that are not included in the previous tiers; and

2. Links between the system and primary freight generators (i.e. connectors to corridors that serve freight).

****According to the draft Louisiana Freight Mobility Plan, "This tier is fluid and the assets have not been specifically defined within the Freight Mobility Plan."***

With the new federal and state emphasis on freight corridors, our area has ample opportunity to capitalize on future discretionary and formula funds to improve our urban and rural freight network.

As noted in the previous tonnage maps as well as the tiered network maps, our geography, economy, and built transportation network position the MPA well for growth in freight-related markets and for future infrastructure investment.

Figure 9.6: Tier -2 Network

Source: LADOTD Louisiana Freight Mobility Plan

Figure 9.7: Tier -3 Network

Source: LADOTD Louisiana Freight Mobility Plan

9.4 Potential Freight Improvements

From the Louisiana Freight Mobility Plan public meetings and Statewide Transportation Plan Update survey, three freight related recommendations emerged:

1. Use technology to better regulate the use and operations of roadways rather than adding capacity – lower cost and sometimes equally or more effective. This was the 2nd highest recommendation from the statewide survey. The top recommendation was maintaining existing infrastructure followed by use of technology.

2. Allow ports and other inter-modal hubs to operate at non-peak travel times to ease congestion caused by passenger and freight traffic combined.

3. Have freight industry represented at MPO and State level advisory committees.

Major projects identified from the MTP outreach that are freight focused include:

1. Beltway – southern portion to connect LA 28W and 28E (also identified in both state plans)

2. Industrial Park Connection to Expressway (P&G, Plastipak, Distran, etc.)

Note that many of the projects "funded" in the Staged Improvement Plan will have freight benefits. Refer to project prioritization process and how reduction of vehicle hours of delay for freight trucks is taken into account.

Further regional freight study will help determine and prioritize short, medium and long-term recommendations.

Waterborne Freight

235k

tons per yr

CHAPTER 10

Environmental Mitigation

10.1 Introduction

This chapter outlines the MPA's ever increasing emphasis on environmental mitigation for all transportation related projects. The chapter provides an overview of potential impacts on the MPA's wetlands, threatened/endangered species, historic places and other section 4(f) properties. Further, the chapter analyzes environmental justice parameters for identified test projects especially for minority and low-income populations. Also, the chapter elaborates on the MPO's foray into Ozone Advance Program in alleviating the ozone levels of the MPA. Further, the chapter emphasizes the need for considering storm water mitigation.

SAFETEA-LU **(Part 450.322)** establishes guidance for the development and content of the metropolitan transportation plan. MAP-21 puts increased emphasis on balancing environmental stewardship with streamlining of project approval and decision making process. Additionally, the FAST Act requires the planning process to consider projects/strategies to: improve the resilience and reliability of the transportation system and storm water mitigation.

Implementation of projects listed within this plan will continue to follow the requirements of the National Environmental Policy Act (NEPA), as well as other local, state, and Federal guidance and regulations, including the LADOTD guidance on Project Delivery.

The reminder of this plan to present overall issues of potential impacts on study area's wetland, threatened and endangered spices, historic place and Section 4(f) properties as well as mitigation strategies, followed up discussion on potential environmental justice concerns for minority and low-income population.

Photo 10.0: Roadway Construction at Buhlow Lake Pineville, LA

10.2 Issues

This discussion focuses on issues of concern that might trigger requirements for detailed environmental studies.

10.2.1 Potential Wetlands Impacts

Section 404 of the Clean Water Act establishes programs 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.

Mitigation

For much of the country, the United States Fish & Wildlife Service (USFWS) has conducted an assessment of potential wetlands habitats. This assessment is published as the National Wetlands Inventory (NWI) geographic database. Figure 10-1 illustrates how the proposed phased plan improvements affect wetland habitats in the MPA.

As individual projects proceed through the LADOTD Project Delivery Process and NEPA, it is anticipated that project sponsors will:

- Take steps to avoid wetland impacts where practicable;
- Consider strategies which minimize potential impacts to wetlands; and
- Provide compensation for any remaining unavoidable impacts through activities to restore or create wetlands.

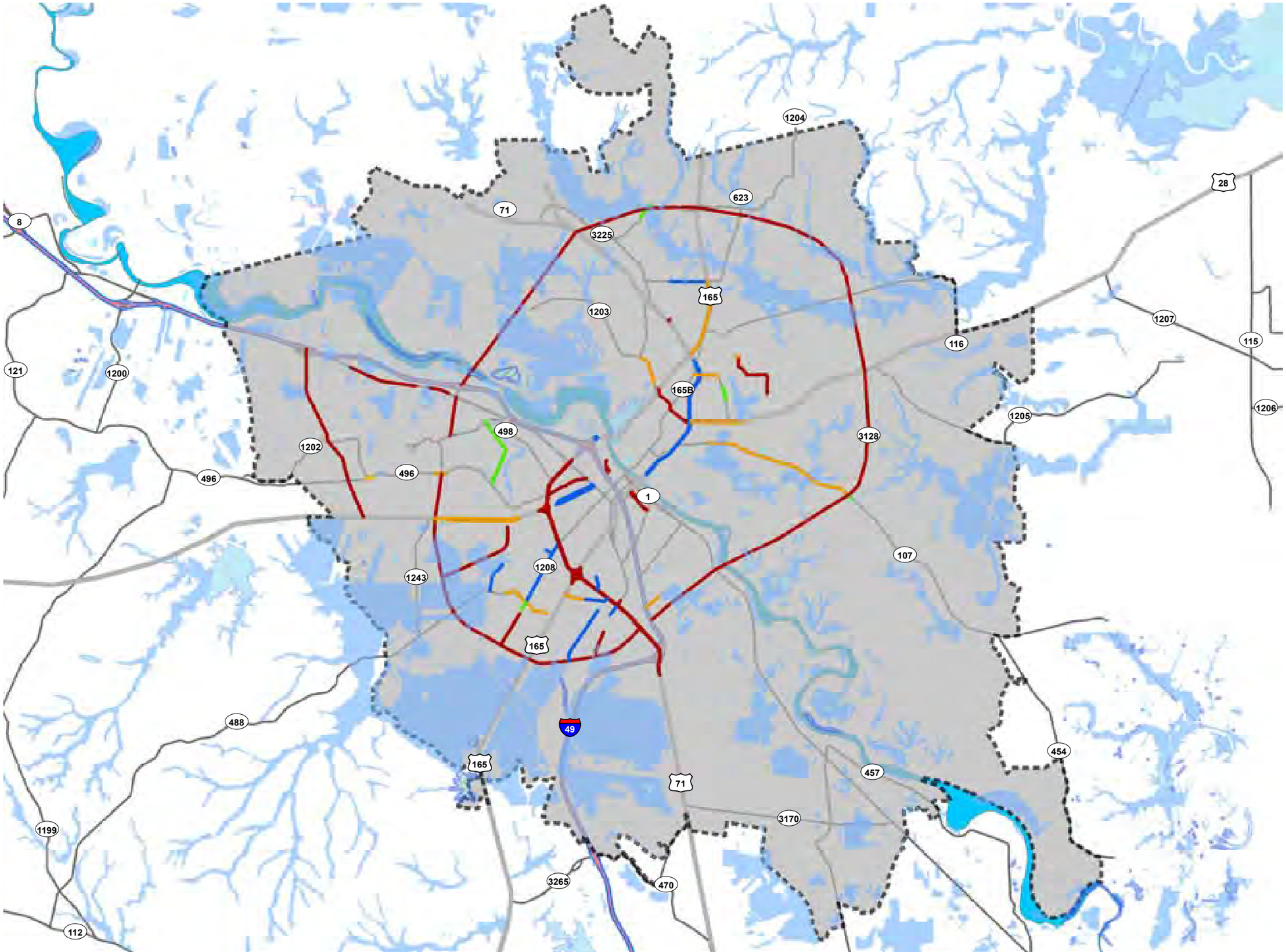
Photo 10.1: Iatt Lake, Grant Parish, LA

Alexandria/Pineville

Metropolitan Transportation Plan 2040

Figure 10.1

MPA Wetlands



LEGEND

Wetland Type
- Freshwater Emergent
- Freshwater Forested/Shrub
- Freshwater Pond
- Lake

- Phase I (2016 - 2020)
- Phase II (2021 - 2030)
- Phase III(2031 - 2040)
- Vision
- MPA
- Interstate
- Major Highway
- Minor Highway
- Red River

0 1 2 4 Miles

N

PREPARED BY:

RAPC DOTD

Source:RAPC,NWI

Date:08/23/2016

10.2.2 Potential Impacts to 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, terrestrial, and freshwater species, while the NMFS is responsible for non-bird marine species. The USFWS responsibilities under the ESA include:

- The identification of threatened and endangered species;
- The identification of critical habitats for listed species;
- Implementation of research on, and recovery efforts for, these species; and
- 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:

- The current/imminent destruction, modification, or curtailment of their habitat or range;
- Overuse of the species for commercial, recreational, scientific, or educational purposes;
- Disease or predation;
- The inadequacy of existing regulatory mechanisms; and

Other natural or human-induced factors affecting continued existence.

Table 10.1: Federally Listed Species in Rapides Parish, LA

Group	Name	Status	Lead Office
Birds	Red-cockaded Woodpecker *(Picoides borealis)*	Endangered	Assistant Regional Director-Ecological Services
Clams	Louisiana pearlshell *(Margaritfera hembeli)*	Threatened	Louisiana Ecological Services Field Office
Fishes	Pallid sturgeon *(Scaphirhynchus albus)*	Endangered	Northern Rockies Fish & Wildlife Conservation Office
Mammals	Louisiana black bear (*Ursus americanus luteolus*)	Recovery	Louisiana Ecological Services Field Office
Mammals	Northern Long-Eared Bat (*Myotis septentrionalis*)	Threatened	Twin Cities Ecological Services Field Office

Source: http://ecos.fws.gov/ecp0/reports/species-by-current-range-county?fips=22079. Data retrieved on August 19th, 2016.

State Listed Species

The Louisiana Natural Heritage Program (LNHP), part of the Louisiana Department of Wildlife and Fisheries (LDWF), maintains a comprehensive inventory of rare plant and animal species, exemplary natural communities, special geological features, and significant natural areas.

The LNHP is part of an international network including State Natural Heritage Programs and Conservation Data Centers, all building on the same data collection methodology. The database is updated continuously and is used to set state, national, and global priorities for the preservation of natural diversity.

Table 10-2 (A) presents rare animal species tracked by the Natural Heritage Program in Rapides Parish; Table 10-2 (B) presents rare plant species tracked by the Natural Heritage Program in Rapides Parish and Table 10-2 (C) presents natural communities tracked by the Natural Heritage Program in Rapides Parish.

Table 10.2(A): Rare, Threatened, & Endangered Animal Species

Scientific Name	Common Name	State Rank	Global Rank	State Status	Federal Status
Aimophila aestivalis	**Bachman's Sparrow**	S3	G3		
Chaetodipus hispidus	**Hispid Pocket Mouse**	S2	G5		
Cycleptus elongatus	**Blue Sucker**	S3	G3G4		
Faxonella creaseri	**Ouachita Fencing Crawfish**	S2	G2		
Grus canadensis	**Sandhill Crane**	S2N	G5		
Haliaeetus leucocephalus	**Bald Eagle**	S3	G5	E	Delisted
Helmitheros vermivorus	**Worm-eating Warbler**	S3B	G5		
Lampsilis satura	**Sandbank Pocketbook**	S2	G2		
Leuctra szczytkoi	**Schoolhouse Springs Leuctran Stonefly**	S1	G2		
Macrochelys temminckii	**Alligator Snapping Turtle**	S3	G3G4	Restricted Harvest	
Margaritifera hembeli	**Louisiana Pearlshell**	S1	G1	E	T
Mustela frenata	**Long-tailed Weasel**	S3	G5		
Obovaria jacksoniana	**Southern Hickorynut**	S1S2	G2		
Orconectes blacki	**Calcasieu Painted Crawfish**	S1	G2		
Orconectes hathawayi	**Teche Painted Crawfish**	S3	G3		
Orconectes maletae	**Kisatchie Painted Crawfish**	S2	G2		
Pandion haliaetus	**Osprey**	S3	G5		
Picoides borealis	**Red-cockaded Woodpecker**	S2	G3	E	E
Pituophis ruthveni	**Louisiana Pine Snake**	S2	G2Q		C
Plethodon kisatchie	**Louisiana Slimy Salamander**	S1	G3G4Q		
Plethodon serratus	**Southern Red-Backed Salamander**	S1	G5	Prohibited	
Pleurobema riddellii	**Louisiana Pigtoe**	S1S2	G1G2		
Polyodon spathula	**Paddlefish**	S4	G4		
Procambarus jaculus	**Javelin Crawfish**	S1	G4		
Pteronotropis hubbsi	**Bluehead Shiner**	S2	G3		
Sternula antillarum athalassos	**Interior Least Tern**	S4BT1	G4T2Q	E	E
Strophitus subvexus	**Southern Creekmussel**	S1	G3		

Table 10.2(B): Rare, Threatened, & Endangered Plant Species

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		
Camassia scilloides	**Atlantic Camas**	S3	G4G5		
Carex meadii	**Mead's Sedge**	S3	G4G5		
Carex microdonta	**Little Tooth Sedge**	S3	G4		
Cypripedium kentuckiense	**Southern Lady's-slipper**	S1	G3		
Dichanthelium strigosum var. glabrescens	**Roughhair Witchgrass**	S1	G5T4T5		
Dryopteris ludoviciana	**Southern Shield Wood-fern**	S2	G4		
Dulichium arundinaceum	**Three-way Sedge**	S2	G5		
Euphorbia discoidalis	**Summer Spurge**	S1	GNR		
Fuirena simplex var. aristulata	**Western Umbrella Sedge**	S1	G5T4		
Hexalectris spicata	**Crested Coral-root**	S2	G5		
Lobelia flaccidifolia	**Coastal Plain Lobelia**	S2?	G5		
Mayaca fluviatilis	**Bog Moss**	S2	G5		
Melanthera nivea	**Snow Melanthera**	S2	G5		
Oenothera pilosella ssp. sessilis	**Meadow Evening Primrose**	S1?	G5T2Q		
Orobanche uniflora	**Broomrape**	S1	G5		
Quercus rubra	**Red Oak**	S1S3	G5		
Rhynchospora miliacea	**Millet Beakrush**	S2	G5		
Schisandra glabra	**Scarlet Woodbine**	S3	G3		
Schoenoplectus etuberculatus	**Bulrush**	S1	G3G4		
Triphora trianthophora	**Louisiana Blue Star**	S3	G3		

Table 10.2(C): Natural Habitat

Scientific Name	State Rank	Global Rank
Bayhead Swamp	S3	G3?
Bottomland Hardwood Forest	S4	G4G5
Cypress Swamp	S4	G4G5
Cypress-Tupelo Swamp	S4	G3G5
Fleming Calcareous Prairie	S1	G1
Fleming Glade	S1	G1
Hardwood Slope Forest	S3	G2G3
Mixed Hardwood-Loblolly Pine Forest	S3	G3G4
Pine Flatwoods	S3	G2G3
Scrub/Shrub Swamp	S4S5	G3?
Shortleaf Pine/Oak-Hickory Forest	S1	G2G3
Small Stream Forest	S2	G3
Western Acidic Longleaf Pine Savannah	S2	G2G3
Western Hillside Seepage Bog	S1	G2G3
Western Upland Longleaf Pine Forest	S3	G2G3
Bayhead Swamp	S3	G3?
Bottomland Hardwood Forest	S4	G4G5
Cypress Swamp	S4	G4G5
Cypress-Tupelo Swamp	S4	G3G5
Fleming Calcareous Prairie	S1	G1
Fleming Glade	S1	G1
Hardwood Slope Forest	S3	G2G3

Photo 10.2: Indian Creek Recreation Area, Woodworth, LA

Table 10.2(D): Potential Need for Further Study Criteria

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. State 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 lists 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 1973):

LE = Listed Endangered
LT = Listed Threatened
PE = Proposed endangered
PT = Proposed Threatened
C = Candidate
PDL = Proposed De-Listing
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 database and state database, some may not have a status which does not yet appear.

(Rank, Rank) = Combination ranges or parentheses = The taxon itself is not named in the Federal Register as having U.S. ESA status; however, all of its subspecific taxa (varieties) do have official status. The statuses shown in parentheses indicate the statuses that apply to subspecific taxa or populations within the taxon. *ONE SPECIES IN COMBINED TAXA HAS A COMBINED STATUS IN LOUISIANA*

(S% = partial status= Status in only a portion of the species' range. Typically indicated as a "full" species record where an infraspecific taxon or population has U.S. ESA status, but the entire species does not. *ONE SPECIES IN BOX MAY HAVE A STATUS IN LOUISIANA*

(S%, Rank) = partial status= Status in only a portion of the species' range. The value of the 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., G2G3) 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., a 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 T may be used as qualifier of numeric rank and indicating whether the occurrence is breeding or nonbreeding

SA = accidental in Louisiana, including species casually birds of butterflies vagrant away or more or only a great outside landside or away 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

S#? = 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

SA = believed to be extirpated from Louisiana

S#Z = transient species in which no specific consistent area of occurrence is identifiable

STATE PROTECTION STATUS:

State statutes 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 or 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

Source: Tracked by the Louisiana Natural Heritage Program (data retrieved in August 2016).
http://www.wlf.louisiana.gov/wildlife/species-parish-list?tid=250&type_1=All

Mitigation

The early planning undertaken within the context of development of this MTP does not include resources sufficient to assess project specific impacts to species habitats.

Table 10.2 (D) establishes the potential need for further study as projects are carried forward through the LADOTD Project Delivery, the NEPA process, design, and construction. Projects will be developed in consultation with USFWS and LDNR, and to the extent practicable, actions which impact critical abitats will be avoided. Figure 10-2 shows Louisiana Department of Wildlife and Fishery (LDWF) wildlife management areas and refuges in or near the MPA.

Wildlife

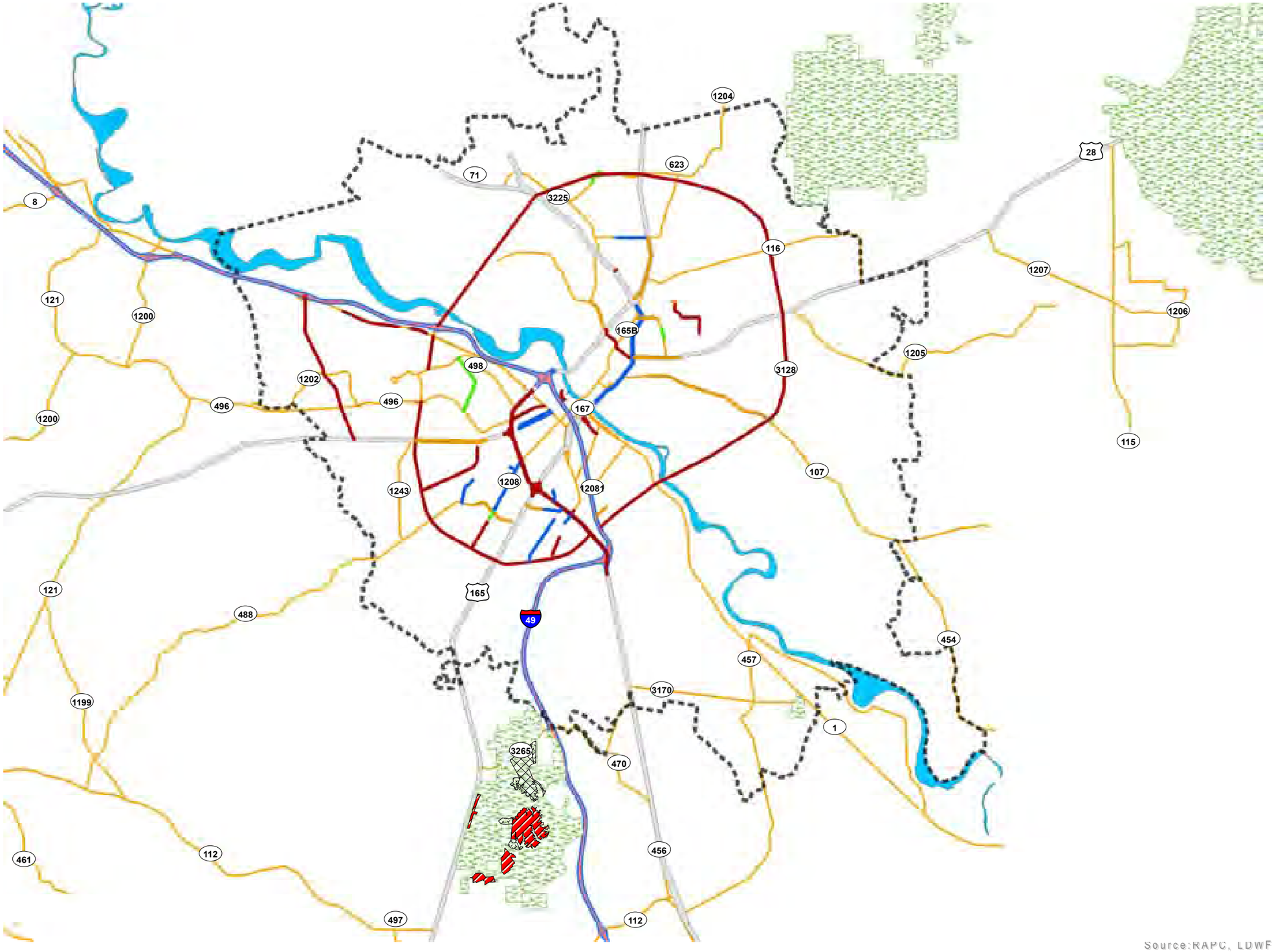
5

species in Rapides threatened or endangered

Alexandria/Pineville

Metropolitan Transportation Plan 2040

Figure 10.2
State Wildlife Management and Refuge Area



LEGEND

- Restricted Area
- Limited Use Area
- Shooting Range Safety Area
- LDWF Refuge 2016
- Phase I (2016 - 2020)
- Phase II (2021 - 2030)
- Phase III(2031 - 2040)
- Vision
- MPA
- Interstate
- Major Highway
- Minor Highway
- Red River

0 1.25 2.5 5 Miles

N

PREPARED BY:

RAPC DOTD

Source:RAPC, LDWF

Date:08/23/2016

10.2.3 Potential Impacts to National Register of Historic Place Properties

The Red River's watershed covers 65,590 square miles and is the southernmost major tributary of the Mississippi River. The watershed sustained a diverse prehistoric occupation by Native Americans. Native Americans relied on the basin's rivers and lakes for food and trade, and the flood-plain for agriculture.

Figure 10-3: Louisiana River Basins

Source: Louisiana Department of Environmental Quality

The historic occupation of the Alexandria area is documented to the arrival of Spanish settlers under the terms of a Spanish land grant. Alexander Fulton reached Rapides Parish in the 1790s and laid out the future Alexandria in 1805. Rapides Parish itself was formed in 1807 by the government of the Territory of Orleans.

Mitigation

Considering the importance of the Red River to both prehistoric and historic occupations, the location of proposed projects in proximity to existing channels can be used as an indicator of a proposed project's potential for impacting archaeological and historic resources. NRHP standing structures and historic properties were incorporated into a Geographic Information System (GIS) database.

Proposed plan improvements were mapped to show proximity to these resources, as illustrated in Figure 10-3. Known archaeological resources were not mapped, since publication of their location is restricted.

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

10.2.4 Potential Impacts to Section 4(f) Properties

Section 4(f) has been Federal law since it was enacted as part of the Department of Transportation (DOT) Act of 1966. 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.

Mitigation

The early planning undertaken within the context of development of this long-range transportation plan does not include resources sufficient to assess project specific impacts to 4(f) resources. As previously noted, NRHP properties have been mapped in a GIS context and other 4(f) resources have been located to the extent that geographic data is available. That information is shown in Figure 10 3.

Sites

6

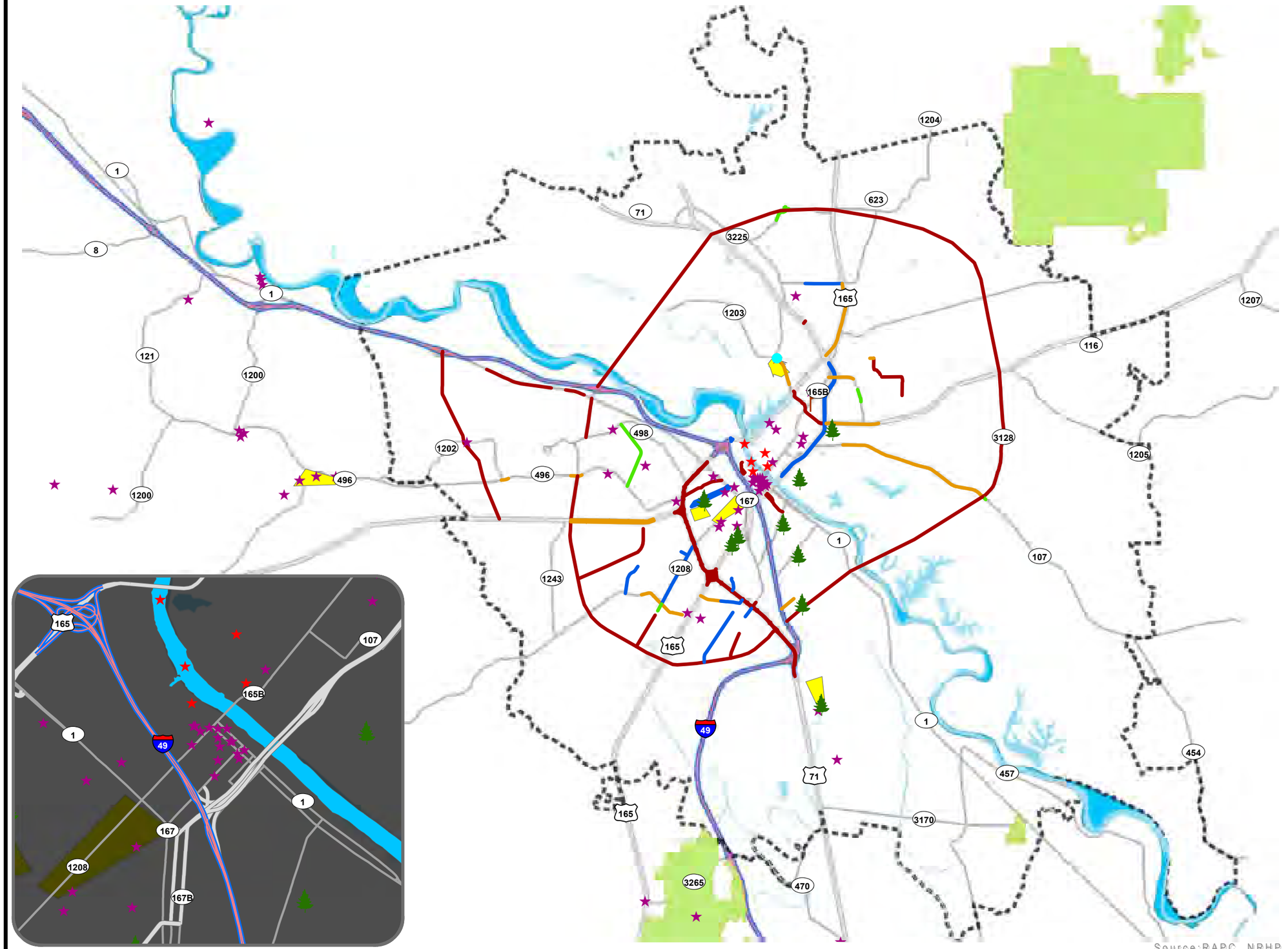
historic

Alexandria/Pineville

Metropolitan Transportation Plan 2040

Figure 10.3

Section 4(f) Properties



LEGEND

- Golf Courses
- Parks
- Historic Sites
- Historic Buildings
- Phase I (2016 - 2020)
- Phase II (2021 - 2030)
- Phase III(2031 - 2040)
- Vision
- Historic District
- Louisiana Refuge
- National Refuge
- Water Areas
- MPA
- Interstate
- Major Highway
- Minor Highway
- Water Bodies

0 1 2 4 Miles

N

PREPARED BY:

RAPC

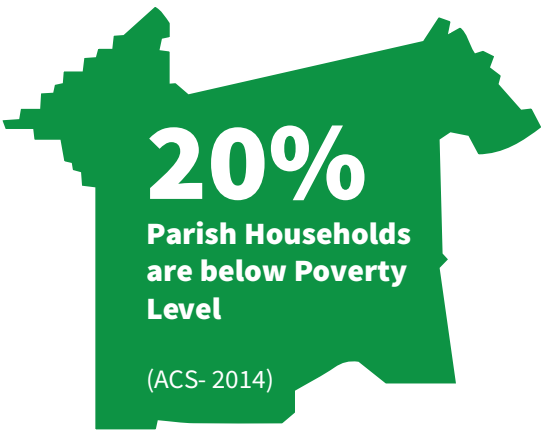
Source:RAPC, NRHP

Date:08/23/2016

10.2.5 Potential Environmental Justice Concerns Pursuant to Executive Order 12898

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

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



Mitigation

A statistical analysis was performed documenting minority population and economic characteristics by census block group within the MPO study area. Proposed projects were mapped over the block group data to provide an assessment of environmental justice concerns associated with a project's development. The remainder of this section explains the process.

Each region can approach environmental justice in a variety of ways. Regardless of the approach, affected populations affected by environmental justice were identified. For this analysis, the following four populations were identified:

- Low income households, where the median household income is at or below 65 percent of the parish's median income;
- Where 25 percent or more of the residents are a minority;
- Where 25 percent or more are foreign born; and
- Where 25 percent or more of the residents do not speak the English language proficiently.

Data for the environmental justice analysis came from the 2010 Census at the block group level for Rapides Parish. Using this data, the statistics on the population in each block group was determined. There were no block groups within the study area that met the criterion set for foreign born or low English proficiency populations.

The next step for the environmental justice analysis was using GIS to create maps of areas that contained the environmental justice populations and overlay a layer with the proposed plan projects in the area. Using the GIS layers, the locations of these projects and their distribution among the affected populations is noted as potential areas of concern.

Figure 10.4 shows the phased plan projects and the minority population block groups.

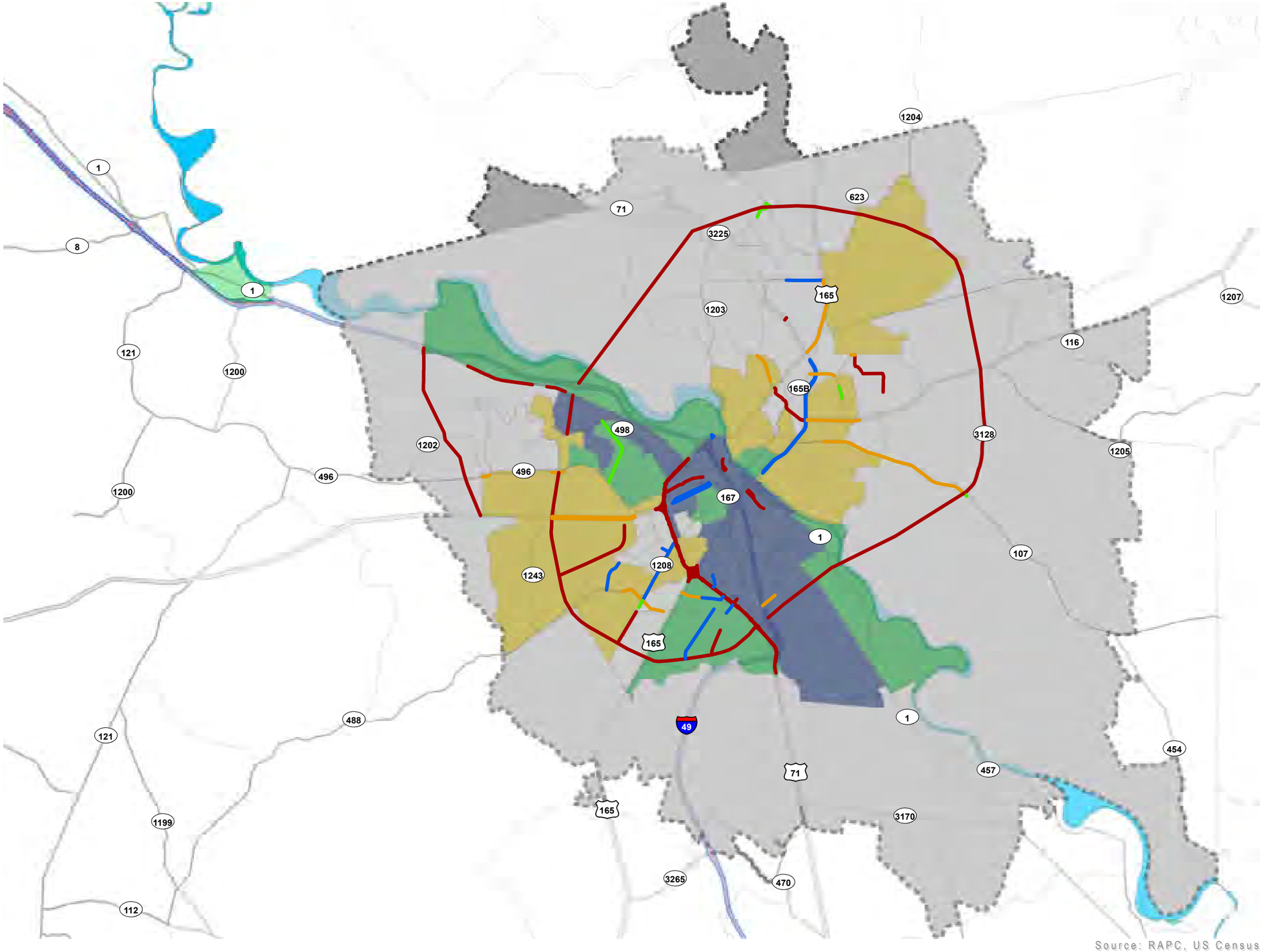
Figure 10-5 shows the phased plan projects and the low income household block groups.

Alexandria/Pineville

Metropolitan Transportation Plan 2040

Figure 10.4

Minority Population (Census Block Group)



Source: RAPC, US Census

LEGEND

- Below 25%
- 25% to 50%
- 50% to 75%
- Above 75%
- Phase I (2016 - 2020)
- Phase II (2021 - 2030)
- Phase III(2031 - 2040)
- Vision
- MPA
- Interstate
- Major Highway
- Minor Highway
- Red River

0 1 2 4 Miles

N

PREPARED BY:

RAPC POTD

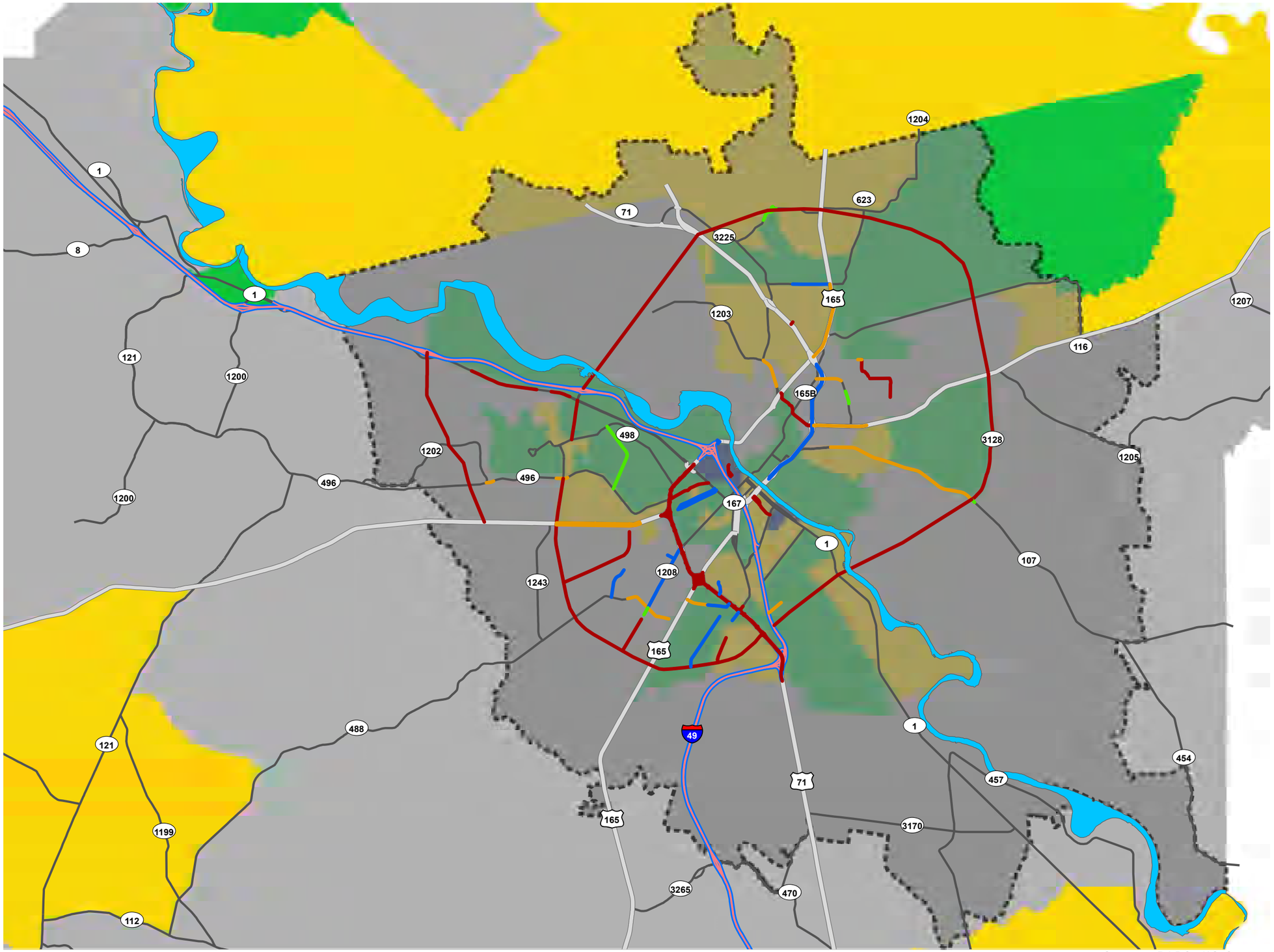
Date:08/23/2016

Alexandria/Pineville

Metropolitan Transportation Plan 2040

Figure 10.5

Low Income Population (Census Block Group)



LEGEND

Poverty

- Below 15 %
- 15% - 25%
- 25% - 50%
- Above 50%
- Phase I (2016 - 2020)
- Phase II (2021 - 2030)
- Phase III(2031 - 2040)
- Vision
- Interstate
- Major Highway
- Minor Highway
- MPA
- Red River

0 1 2 4 Miles

N

PREPARED BY:

RAPC POTD

Source: RAPC, US Census

Date:08/23/2016

10.2.6 Crossing of Navigable Waterway

Two projects proposed in the MTP potentially cross navigable waterways. These include:

- The north bridge and south bridge over the Red River for the proposed Beltway Loop Corridor

Mitigation
As the projects proceed through the LADOTD 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 effects to navigation.

10.2.7 Community Impacts

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

Mitigation
Impacts associated with specific projects will be assessed in conformance with local, state, and Federal regulations, NEPA guidance, and the LADOTD Project Delivery.

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

Households

20%

live below poverty level

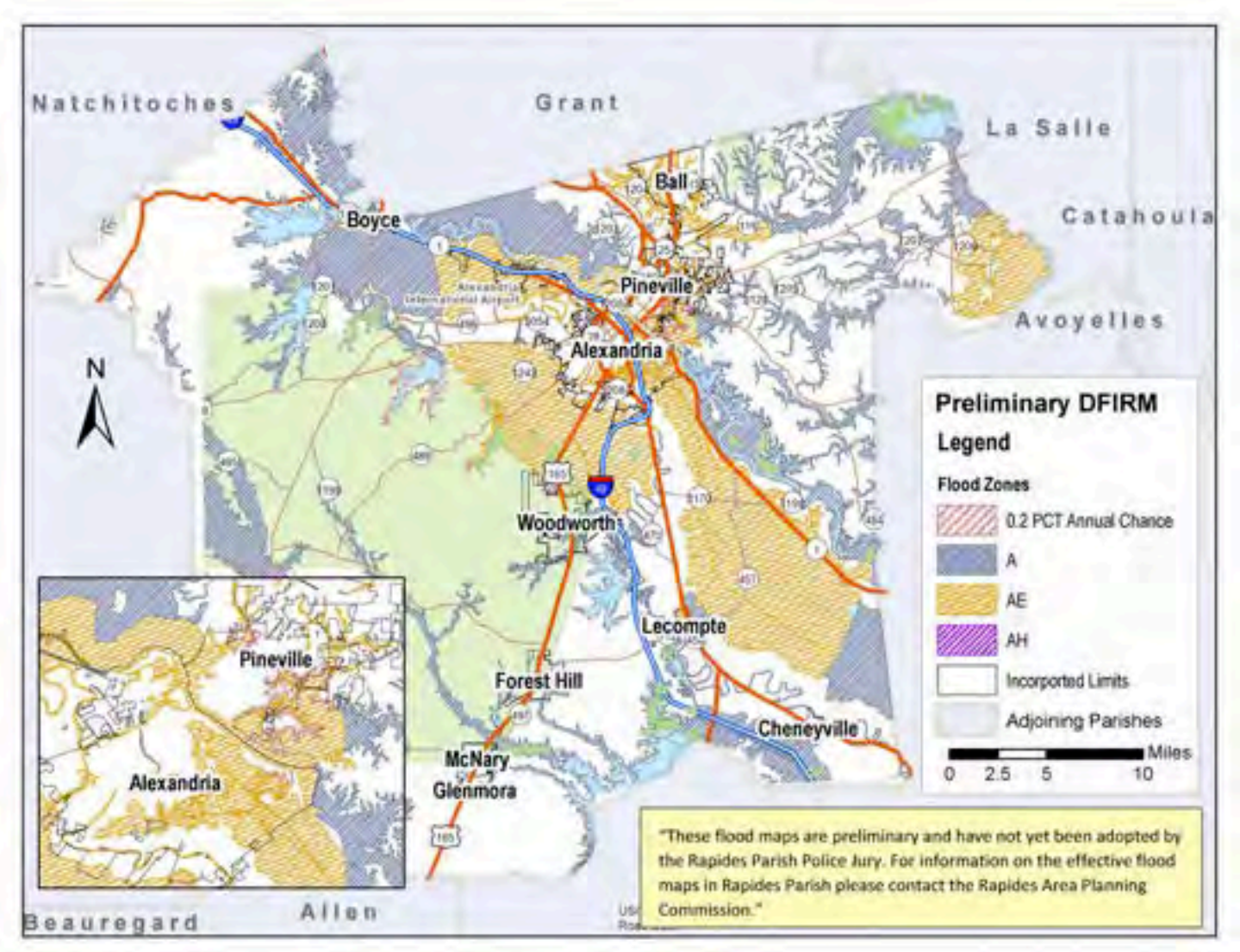
Photo 10.3: Barge Navigating Red River - Alexandria, LA

10.3 Storm-water Mitigation

Flooding in the State of Louisiana, and more specifically in Rapides Parish, is an issue that is becoming all too common for residents throughout our MPA. Local officials are tasked with planning for and responding to flood events while residents are faced with having to evacuate and then repair their homes. In Rapides Parish, approximately twenty to twenty-five percent of the parish is in the 100-year flood-zone or Special Flood Hazard Area as shown in Figure 10.6. Flood zone classifications, defined by the National Flood Insurance Program (NFIP) and FEMA, are illustrated in Table 10.3.

Since August 2008, Rapides Parish has been impacted by eleven (11) flood events due to hurricanes and torrential rain. The March 2016 occurrance was the latest event when Rapides Parish was included as part of a federal disaster declaration. During this event, east Texas along with north and central Louisiana experienced rainfall up to 20 inches causing flash and riverine flooding. The Red River also rose to crest at 38.32' bordering "Major Flood Stage" of 40'according to the National Weather Service.

Figure 10.6: Preliminary Flood Map, 2007



Source:Rapides Area Planning Commission

In the City of Pineville, approximately fifty (50) homes were inundated from 6" to 60" of water from Bayou Rigolette and a levee breech at Bayou Darrow north of the planning area.

During the March 2016 event, numerous roads and associated infrastructure were inundated. RAPC worked with the Rapides Parish Office of Homeland Security and Emergency Preparedness to identify and map impacted roadways.

Photo 10.4: Flooding Rigolette Road - Pineville, LA

Source: Alexandria Daily Town Talk

Table 10.3: NFIP Flood Zone Classification

Zone A		*The 100-year or base floodplain. There are six types of A Zones:*
	A	The Base floodplain mapped by approximate methods, i.e. BFE's are not determined. This is often called unnumbered A Zone or an approximate A zone.
	A1-A30	These are known as numbered A Zones (e.g., A7 or A14). This is the base floodplain where the FIRM shows a BFE (old format).
	AE	The base floodplain where base flood elevations (BFE's) are provided. AE Zones are now used on new format FIRM's instead of A1-A30 Zones.
	AO	The base floodplain with sheet flow, ponding or shallow flooding. Base flood depths(feet above ground) are provided.
	AH	Shallow flooding base floodplain. BFE's are provided.
	A99	Area to be protected from base flood by levees or Federal Flood Protection Systems under construction. BFE's not determined.
	AR	The base floodplain that results from the decerification of a previously accredited flood protection system that is in the process of being restored to provide 100-year or greater level of flood protection.
Zone V and VE		
	V	The coastal area subject to velocity hazard (wave action) where BFE's are not determined on the FIRM.
	VE	The coastal area subject to velocity hazard (wave action) where BFE's are provided on the FIRM.
Zone B and Zone X (Shaded)		
	B	Area of moderate flood hazard, usually the area between limits of the 100-year and 500-year floods. B Zones are also used to designate base floodplains of lesser hazards, such as areas protected by levees from the 100-year flood, or shallow flooding areas with average depths of less than one foot or drainage areas less than 1 square mile.
Zone C and Zone X (Unshaded)		
	C	Area of minimal flood hazard, usually depicted on FIRMs as above the 500-year flood level. Zone C may have ponding and local drainage problems. That do not warrant a detailed study or designation as base floodplain. Zone X is the area determined to be outside the 500-year flood and protected by levee from 100-year flood.
Zone D		
	D	Area of undetermined, but possible flood hazards.

Source: FEMA, National Flood Insurance Program

Further details of each specific flooding event is illustrated in the Rapides Parish Hazard Mitigation Plan (2016).

From the lessons learned from flood events and in the aftermath of Hurricanes Katrina and Rita, which devastated the State of Louisiana in 2005, the Federal Emergency Management Agency (FEMA) put a renewed focus on a fifth phase of emergency management. Mitigation, as defined by FEMA, is "the effort to reduce loss of life and property by lessening the impact of disasters." Due to the increasing number of flood events and rise in development, mitigating our transportation infrastructure is more important than ever.

As such, in 2010, the Federal Emergency Management Agency provided an initial guidance document, the Hazard Mitigation Field Book: Roadways (FEMA B-797) to provide communities with mitigation actions for transportation infrastructure.

Actions such as:

- Extending culvert discharge;
- Using riprap to stabilize embankments to protect against erosion;
- Installing infrastructure that reduces the force/ energy of flood waters to protect against scouring and erosion; and
- Enlarging stream channels to increase capacity to handle additional storm-water runoff.

Photo 10.5 Flooding Rigolette Road - Pineville, LA

Source: Alexandria Daily Town Talk

Communities across the United States are also using permeable pavement on roadways located in flood prone areas. Permeable pavement allows for storm water to be absorbed through the concrete back into the ground allowing less stress and wear on drainage infrastructure.

This also allows for pollutants to be filtered out of storm-water as it absorbs and recharges groundwater sources. From a development standpoint, permeable pavement can also reduce cost of development by reducing the need for some drainage features.

These actions as well as others identified in this planning effort, the Rapides Parish Hazard Mitigation Plan and the Rapides Parish Comprehensive Resiliency Plan must be considered when developing scopes of work for transportation projects. Mitigating the impact of flooding on transportation systems allow for continuity of emergency services and quicker resumption of normal use after a flooding event.

Districts

5

historic

10.4 Air Quality

10.4.1 Air Quality Conformity

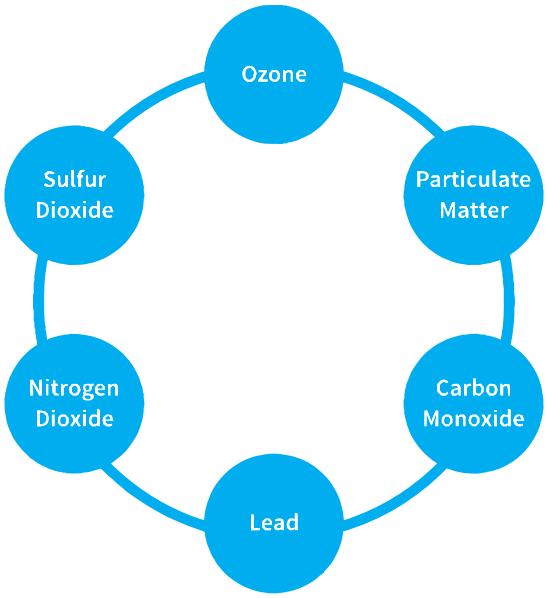
Transportation conformity is a process required of MPOs pursuant to the Clean Air Act Amendments (CAAA) of 1990 to ensure that Federal funding and approval are given to those transportation activities that are consistent with air quality goals. CAAA requires that transportation plans, programs, and projects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

Mitigation

The MPA is not designated as a non-attainment or maintenance area, so conformity does not apply to the projects proposed in this plan. However, should the requirements for this type of modeling arise in the future, the transportation model, which forms the basis of transportation decision making, provides numeric outputs that may be utilized in regional air quality modeling. Also, the plan supports transit and pedestrian activities. These activities in turn mitigate air quality impacts associated with other forms of roadway transportation.

There are six kinds of pollutants as illustrated in Figure 10.9. Based on the current trend of the EPA's model of ozone standards, the MPA may get pushed into non-attainment status over the next two decades.

Figure 10.7: Six Criteria Pollutants for NAAQS



Source: RAPC Ozone Advance Program, Path Forward, 2016

10.4.2 EPA Ozone Advance Program

On April 4, 2012, EPA's Office of Air Quality Planning and Standards announced their new voluntary Ozone Advance Program. The overarching objective of the Ozone Advance Program is to encourage emission reductions in ozone attainment areas to help them to continue to meet the NAAQS.

Program goals designed to help achieve the objectives are:

- Help attainment areas to ensure continued attainment of the ozone standard and health protection;
- Better position areas to remain in attainment; and
- Efficiently direct available resources toward actions to address ozone problems quickly.

The UZA is not currently a non-attainment area for either the 2008 or the 2015 ozone NAAQS. The Louisiana Department of Environmental Quality has recommended that local government agencies reduce emissions by participating in the EPA Ozone Advance Program.

10.4.3 RAPC's Ozone Advance Program

RAPC is developing a short and long-term plan of measures aimed at reducing ozone pollution in the UZA RAPC is committed to improving air quality in the Alexandria Urbanized Area through voluntary actions and reasonable, effective regulatory actions.

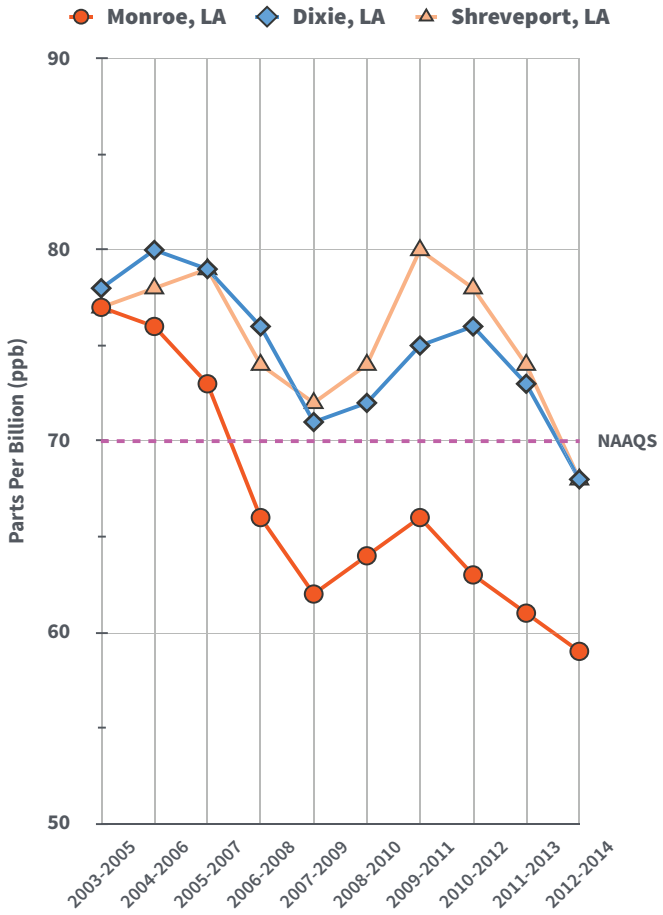
RAPC has determined that our "path forward" should include the following tasks:

- Develop and implement an effective public awareness/outreach program;
- Identify and document ozone mitigation measures already implemented in the UZA;
- Research and analyze additional feasible and cost-effective implementation measures within the UZA;
- Select a suite of measures and pursue implementation;
- Annual status updates for local air quality, measures, and programs in place and lessons learned. Re-evaluate and revise path forward as necessary.

10.4.4 Louisiana Ozone Status

Currently, there is no air monitor station in or near the UZA. As a result, EPA's Air Quality System (AQS) in Monroe, Louisiana, is currently used as a comparable site to estimate local ozone status as illustrated in Figure 10.8.

Figure 10.8: North Louisiana Air Monitor Trends 2003-2014, Monitor Level Design Valus for 8-Hour Ozone NAAQS



Source: EPA 2015 Air Quality System (AQS)

10.4.5 Local Sources of Ozone Precursors

The EPA has in place regulatory and voluntary programs to reduce the amount of air pollutants emitted from a wide range of emission sources to achieve NAAQS standards. To keep track of these emissions, the EPA maintains the National Emission Inventory (NEI), the national database of air pollutant emissions information. The NEI is prepared every three years by the EPA based primarily upon emission estimates and emission model inputs provided by State, Local and Tribal air agencies for sources in their jurisdictions, and supplemented by data developed by the EPA.

The Ozone Advance Program focuses on nitrogen oxides (NOx) and volatile organic compound (VOC) emissions; the two main precursors of ozone formation.

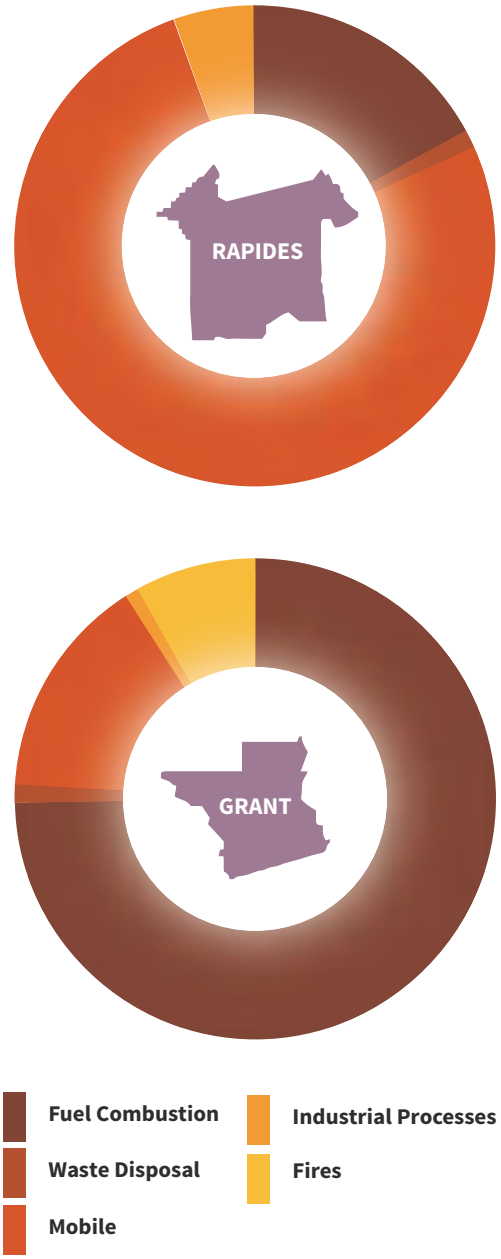
Table 10.9 describes NOx and VOC emissions according to source categories and sectors. Figures 10.X and 10.X illustrates local NOx and VOC contributors by source sector.

Table10.9: Sources of Ozone Precursors

Categories	
Onroad Mobile Sources	Includes emissions from onroad vehicles that use gasoline, diesel, and other fuels. These sources include light duty and heavy duty vehicle emissions from operation on roads, highway ramps, and during idling.
Nonroad Mobile Sources	Includes off-road mobile sources that use gasoline, diesel, and other fuels. Source types include construction equipment, lawn and garden equipment, aircraft ground support equipment, locomotives, and commercial marine vessels.
Nonpoint Sources	Includes emissions estimates for sources which individually are too small in magnitude to report as point sources. Examples include residential heating, commercial combustion, asphalt paving, and commercial and consumer solvent use.
Point Sources	Includes emissions estimates for larger sources that are located at a fixed, stationary location. Point sources in the NEI include large industrial facilities and electric power plants, airports, and smaller industrial, non-industrial and commercial facilities.
Sectors	
Agriculture	Crops & Livestock Dust; Fertilizer Application; Livestock Waste
Dust	Construction Dust; Paved Road Dust; Unpaved Road Dust
Fires	Agricultural Field Burning; Prescribed Fires; Wildfires
Fuel Combustion	Comm/Institutional - Biomass, Coal, Natural Gas, Oil, Other; Electric Generation - Biomass, Coal, Natural Gas, Oil, Other; Industrial Boilers, ICEs - Biomass, Coal, Natural Gas, Oil, Other; Residential - Natural Gas, Oil, Other, Wood
Industrial Processes	Cement & Chemical Manufacturing; Ferrous Metals; Mining; NEC; Non-ferrous Metals; Oil & Gas Production; Petroleum Refineries; Pulp & Paper; Storage and Transfer
Miscellaneous	Bulk Gasoline Terminals; Commercial Cooking; Gas Stations; Miscellaneous Non-Industrial NEC; Waste Disposal
Mobile	Aircraft; Commercial Marine Vessels; Locomotives; Non-Road Equipment - Diesel, Gasoline, Other; On-Road Diesel Light & Heavy Duty Vehicles; On-Road Gasoline Light & Heavy Duty Vehicles
Solvent	Consumer & Commercial Solvent Use; Degreasing; Dry Cleaning; Graphic arts; Industrial Surface Coating & Solvent Use; Non-Industrial Surface Coating

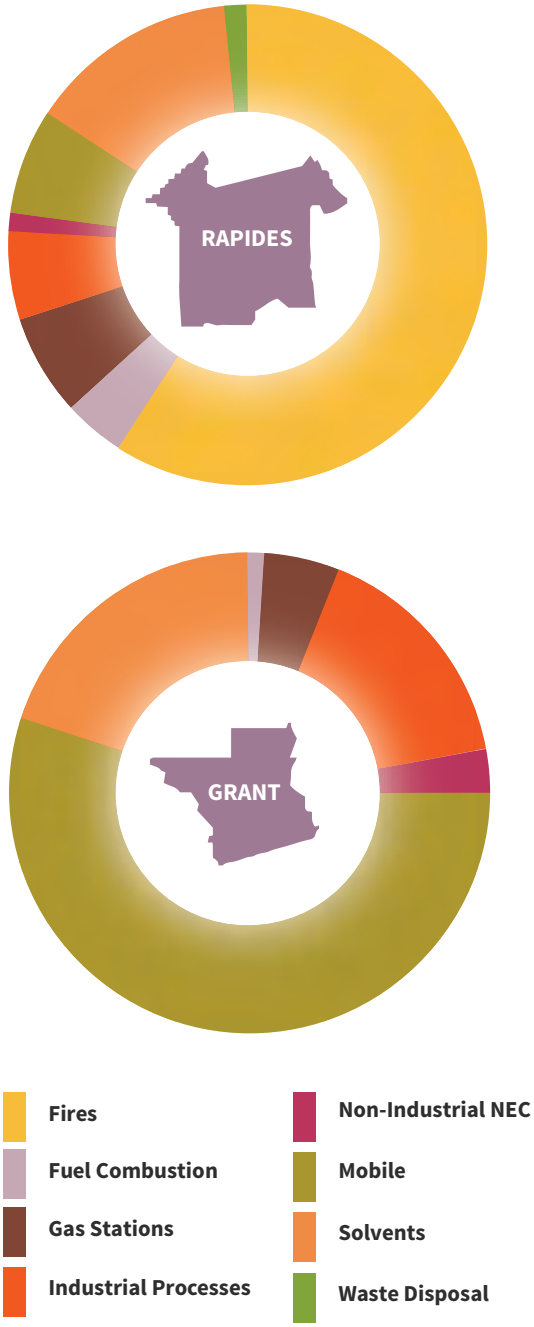
Source: RAPC Ozone Advance Program, Path Forward, 2016

Figure 10.9: Local Contributors - Nitrogen OxIDE (NOx) by Source Sector



Source: EPA 2011 National Emissions Inventory (NEI)

Figure 10.10: Local Contributors, Volatile Organic Compounds (VOCs) by Source Sector

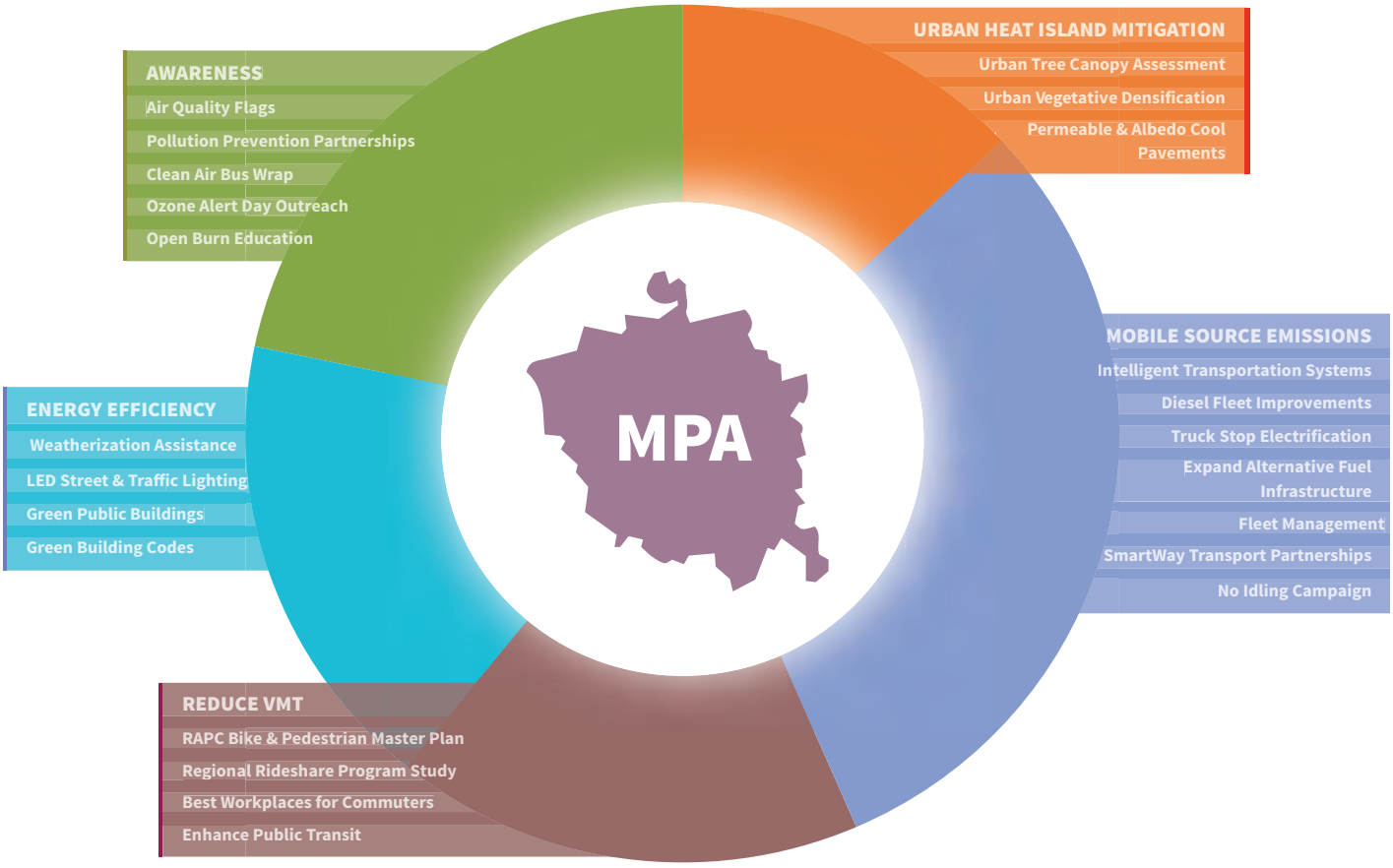


Source: EPA 2011 National Emissions Inventory (NEI)

10.4.6 Voluntary Reduction Measures

RAPC has compiled a preliminary list of innovative ozone reduction measures to address urban heat island mitigation, mobile source emissions, vehicle miles traveled, energy efficiency, and awareness.

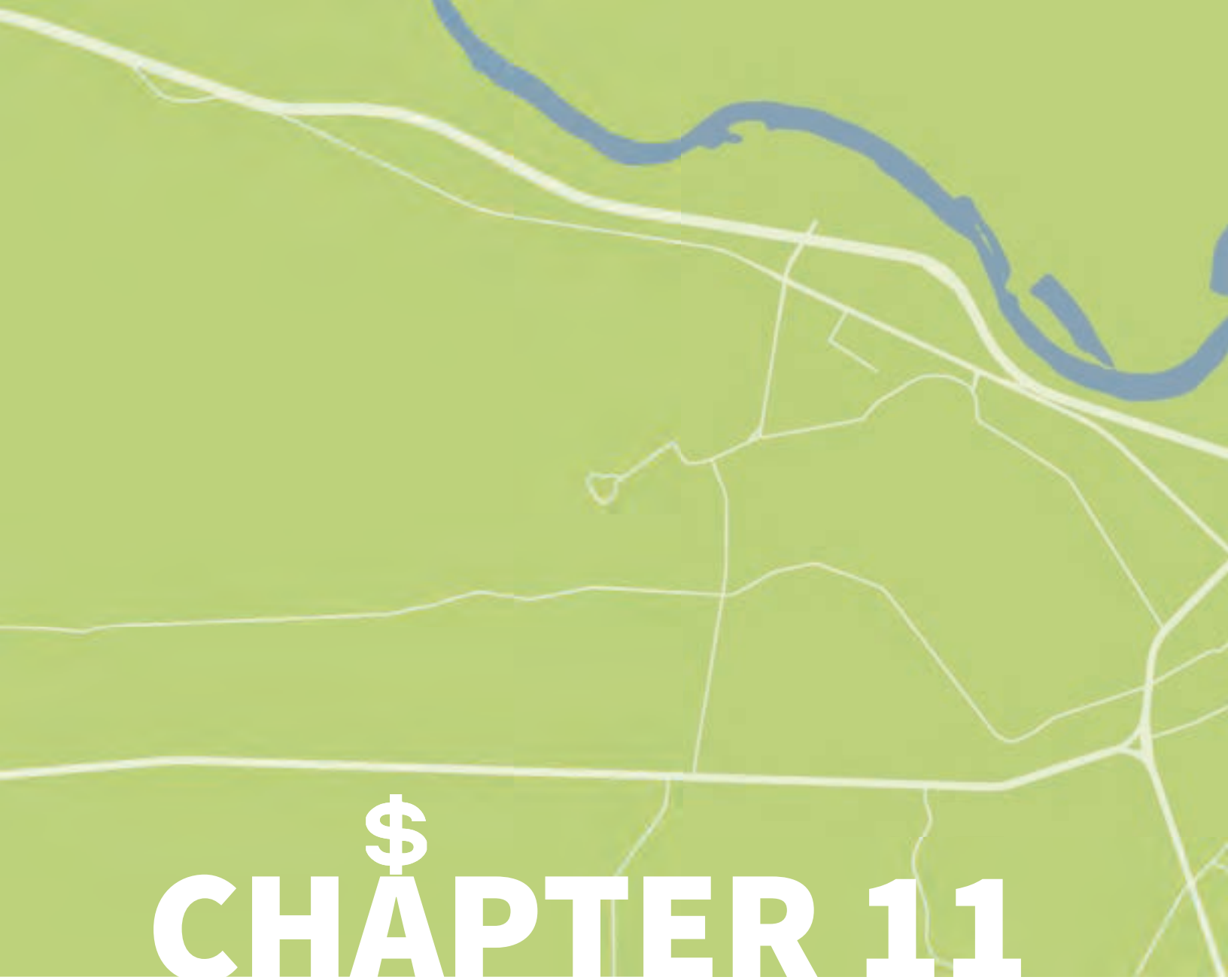
Figure 10.11: RAPC's Voluntary Reduction Measures



Source: RAPC Ozone Advance Program, Path Forward, 2016

Effective solutions to these challenges will continue to stem from RAPC's strong partnerships with local governments, residents, and businesses to maintain a strong commitment to both economic growth and environmental quality. RAPC seeks to create a program that not only supports and develops innovative solutions to the area's air quality challenges and reduces ozone precursors, but also integrates into existing area projects and future programming. This mix will allow for more expeditious implementation and provide flexibility for program stakeholders.

RAPC's Air Quality Initiative will be updated as strategies are added and the program evolves.



$ CHAPTER 11

Financial Analysis & Fiscal Constraint

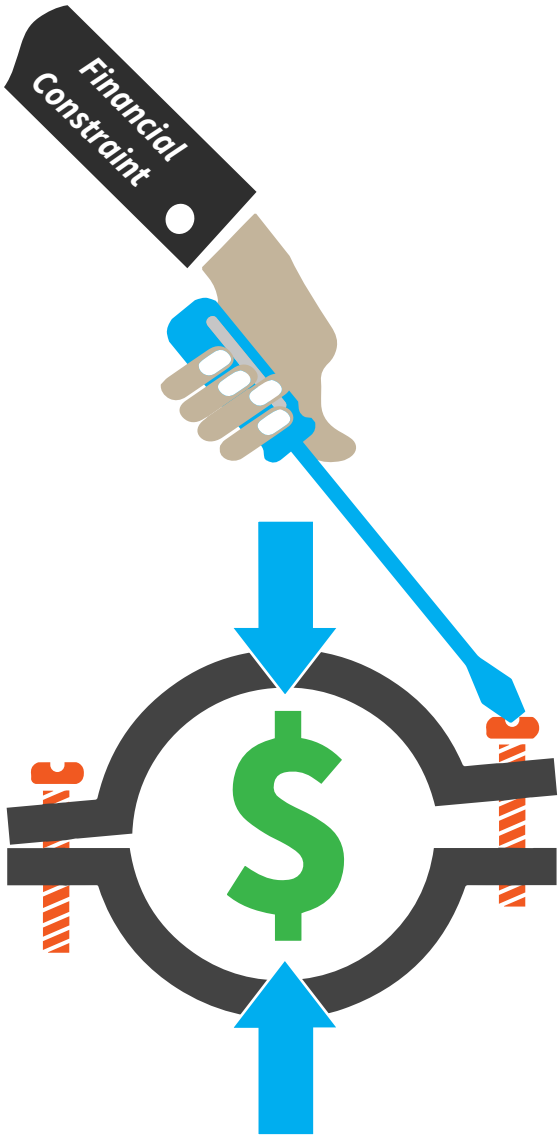
11.1 Introduction

This chapter provides an in-depth analysis of the various funding sources especially federal, state and local. The chapter describes the historical trends analysis undertaken to ascertain potential funding sources based on funding categories and roadway improvement types in the future.

The funding projections were adjusted to reflect inflation. Similarly, projections were established for the transit revenues for Atrans. Further, the chapter explains the need for a fiscally constrained MTP based on identified phased improvements as illustrated in the next chapter.

MTPs are fiscally constrained based on federal requirements. In order to be fiscally constrained, the costs of programmed projects must not exceed the amount of funding that is reasonably expected to be available. This chapter describes the analysis used for estimating project costs, and then summarizes the revenue sources utilized in forecasting the amount of available funding.

Figure 11.1: Financial Constraint



11.2 Streets and Highways Revenue Analysis

In the MPA, the amount of state and federal funding for transportation projects is determined by the LADOTD, in consultation with the MPO, on an annual basis. The LADOTD has a statewide pool of transportation funds that is used for small urban transportation projects in the state.

The money in this funding category is distributed to best address the unmet needs in any of the six small urbanized areas (under 200,000 in population). 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.

Projection of funding is a two step process:

- Historical average amount of funding is calculated, and
- Future average amount of funding is projected based on these historical trends.

11.2.1 Funding Sources

The implementation of a financially constrained plan for the MPA will involve several sources of funding. These sources include various programs at the local, State, and Federal levels. Since many of the improvement projects are located on State and Federal Highway Systems, substantial financial assistance is funded through LADOTD and FHWA.

The historical funding database was used to aggregate all of the local, State and Federal funded projects from 1991 through 2015 by funding source. Table 11.1 summarizes the funding levels from recurring sources.

The following section describes the State and Federal funding sources, as well as several local programs that can be used to fund local projects. The MTP projects for the 25-year horizon were allocated to appropriate funding programs to develop an estimated need by funding source for the plan.

Table 11.1: Historical Funding by Recurring Source - State and Federal Projects

Source	Actual Dollars	2015 Dollars	Annual Average
FAP, NHS, NHPP, IM	$83,838,694	$125,776,765	$4,931,079
STPFLEX	$15,961,228	$20,427,347	$696,026
STPENH	$6,483,524	$7,705,275	$243,542
STPHAZ	$1,627,567	$1,823,088	$83,737
STP<200K	$51,612,997	$66,722,630	$2,497,686
OFA	$3,242,452	$5,615,927	$257,775
FBRON	$67,912,750	$77,480,595	$3,346,428
HSIP	$7,152,189	$7,149,710	$357,486
State Cash	$3,123,575	$3,392,913	$132,395
State General Fund, NFABOND	$5,150,782	$5,202,442	$0
Overlay	$3,383,909	$5,238,653	$240,411
Maintenance	$397,319	$567,425	$26,058
Miscellaneous (Other)	$588,450	$781,462	$47,331
Local	$355,080	$381,249	$15,250
TOTAL	**$250,475,436**	**$327,884,231**	**$16,394,212**
Federal	**$237,831,401**	**$312,701,336**	**$15,635,067**
State	**$12,644,035**	**$15,182,895**	**$759,145**

Source: LADOTD Letting List Database, 1991-2015

Potential Funding Sources – Federal

FAST Act

FAST Act authorizes the Federal surface transportation programs for highways, highway safety, and transit for the five-year period 2016 through 2020. The legislation provides a total funding of $226 billion nationally for highways and $61 billion for transit for the five year period.

This legislation includes several categories of funding for highways, under which many of the projects in the financially constrained plan will be eligible for Federal funding assistance. These funding categories are:

- National Highway Performance Program (NHPP);
- Surface Transportation Block Grant Program (STPBG);

  - Transportation Alternatives set-aside
  - Recreational Trails
  - Bridge

- Highway Safety Improvement Program (HSIP);

  - Railways-Highway Grade Crossings Program

- National Highway Freight Program (NHFP);
- Metropolitan Transportation Planning Grants (PL);
- Congestion Mitigation and Air Quality (CMAQ); and
- Other: FASTLANE, TIFIA, TIGER.

Potential Funding Sources – State

The state funding sources include:

- State of Louisiana Highway Trust Fund;
- State of Louisiana General Fund; and
- State Bonds.

Potential Funding Sources – Local

Any costs not covered by Federal and state programs will be the responsibility of the local governmental jurisdictions. Local funding can come from a variety of sources including property taxes, sales taxes, user fees, special assessments, and impact fees.

Each of these potential sources is important and warrants further discussion.

Table 11.2: Potential Local Funding Options

Type	Facts
Property Tax 	Primary source accounting for 80% of local revenues
General Sales Tax 	Retail tax on sale of all commodities
User Fees 	Fees charged for utilizing a service or facility like utilities, parks, zoo, museum etc.
Special Assessments 	Fees levied on those who benefit directly from any improvement such as new bike lanes or sidewalks along a local market area
Impact Fees 	Fees levied on those whose development creates or adds stress to local transportation network
Bond Issues 	Typically approved by voters for major upgrades to roadways, utility systems etc.

System Maintenance and Operation

The maintenance and operation of the transportation system was considered in the development of the plan and phased program. Typically, maintenance costs are applicable to the system as a whole.

The balancing act of meeting identified transportation improvement needs and maintaining the present transportation system will continue to place local decision makers and revenue forecasts somewhat at odds. Recommendations in this plan are conservative because they factor in the impact of maintenance costs in the determination of available funding.

11.2.2 Historical Funding

In order to determine the financial feasibility of implementing a program of projects in the MTP, an analysis of historical funding was conducted. A database of project let within the MPA from 1991 through 2015 was obtained from the LADOTD. The database contains all sources of state and Federal funding including both recurring and non-recurring funds. In order to estimate the expected future revenues, the non-recurring funds were excluded from each year's total historical revenue.

In the next step, the projects were grouped by year. To estimate the cost of historical projects in 2015 dollars, shown in Table 11.3, an average annual Consumer Price Index (CPI) factor was calculated using the historical South Urban areas CPI factors.

Table 11.3: Historical State & Federal Funding* (1991-2015)

Year	Real Dollars	CPI Factor	2015 Dollars
1991	$7,798,808	1.732	$13,507,535
1992	$30,776,621	1.686	$51,889,383
1993	$23,830,937	1.635	$38,963,582
1994	$16,002,474	1.591	$25,459,936
1995	$7,369,198	1.545	$11,385,411
1996	$1,248,911	1.498	$1,870,869
1997	$5,242,721	1.467	$7,691,072
1998	$4,342,079	1.448	$6,287,330
1999	$1,598,570	1.421	$2,271,568
2000	$2,727,515	1.376	$3,753,061
2001	$3,069,021	1.345	$4,127,833
2002	$14,012,055	1.328	$18,608,009
2003	$0	1.298	$0
2004	$1,018,140	1.266	$1,288,965
2005	$2,576,221	1.222	$3,148,142
2006	$8,744,206	1.182	$10,335,651
2007	$1,311,237	1.149	$1,506,611
2008	$903,690	1.103	$996,770
2009	$10,720,794	1.107	$11,867,919
2010	$55,984,590	1.089	$60,967,219
2011	$8,694,729	1.053	$9,155,550
2012	$8,852,328	1.031	$9,126,750
2013	$9,701,507	1.015	$9,847,030
2014	$20,653,688	0.998	$20,612,381
2015	$4,310,032	1.000	$4,309,432

* Recurring Funds Only. Excludes Interstate, DEMO, TIME, ARRA Funding.

After converting the revenue into 2015 dollars, the database was then grouped by project type and funding source.

The next step focused on identifying and delineating funding based on the general project type as shown in Table 11.4.

Table 11.4: Funding by General Project Type

Category	Total	Annual Average	Actual Percent	Rounded Percent
Capacity	$119,187,787	$4,767,511	36.3%	40%
Reconstruction	$39,309,338	$1,572,374	12.0%	10%
Overlay	$49,619,034	$1,984,761	15.1%	15%
Bridge	$69,094,810	$2,763,792	21.0%	20%
Safety	$19,472,267	$778,891	5.9%	5%
Enhancement	$4,486,081	$179,443	1.4%	2%
ITS	$1,753,641	$70,146	0.5%	1%
Maintenance	$25,755,651	$1,030,226	7.8%	7%
	$328,678,609	**$13,147,144**	**100.0%**	**100%**

Figure 11.2: Funding by General Project Type

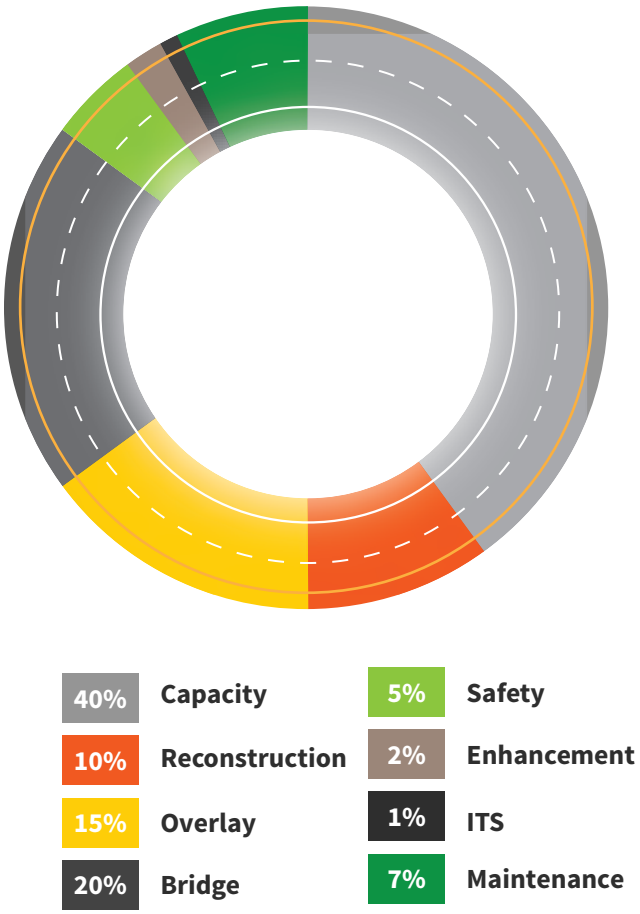


Table 11.5: Annual Distribution of Funding by Improvement Type

Improvement Type	Annual Funding
Capacity	$5,600,000
Reconstruction	$1,400,000
Overlay	$2,100,000
Bridge	$2,800,000
Safety	$700,000
Enhancement	$280,000
ITS	$140,000
Capacity	$5,600,000
Reconstruction	$1,400,000
Annual Average	**$14,000,000**

The next step involved forecasting funding for the twenty five year time frame of the MTP. The MTP was split into the following time periods:

- Phase I: 2016 – 2020
- Phase II: 2021 – 2030
- Phase III: 2031 – 2040

11.2.3 Forecast Funding Availability

The feasibility of the Financially Constrained Plan was assessed by comparing the estimated cost of the programmed improvements to the projected funds available from varied funding sources based on improvement type. The projection of recurring funding was made by analyzing historical data on expenditures for street and highway construction in the MPA.

Historical information obtained from the LADOTD indicates that on average, in the last 25 years, contracts totaling $14 million per year in 2015 dollars were let for construction and maintenance of the transportation infrastructure within the MPA. This amount was then used to forecast the funding to 2040.

Also, typical project cost by improvement type is ascertained through agency consultation with member entity engineering departments as illustrated in Appendix E.

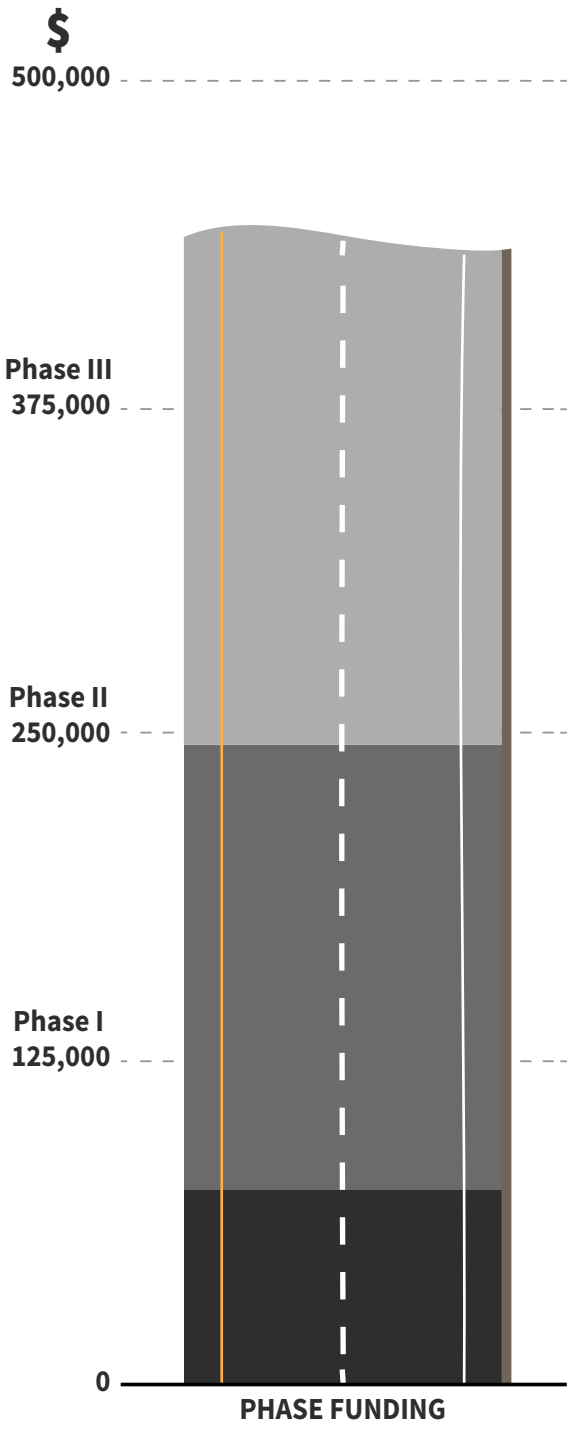
An inflation factor of two percent per year was applied to the $14 million to forecast the annual availability of funds from 2016 through 2020 and one and half percent was applied from 2021 through 2040. Total available State and Federal funds forecasted over the life of the Financially Constrained Plan is approximately $446 million.

11.2.4 Financially Constrained Plan

The annual amounts were aggregated to the three time periods of the MTP, resulting in the forecasted availability of all funds for each Phase.

- Phase I (2010-2015) - $75,799,967
- Phase II (2016-2025) - $171,273,172
- Phase II (2026-2035) - $198,769,508

Figure 11.3: Phased Funding Forecast



11.3 Transit Revenue Analysis

This financial plan focuses on the Atrans system because detailed financial data and needs were not available for other transit providers. For other providers, such as Rapides ARC, it is assumed that the future discretionary federal funding available to them will be sufficient to continue operating at their current levels of service.

The financial plan also focuses on federal funding, assuming that all local/state match funding and funding above and beyond local match requirements will grow proportionally to federal funding and continue to meet the financial needs of Atrans.

Projecting Future Revenue

The primary federal revenue sources for Atrans are the Section 5307, Section 5339, and Section 5310 FTA grant programs. Of these, the formula-based Section 5307 is the largest revenue source and can be thought of as a dedicated funding source for Atrans.

The other two grant programs are also formula-based, but for small Urbanized Areas like Alexandria they are allocated to State of Louisiana which then sub-allocates this funding to transit providers serving these Urbanized Areas based on its own methodology. So while the amount allocated to the Alexandria Urbanized Area (UZA) is still somewhat formula-based, Atrans competes for this funding with transit providers in other small UZA's and within our UZA, such as with Rapides ARC which has used an average of about $90,000 in Section 5310 funding annually in recent years. Therefore, Section 5339 and Section 5310 funds will be treated as semi-discretionary.

Table 11.7 shows the projected amount of federal funding anticipated to be available to Atrans. The following underlying assumptions were used to develop these projections:

- Atrans will be the recipient of all Section 5307 funding for the Alexandria Urbanized Area.
- Per FTA guidance, the FY 2016 Section 5307 allocation for Atrans will be $1,057,643.
- Other transportation providers (e.g. Rapides ARC) will continue to use an average of $80,881 annually (2016 dollars) in Section 5310 funding.
- Atrans will use Section 5307 "rollover" funding (the result of not obligating all federal allocations) and the occasional federal discretionary grant to fund operational and capital costs proposed in the MPO's Draft 2016-2020 Transportation Improvement Program (TIP). This amounts to an additional approximately $225,927 in federal funding.
- Federal transit funding will grow by approximately 2% annually from 2016 to 2020, consistent with FAST Act guidance. Beyond 2020, this growth rate is assumed to decrease to a rate of 1.5% annually, which is lower than historical trends but accounts for the expectation that federal transportation revenues will grow at a slower rate in the future.

Table 11.6: Projected Atrans Federal Transit Revenues

Stage	Section 5307	Section 5339	Section 5310[1]	Rollover/Other Federal Funds
Phase I (2016-2020)	$5,510,668	$523,247	$325,745	$225,927
Phase II (2021-2030)	$12,473,168	$1,184,348	$737,309	$0
Phase III (2031-2040)	$14,475,621	$1,374,485	$855,678	$0

1 Excludes funding assumed to go to other providers, like Rapids ARC.
NOTE: *Funding is in Year of Expenditure (YOE) dollars.*

Projecting Future Costs

The operational and capital costs proposed for Atrans in the MPO's Draft 2016-2020 TIP will be used as the costs for Stage I (2016-2020) of the 2040 MTP.

Beyond Stage I, the following assumptions were used to develop the operational and capital costs for continuing to operate Atrans at its current level of service through 2040.

These assumptions are based on information in the MPO's TIP information and FTA guidance.

- Costs for operating assistance and capital projects in 2020 dollars are:
  - $750,000 annually for operating assistance
  - $51,000 annually for preventative maintenance
  - $3,000 annual for miscellaneous equipment
  - $350,000 for each day-time route bus
  - $275,000 for each night-time route bus
  - $60,000 for each ADA vehicle
  - $30,000 for each support vehicle

- The average replacement age for Atrans vehicles are:
  - Day-time Route buses (35' Buses) – 12 years
  - Night-time Route buses (30' Buses) – 7 years
  - ADA Vans – 5 years
  - Support Vehicles – 5 years

- Costs increase 2.5% annually after 2020 in order to account for inflation. Inflation is already factored in from 2016 to 2020.

Demonstrating Fiscal Constraint

In order to demonstrate that it is financially feasible to continue operating Atrans at its current level of service in the future, Atrans' projected federal costs were compared to its projected federal revenues for each time period, or "phase," of the 2040 MTP.

This information is summarized in Table 11.7, which demonstrates that the transit element of the 2040 MTP is fiscally-constrained.

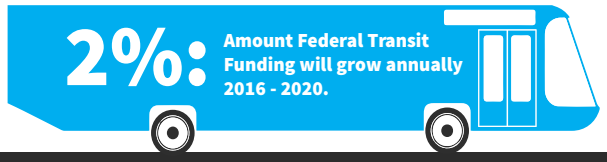


Table 11.7: Federal Funds Anticipated for ATRANS

Phase	ATRANS Costs (Federal Share)	Federal Funds Anticipated for ATRANS		
		Total	Dedicated 1	Rollover and Discretionary 2
Phase I (2016-2020)	$6,585,587	$6,585,587	$5,510,668	$1,074,919
Phase II (2021-2030)	$13,498,851	$14,394,826	$12,473,168	$1,921,658
Phase III (2031-2040)	$17,025,541	$17,601,758	$14,475,621	$3,126,137

1 FTA Section 5307 grant program (excluding rollover)
2 Section 5307 rollover, Section 5339, Section 5310, and all other discretionary grant programs.
NOTE: *Costs and funding is in Year of Expenditure (YOE) dollars.*

CHAPTER 12

Phased Improvements

12.1 Introduction

This chapter summarizes the methods adopted to prioritize and phase transportation projects in the MTP taking into consideration projected funding availability.

The Phased Improvement Program is a fiscally constrained list of transportation projects that collectively represent the MPA's planned future transportation network. It also takes into consideration public input received in terms of project priority ranking, along with valuable input from agency consultation within MPO member entities

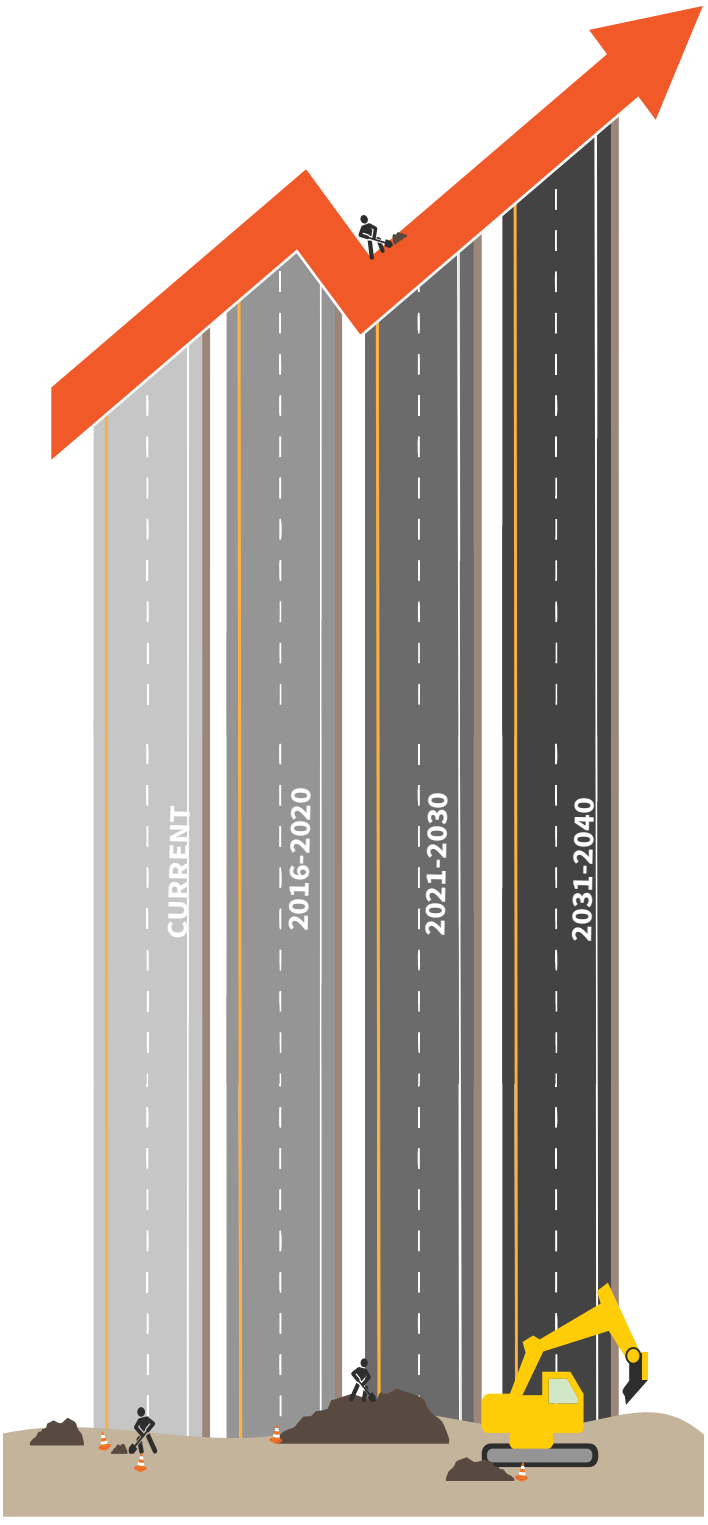
Projects included in the MTP become eligible for Federal and/or State funding as identified in Chapter 5. The phased improvement is for typical capacity and overlay projects only.

The chapter conceptualized the phasing of improvements based on immediate intermediate and long-term improvements dictated, as per public input.

Improvements also identified under Vision Needs are projects essential for the MPA, but not included in the other phases owing to non-availability of identified funds.

However, projects under Vision Needs will serve as placeholders subject to additional future funding revenue streams at both State and Federal levels.

Figure 12.0: Phased Improvement Program



12.2 Project Development

The general approach of the MTP is to identify needs, consider alternatives and adopt strategies which are cost effective and feasible. Additionally, operational efficiency related strategies are evaluated before roadway capacity discussions begin. Some of these strategies include: Transportation Demand Management (TDM), Intelligent Transportation System (ITS), Transportation Systems Management (TSM), etc.

12.2.1 Project Identification

Projects were identified in the following ways:

- Roadway capacity projects were identified from the public visioning exercise, MTP subcommittee, stakeholder input, and previous plans.
- Roadway Maintenance and Operations projects were identified through an analysis of existing conditions and agency consultation with local jurisdictions.
- Public Transit projects and programs were identified from the 2015-2019 STIP under the assumption that public transit will continue to operate at similar levels in the future. There was no anticipated change in the level of service for the MTP.
- The primary means of collecting input regarding freight projects was through the public meetings and agency consultation with Central Louisiana Port Authority as well as England Air Park. Projects from the MPO's 2035 Metropolitan Transportation Plan were also considered.

The Phased Improvement Program is a long-range plan for transportation improvements in the MPA that envisions implementation over the period spanning from 2016 until 2040.

Recommended improvements are distributed among three Phases:

- **Phase I** covers the short-term period from 2016 through 2020;
- **Phase II** corresponds to the intermediate period from 2021 through 2030; and
- **Phase III** is the long-range period from 2031 through 2040.

The identification of a given project with a given Phase was largely determined by prioritization of projects based on projected future travel demand as well as other mobility -related considerations (such as safety, emergency evacuation, access to developable areas, etc.) Moreover, input received during public meetings and agency consultation guided the selection of projects.

12.2.2 Project Cost Estimates

An estimate of the cost of the proposed projects is quintessential to determine the number of fully funded projects within the MTP horizon year of 2040. The LADOTD database was used to find unit costs for each improvement type. Further, agency consultation with local LADOTD District 8 as well as all local member entities aided in the fine-tuning of unit costs. The highway related improvement types were categorized as:

- **Capacity:** New Freeway, New Roadway, Road Widening, New Interchange;
- **Reconstruction:** Roadway, Overpass;
- **Overlay:** Roadways, Ramps;
- **Bridge:** New, Rehabilitation, Replacement;
- **Safety:** signage, guard-rails, pavement markings, intersection improvement;
- **Enhancement:** Bike lane, sidewalks, trails, Land-scaping, lighting, irrigation;
- **ITS:** Digital message signs, speed indicator signs; and
- **Maintenance:** Re-seal, concrete pavement repair, culvert replacement, crack-seal, chip-seal, micro-surfacing.

Table 12.1: Typical Unit Cost by Improvement Type

Improvement Type	Avg. Cost	Unit
New 4 Lane Freeway	$15,000,000	Mile
New 2 Lane Roadway	$2,500,000	Mile
New 4 Lane Arterial	$7,500,000	Mile
Interstate Widening	$9,250,000	Mile
Interstate Rehab	$1,000,000	Mile
Arterial Widening	$5,500,000	Mile
One Way Couplet	$3,750,000	Mile
Center Turn Lane	$4,500,000	Mile
Reconstruction	$5,000,000	Mile
Overlay	$525,000	Mile
Sidewalks	$500,000	Mile
Bike-ways	$1,000,000	Mile
ITS	$250,000	Mile
Bridge Replacement (2-ln roadways/small creeks)	$500,000	Each
Intersection Improvement	$1,000,000	Each
Interchange Improvement	$5,750,000	Each
New Interchange	$25,000,000	Each
Underpass	$10,000,000	Each
RR Overpass	$15,000,000	Each

Source: LADOTD Historic Project Lettings (1991-2015), RAPC, 2016)

The typical construction cost estimates for the typical improvements are shown in Table 12.1. See Appendix E for detailed unit costs for additional improvement types.

Also, for projects included in Phase II and Phase III of the MTP, the typical cost calculated for each project was factored up by an annual rate of two percent and one and half percent respectively to account for inflation.

12.3 Roadway Project Prioritization

The MPO has developed a project prioritization methodology for evaluating all proposed roadway capacity projects in the 2040 Metropolitan Transportation Plan (MTP).

Moreover, the projects are fiscally constrained. With limited funding available for transportation projects, project prioritization allows for ranking and selection of projects according to their ability to address the goals of the MTP and the planning factors as per federal legislation.

The goals of the MTP and the federal planning factors are discussed in Chapter 3 of the MTP.

12.3.1 Tiered Prioritization Process

The project prioritization process uses a tiered approach in which all projects are initially evaluated and assigned points in Tier I based on their ability to improve safety, reduce travel delay, and improve system connectivity. Projects which do not meet a determined point threshold for addressing these criteria are then removed from further consideration.

This two-tiered process filters out proposed roadway capacity projects which are least effective in addressing the primary goals of the MTP. It also minimizes the level of effort required to analyze the feasibility and sustainability of proposed projects.

Those that exceed the determined threshold move on to Tier II where they are further evaluated and assigned additional points using criteria that focus on project feasibility and sustainability.

After Tier II analysis concludes, Tier I and Tier II points are combined for the proposed projects still under consideration. Each tier awards up to 100 points to a project. However, in order to give more weight to the Tier I criteria, which reflect higher priority goals of the MTP, Tier I points are doubled for a maximum possible of 200. Thus, the maximum cumulative score becomes 300. For ease of understanding though, a project's cumulative score is divided by three to give a project prioritization score out of 100.

Once the project prioritization scores are calculated, projects are ranked in order from highest to lowest. For projects that tie in the prioritization score, project cost is the tie-breaker, with the lower cost project ranking higher.

Figure 12.1: Tiered Prioritization Processs

The prioritization process evaluates each project on the criteria outline in the table below. These criteria are weighted based on their importance. Once the project prioritization scores are calculated, projects are ranked in order from highest to lowest. For projects that tie in the prioritization score, project cost is the tie-breaker, with the lower cost project ranking higher.

Projects are then programmed into the MTP's fiscally-constrained list of projects based upon their project prioritization ranking. If the last project included exceeds the remaining amount of funding anticipated to be available, the next best scoring project that can be funded with this amount remaining is programmed.

Table 12.2: Project Prioritization Criteria & Maximum Points Distribution

Tier I Criteria	Points Possible
Safety	80
Travel Delay Reduction	80
System Connectivity/Continuity	40
TOTAL	**200**

Tier II Criteria	Points Possible
Plan Consistency/Project Feasibility /Readiness	20
Potential Freight Benefits	20
Potential Bike/Ped Benefits	20
Potential Impact to Community or Natural Resources	20
Potential Impact to Minority or Low-Income Populations	20
TOTAL	**100**

Project evaluation criteria were selected because they best represent the MTP's goals and public input received via the 2040 MTP MetroQuest online survey. The rationale, measures, data sources, and scoring scales for these criteria are defined in Table 12.3.

Minor Highways

157
miles

Table 12.3: Roadway Capacity Project Prioritization Criteria Measures

Criterion	Rationale	Measure	0	5	10	15	20	40
Travel Delay Reduction Benefits	Prioritize projects that reduce travel time delay in a cost-efficient manner	*Benefit/Cost Ratio (Annual dollars saved from reduced delay divided by project cost)*	Points awarded in increments of 10 based upon breaks in the distribution of values.					
Safety	Prioritize projects that address existing safety hot spots and corridors.	*Qualitative assessment based on historic crash data and engineer's assessment.*	**No safety benefits**	**X**	**X**	**Minimal safety benefits**	**Moderate safety benefits**	**Considerable safety benefits**
System Connectivity & Continuity	Connectivity benefits exceed delay reduction, especially as it relates to the provision of alternative routes for automobiles and direct routes for bicyclists and pedestrians.	***For new alignments:*** *Roadways classified as arterials or higher intersected per mile (principal arterials, expressways, and interstates count 2 times)* ***For widening:*** *Number of connections or intersections with existing widened facilities.*	**0 to 0.5 intersections/ no connection or intersection**	**0.5 to 1 intersections per mile/1 connection or intersection**	**1 to 1.5 intersections per mile/2+ connections or intersections**	**1.5 to 2 intersections per mile/no points possible for widening**	**2+ intersections per mile/no points possible for widening**	**X**
Intermodal & Multimodal Benefits	Prioritize projects that have the potential to improve bike/ped conditions.	*Type of roadway, adjacency to planned bike/ped facility*	**Expressway, Interstate, or other facility that prohibits bike/ped traffic**	**X**	**All other roadways not adjacent to planned bike/ped facility**	**X**	**All other roadways adjacent to planned bike/ped facility that would likely be included in project scope**	**X**
Plan Consistency	Prioritize projects that have been vetted in locally-adopted plans or existing studies.	*In previous locally-adopted plan or in preliminary study.*	**No previous plans or study**	**In previous MTP, vision/ project (unfunded)**	**In previous MTP, fiscally-constrained project (funded)**	**In local or statewide plan** ***(e.g. Comprehensive or Statewide Plan)***	**Preliminary study** ***(e.g. Stage 0, preliminary engineering study, etc.)***	**X**
Potential Impact to Community or Natural Resources	Avoid negative and costly environmental impacts.	*Proximity to community or natural resources like historic sites, recreational areas, churches, cemeteries, preserves, etc.*	**Considerable perceived impact**	**X**	**Moderate perceived impact**	**Minimal perceived impact**	**No perceived impact**	**X**
Potential Impact to Minority & Low-Income Population	Avoid prioritizing projects that are likely to have disproportionately high and adverse impacts to Environmental Justice (EJ) groups.	*Percentage of population along project corridor that is a minority or in a low-income household.*	**EJ population 1.5 times or higher than planning area average**	**EJ population above planning area average**	**EJ population below planning area average**	If the MPO determines that a roadway project going through an EJ area has support from its minority/low-income community, the project will receive maximum points. Projects with surrounding area of less than 50 people per developed acre are considered undeveloped and received maximum points.		
Potential Freight Benefits	Prioritize projects that benefit the movement of goods.	*Hours of delay reduced for freight trucks. Points awarded based on distribution of data.*	**No freight benefits**	**Low freight benefits**	**Moderate freight benefits**	**High freight benefits**	**Highest freight benefits**	**X**

Source: RAPC, NSI

12.4 Phased Improvement Program: Streets and Highways

As stated previously in Chapter 11, and assuming future funding for transportation improvements will remain consistent with the level of expenditure indicated by recent historical data, an average of $14 million per year in 2015 dollars is forecast to be available in state and federal funds for transportation improvements in the MPA. By factoring in inflation, the total amount forecast to be available through 2040 is $445 million. The annual amounts are aggregated to the three time periods of the MTP, resulting in the forecasted availability of all funds for each Phase.

- Phase I (2016-2020) - $75,799,967
- Phase II (2021-2030) - $171,273,172
- Phase II (2031-2040) - $198,769,508

12.4.2 Phase I (2016-2020)

Phase I is planned for improvement in the years 2016 to 2020. A list of projects is shown in Table 11-3. The planned improvements in Phase I are projected to cost $75.8 million and will be funded with local, state, and Federal funds. Project improvements consist of intersection improvements, new roadway construction, bridge replacements, roundabouts, roadway preservation, enhancements, and safety projects.

Additionally, all projects are included which are within the current short-term FY 2015 –FY 2018 Transportation Improvement Program (TIP) document as well as the State TIP. For the purpose of the MPO travel demand model, only capacity projects are assigned project identification numbers. Phase I projects are shown in Figure 12.4.

Table 12.4: Phased Improvement Program Phase I (2016-2020)

NSID	Project	Location	Improvement	Length	Construction Year	Phase I Cost (000)	Fund Source
x	**Highland Drive Roadway**	LA 28 to LA 107	Rehabilitation	0.8	2016	$570	STP<200K
	Widening of Service Roads Connections	US 71	Widening	--	2016	$950	NHPP
	Sugarhouse Rd.	Current Length	Reconstruction	2.03	2016	$6,555	STP<200K
	UP Railroad Overpass	US 71 near Tioga	Bridge Replacement	0.40	2016	$17,774	NHPP
x	**UP Railroad Crossing**	Robbins Rd.	Install Flashing Lights, Gates, Bells	--	2016	$300	RAIL PD
x	**LA 1208-3**	LA 488 TO US 71	Patch Concrete Pavement, reseal Joints	1.78	2016	$963	STP<200K
X	**US 167**	LA 1250 to US 165	Patch Concrete Roadway, Cold Plane	3.03	2016	$1,500	NHPP
	Flagon Bayou Bridge	@ LA 623	Bridge Replacement	0.01	2017	$2,100	NFA
x	**CoA Sidewalks**	Various locations	Sidewalk Const., Markings, ADA Improvements	--	2017	$977	HSIPPEN, SR2S
x	**Pineville Elementary Sidewalks**	Pineville Elementary School	Sidewalks, Lighting, Striping	1.55	2017	$245	SATRANS, SR2S
X	**US 165**	KCS Railway Overpass	Bridge Removal, replace At-grade Crossing	0.40	2017	$2,161	FBR ON/ OFF, STPFLEX, NHPP
130	**LA 1204**	Bayou Flagon and Kitchen Creek Bridges	New Bridges	0.24	2017	$3,185	STPFLEX
x	**LA 107**	East of Pinegrove Dr. to East of RR	Concrete Rehabilitation, Patch and Joint Sealing	1.03	2017	$300	STPFLEX
x	**CoA Street Improvement Phase II**	Lisa, Mil Mar, Windermere, Grove St.	Rehabilitation	2.70	2017	$3,700	STP<200K
	LA 28 W	John Allison Dr.	Add Right Turn Lane	0.05	2017	$250	STP<200K
	LA 3225	@ LA 623	Left Turn Lanes	0.32	2018	$1,120	HSIPPEN
	Industrial Park Site Rd.	LA 1 to River Port Rd.	Reconstruction	1.51	2018	$550	STP<200K
106	**Horseshoe Roundabout**	Jackson St. and Horseshoe Dr.	New Roundabout	0.48	2018	$3,580	STP<200K, SATRANS
105	**LA 3144**	@ Susek Dr.	New Roundabout	0.11	2019	$	HSIP, SATRANS
x	**Alexandria ITS Phase II**	Various locations	Install Bridge Advisories, CCTVs and DMS	5.66	2019	$2,015	NHPP
x	**Alexandria ITS Phase III**	Various locations	Install CCTVs	13.52	2019	$1,795	NHPP
x	**I-49**	.44 mi N US 167 to Exit 80	Patch, Cold Plane, Overlay Shoulders	18.07	2019	$4,000	NHPP
x	**Foisy St.**	Monroe St. to Casson St.	Reconstruction	0.90	2019	$2,000	STP<200K
x	**Alexandria ITS Phase IV**	Various locations	Install CCTVs	22	2020	$1,465	NHPP
	North Dr. Roundabout	North Dr. and Memorial Dr.	New Roundabout	--	2020	$1,500	STP<200K
x	**Jackson St.**	Garden District / US 71 to River	Rehabilitation	2.70	2020	$1,500	STP<200K
x	**Line Item**	Various locations	Maintenance	--	2016-2020		MAINT
x	**Line Item**	Various locations	Safety	--	2016-2020		SAFETY
X	**Line Item**	Various locations	Enhancement	--	2016-2020	$122	HSSIPEN
x	**Line Item**	Various locations	Overlay	--	2016-2020		OVERLAY
x	**Line Item**	Various locations	Reconstruction	--	2016-2020		VARIOUS
x	**Line Item**	Various locations	Bridge	--	2016-2020		FBR
x	**Line Item**	Various locations	ITS	--	2016-2020		ITS
					Phase I	**Total**	**$75,799**

Potential funding source(s) descriptions can be found in Chapter 5.

Source: LADOTD Lettings List, FY: 2015-2018 TIP, RAPC, 2016

12.4.3 Phase II (2021-2030)

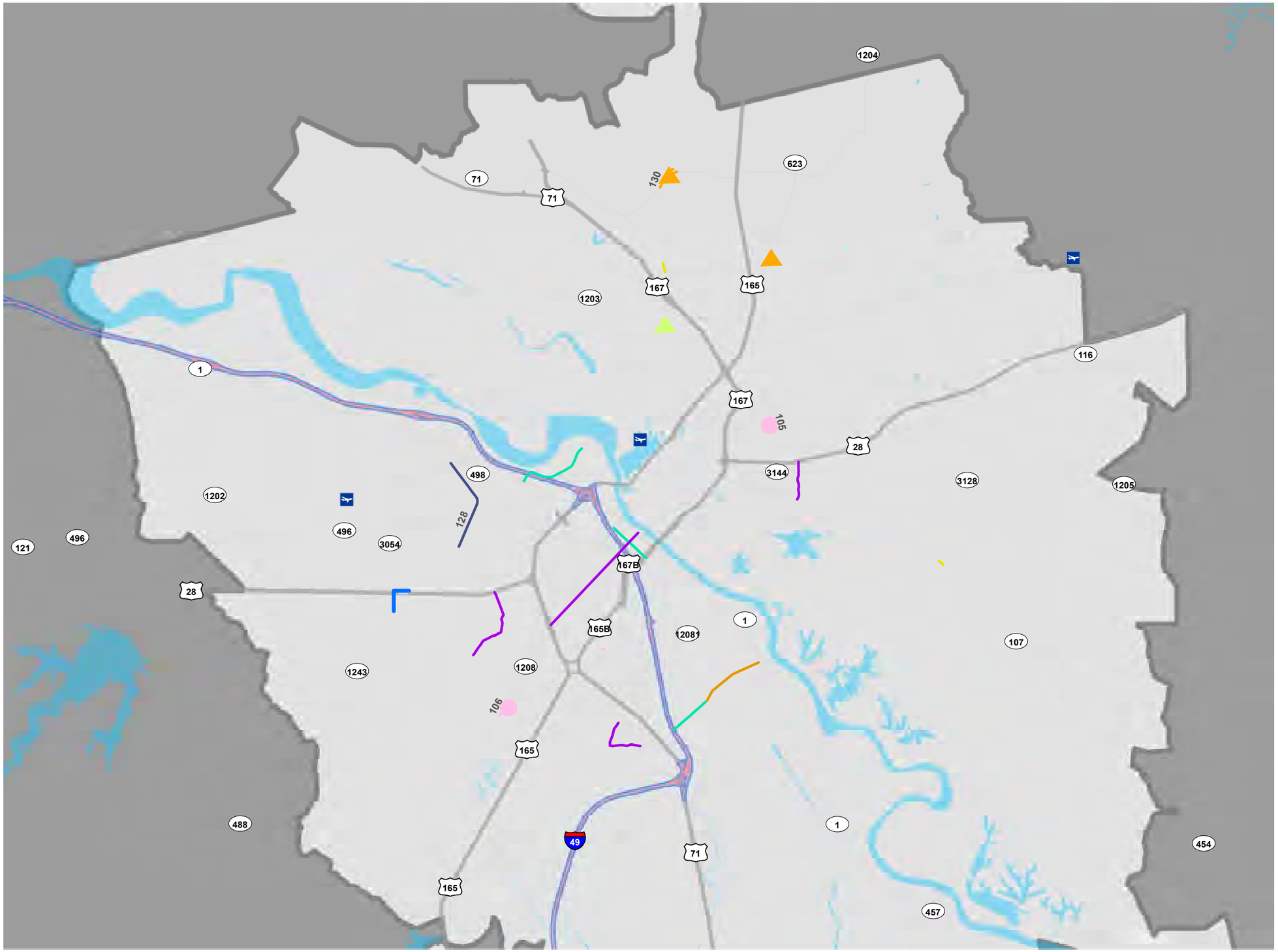
Phase II is planned for improvement in the years 2021 to 2030. A list of projects is shown in Table 12.5. The planned improvements in Phase II are projected to cost $170.6 million and represent improvements consisting of intersection improvements, roadway widening, bridge replacements, reconstruction, overlay, enhancements, and safety projects. Phase II projects are shown in Figure 12.4.

Table 12.5: Phased Improvement Program Phase II (2021-2030)

NSID	Project	Location	Improvement	Length	Construction Year	Phase II Cost (000)	Fund Source
314	Shreveport Highway (US 71)	Monroe Hwy (US 165) to Maryhill Rd (LA 1203)	Widen to 3 Lanes	0.80	2021-2030	$4,428	NHPP
318	Monroe Hwy (US 165)	Pineville Expressway (US 167) to UPRR	Widen to 6 Lanes	0.66	2021-2030	$4,465	NHPP
505	LA 28	Pineville Expressway (US 167) to Highland Dr	Widen to 6 Lanes	1.39	2021-2030	$9,403	STPFLEX
508	Edgewood Dr (LA 3144)	Military Hwy (US 165B) to Donahue Ferry Rd (LA 3100 spur)	Widen to 4 Lanes	0.66	2021-2030	$4,464	
509	Monroe Hwy (US 165)	UPRR to Tioga Rd (LA 623)	Widen to 6 Lanes	1.42	2021-2030	$9,606	
511	Old Marksville Hwy (LA 107)	Pinegrove Rd (LA 3263) to LA 3128	Widen to 4 Lanes	4.05	2021-2030	$27,398	STPFLEX
611	Bayou Rapides Rd (LA 496)	N Bayou Rapides Rd (LA 1202)	Turn Lanes	--	2021-2030	$1,230	STP<200K
612	Bayou Rapides Rd (LA 496)	Vandenberg Dr. (LA 3054)	Turn Lanes	--	2021-2030	$1,230	STP<200K
702	Pearce Rd Extension	Pearce Rd to Donahue Ferry Rd	New 2 Lane	0.10	2021-2030	$308	LOCAL
128	Plantation Rd	Bayou Rapides Rd (LA 496) to England Dr (LA 498)	Overlay	1.91	2021-2030	$1,233	LOCAL
203	Horseshoe Dr	Jackson St (LA 1208-3) to Masonic Dr (US 165)	Reconstruction	0.65	2021-2030	$3,998	STP<200K
304	Twin Bridge Rd (LA 488)	Jackson St (LA 1208-3) to Bruyninckx Rd	Reconstruction	0.66	2021-2030	$4,059	STP<200K
306	Culpepper Rd	Masonic Dr (US 165) to North Blvd	Reconstruction	0.57	2021-2030	$3,506	STP<200K
	Jackson St. Bike Trail		New Bike Lanes	--	2021-2030	$97	RTP, LOCAL
	I-49	2 mi N LA 3265 – 2 mi n LA 1	Signage	21.93	2021-2030	$3,000	NHPP
	US 165	@ Pinecrest Dr	New Roundabout	0.45	2021-2030	$2,415	NHPP, STPFLEX
	Horseshoe Canal Bridge	CoA	Bridge Replacement	0.20	2021-2030	$2,376	STPFLEX
	US 165	@ Pineville Expressway	Road Widening	0.98	2021-2030	$5,000	NFI
x	Line Item	Various locations	Maintenance	--	2021-2030		MAINT
x	Line Item	Various locations	Safety	--	2021-2030		SAFETY
x	Line Item	Various locations	Enhancement	--	2021-2030		HSSIPEN
x	Line Item	Various locations	Overlay	--	2021-2030		OVERLAY
x	Line Item	Various locations	Reconstruction	--	2021-2030		VARIOUS
x	Line Item	Various locations	Bridge	--	2021-2030		FBR
x	Line Item	Various locations	ITS	--	2021-2030		ITS
					Phase II	**Total**	**$170,571**

Potential funding source(s) descriptions can be found in Chapter 5.

Source: LADOTD Lettings List, RAPC, 2016



Source:APMPO Travel Demand Model, RAPC, NSI

Alexandria/Pineville

Metropolitan Transportation Plan 2040

Figure 12.2 Phase I Improvements (2016 -2020)

LEGEND

- Aiport
- Water Bodies
- MPA
- Add Turn Lanes
- Right Turn Lane
- New Roundabout
- Pavement Rehab.
- Reconstruction
- Overlay
- Bridge Replacement
- Bridge Rehab.
- New Roadway

Phasing includes both capacity and maintenance projects

0 0.75 1.5 3 Miles

N

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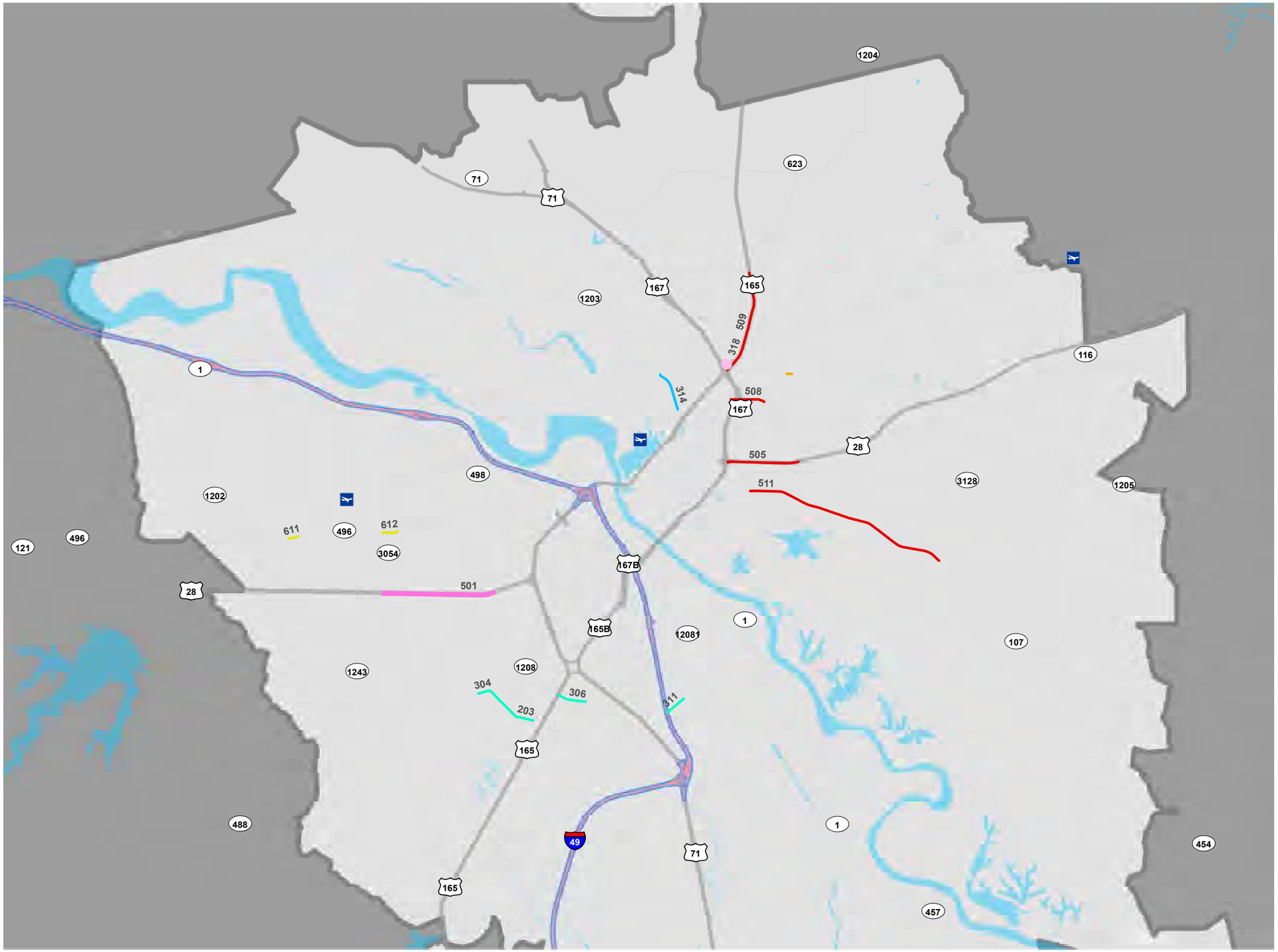
RAPC DOTD

NEEL-SCHAFFER

Date:08/26/2016



Source:APMPO Travel Demand Model, RAPC, NSI

Alexandria/Pineville

Metropolitan Transportation Plan 2040

Figure 12.3
Phase II Improvements (2021 - 2030)

LEGEND

- Aiport
- Water Bodies
- MPA
- New Roadway
- Road Widening
- New Service Roads
- Add Turn Lanes
- Add Center Left Turn
- Reconstruction
- New Roundabout

Phase II Estimated Cost:
$171 million

0 0.75 1.5 3 Miles

N

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RAPC DOTD

NEEL-SCHAFFER

Date:08/26/2016

12.4.4 Phase III (2031-2040)

Phase III is planned for improvement in the years 2026 to 2035. A list of projects is shown in Table 12.6.

The planned improvements in Phase III are projected to cost $193.9 million and represent improvements consisting of intersection improvements, roadway widening, new roadway construction, conversion to one-way couplet, bridge replacement, roadway preservation, enhancements, and safety projects. Phase III projects are shown in Figure 12.4.

Table 12.6: Phased Improvement Program
Phase III (2031-2040)

NSID	Project	Location	Improvement	Length	Construction Year	Phase III Cost (000)	Fund Source
308	North Blvd	MacArthur Dr (US 71) to S Mall Dr	Widen to 4 Lanes + Replace Bridge	0.35	2031-2040	$4,313	STP<200K
315	Tioga Rd (LA 623)	Wall Ln to Monroe Hwy (US 165)	Widen to 3 Lanes	0.98	2031-2040	$6,615	STPFLEX
316	Windermere Blvd	Versailles Blvd to Twin Bridges Rd (LA 488)	New 2 Lane	0.59	2031-2040	$2,213	STP<200K
317	Levin St/Monroe St (LA 28)	Bolton Ave (LA 1) to Texas Ave	One-Way Couplet	1.14	2031-2040	$6,416	STPFLEX
401	MacArthur Dr (US 71)	North 3rd St (LA 1208-4)	Partial Interchange	--	2031-2040	$15,000	STPFLEX
402	Pineville Expressway (US 167)	Red River to LA 28	Widen to 6 Lanes	1.67	2031-2040	$13,776	STPFLEX
506	Pineville Expressway (US 167)	LA 28 to US 165	Widen to 6 Lanes	1.92	2031-2040	$15,840	STPFLEX
514	Sterkx Rd	Horseshoe Dr to West Beltway	New 2 Lane	1.57	2031-2040	$5,888	STP<200K
609	LA 1	Moss Point Dr	Turn Lanes	--	2031-2040	$1,500	STPFLEX
622	Rapides Ave	MacArthur Dr (US 71) to Bolton Ave (LA 1)	Widen to 3 Lanes	1.11	2031-2040	$7,493	STP<200K
302	Horseshoe Dr	Grove Rd to MacArthur Dr (US 71)	Reconstruction	0.27	2031-2040	$2,025	STP<200K
305	Dorchester Dr	Heyman Ln to Jackson St (LA 1208-3)	Reconstruction	0.20	2031-2040	$1,500	STP<200K
309	Culpepper Rd	North Blvd to Sterkx Rd (LA 1208-2)	Reconstruction	0.61	2031-2040	$4,575	STP<200K
602	Jackson St (LA 1208-3)	MacArthur Dr (US 71) to Horseshoe Dr	Access Management	1.84	2031-2040	$13,800	STPFLEX
606	Holly Moore Dr/ Wildwood Dr	Susek Dr to Donahue Ferry Rd	Reconstruction	1.56	2031-2040	$11,700	STP<200K
x	Line Item	Various locations	Maintenance	--	2031-2040	$13,914	MAINT
x	Line Item	Various locations	Safety	--	2031-2040		SAFETY
x	Line Item	Various locations	Enhancement	--	2031-2040		HSSIPEN
x	Line Item	Various locations	Overlay	--	2031-2040	$29,815	OVERLAY
x	Line Item	Various locations	Reconstruction	--	2031-2040	$77	VARIOUS
x	Line Item	Various locations	Bridge	--	2031-2040	$35,441	FBR
x	Line Item	Various locations	ITS	--	2031-2040	$1,988	ITS
					Phase III	**Total**	**$193,885**

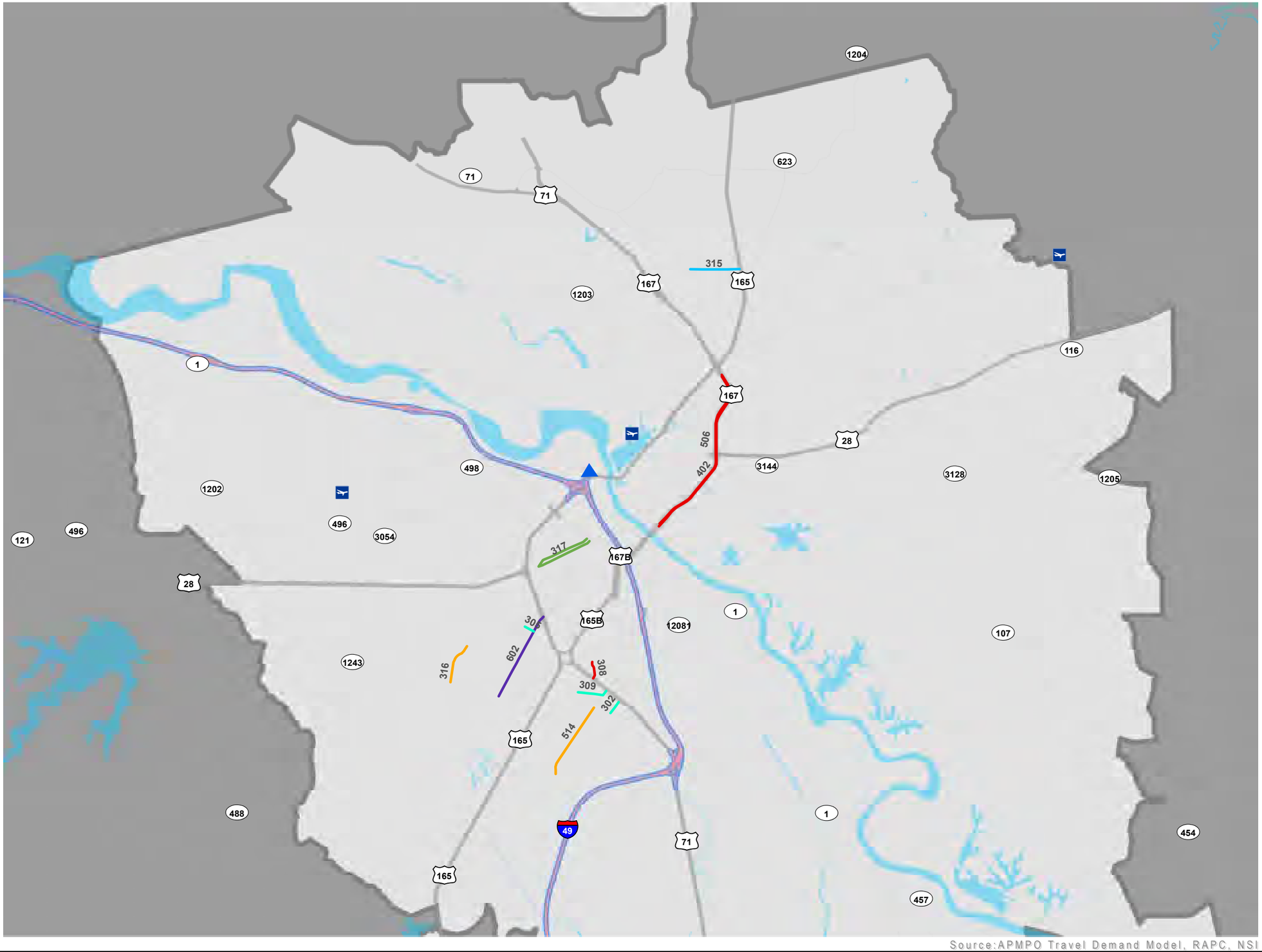
Potential funding source(s) descriptions can be found in Chapter 5.

Source: RAPC, 2016

Alexandria/Pineville

Metropolitan Transportation Plan 2040

Figure 12.4
Phase III Improvements (2031 - 2040)



LEGEND

- Aiport
- Water Bodies
- MPA
- New Roadway
- Road Widening
- Add Center Left Turn
- Convert to Couplet
- ITS
- New Interchange
- Reconstruction

Phase III Estimated Cost:
$194 million

0 0.75 1.5 3 Miles

N

PREPARED BY:

RAPC DOTD

NEEL-SCHAFFER

Source:APMPO Travel Demand Model, RAPC, NSI

Date:08/26/2016

12.4.5 Vision Plan/Unfunded Needs

The previous sections have addressed Phased transportation improvements with identified funding sources, however, additional transportation improvements are needed. The Vision Plan identifies those necessary but unfunded transportation improvements.

The funded transportation improvements represent the best combination of transportation projects within available funding to address existing system deficiencies. The remaining unfunded transportation improvements are no less important or effective; they just cannot be accommodated within the financially constrained budget. The estimated cost, in 2015 dollars, to implement these projects is $520 million.

Delayed funding for a transportation improvement project may be the result of the project's size, cost, design complexity, acquisition difficulties, jurisdictional concerns, and/or environmental concerns. A project may be delayed because its efficiency is minimized until other projects are completed or it does not alleviate existing transportation deficiencies that will only be exacerbated over time.

The remaining unfunded transportation improvements are included in the Vision Plan to keep a record of future needs. These improvements are annually analyzed to determine if adjustments or changes are needed. The extent and distribution of the network improvements included in the Vision Plan are depicted in Figure 12.5.

A list of projects is shown in the Table 12.7. Funding and implementation of the Vision Plan will have tremendous impact on the transportation network of the community. Moreover, if additional Federal, State, or local transportation dollars become available, these vision projects will move to respective phased improvement categories during future MTP updates.

12.4.6 Summary of Plan Costs and Revenue

Table 12.8 summarizes the project costs and forecast state and Federal revenues for implementing the Plan.

Table 12.7: Vision Needs

NSID	Project	Location	Improvement	Length	Construction Year	2015 Cost (000)	Phase II Cost (000)	Phase III Cost (000)
125	6th St/Foisy St Ext north	Monroe St to N 3rd St (LA 1208-4)	New 4 Lane	0.33	Vision	$2,475	$3,044	$3,713
310	Sugarhouse Rd (LA 3250)	3rd St (LA 1) to Eddie Williams Ave (LA 1208-1)	Widen to 4 Lanes	2.15	Vision	$11,825	$14,545	$17,738
313	MacArthur Dr (US 71)	South Traffic Circle	New Interchange	--	Vision	$25,000	$30,750	$37,500
403	MacArthur Dr (US 71)	LA 28	New Interchange	--	Vision	$25,000	$30,750	$37,500
404	Beltway Loop South	Coliseum Blvd (LA 28 W) to MacArthur Dr (US 71)	New 4 Lane, Widen to 4 Lanes	8.18	Vision	$60,770	$74,747	$91,155
405	Ansley Blvd Extension	Provine Place Blvd to Beltway Loop South	New 2 Lane	2.84	Vision	$7,100	$8,733	$10,650
502	MacArthur Dr (US 71)	Bolton Ave (LA 1) to I-49	Upgrade to Expressway	7.10	Vision	$35,500	$43,665	$53,250
513	Jackson St Ext	Bayou Robert to Beltway Loop South	New 2 Lane	0.98	Vision	$2,450	$3,014	$3,675
603	Jefferson Hwy	Donahue Ferry Rd (LA 3100) to Monroe Hwy (US 165)	Widen to 4 Lanes/ RR Overpass	1.35	Vision	$22,425	$27,583	$33,638
610	LA 1	Harold Miles Park Rd	Turn Lanes	--	Vision	$1,000	$1,230	$1,500
613	Foisy St Ext South	Casson St to Broadway Ave	New 4 Lane	0.64	Vision	$4,800	$5,904	$7,200
618	Vandenberg Rd (LA 3054)	Coliseum Blvd (LA 28) to Bayou Rapides Rd (LA 496)	Widen to 4 Lanes	1.22	Vision	$6,710	$8,253	$10,065
619	Airbase Rd (LA 498)	N Bolton Ave (LA 1) to England Dr (LA 498)	Widen to 4 Lanes	1.06	Vision	$5,830	$7,171	$8,745
623	Mil Mar Blvd Ext	Dead End to Beltway Loop South	New 2 Lanes	0.70	Vision	$1,750	$2,153	$2,625
625	Beltway Loop West	I-49 to LA 28 W	New 4 Lanes/ Widen to 4 Lanes	4.89	Vision	$36,675	$45,111	$55,013
626	Beltway Loop South-East	LA 1 to Papermill Rd	New Bridge and New 4 Lanes	4	Vision	Road - $30,000 Bridge - $50,000	$98,400	$120,000
627	Beltway Loop North-East	LA 28 E to US 165	New 4 Lanes	7.13	Vision	Road - $53,475	$65,774	$80,213
628	Beltway Loop North-West	US 165 to I-49	New Bridge and New 4 Lanes	8.41	Vision	Road - $63,075 Bridge - $50,000	$139,082	$169,613
701	Papermill Rd (LA 3128)	LA 107 to LA 28 E	Widen to 4 Lanes	3.40	Vision	$18,700	$23,001	$28,050
703	Alexandria/Pineville Expressway	Cenla Dr (Abutting Distran Fab Inc.)	Half Interchange	0.07	Vision	$5,000	$6,150	$7,500
					Total Vision	**$519,560**	**$639,059**	**$779,342**

Source: RAPC, 2016

Table 12.8: Phased Improvement Program Summary

(2016-2040)

	Phase I (2016-2020)	Phase II (2021-2030)	Phase III (2031-2040)	Total (2016-2040)
Estimated Project Costs	$75,799,000	$170,571,083	$193,885,340	$440,255,423
Estimated State & Federal Funding Availability	$75,799,967	$171,273,172	$198,769,508	$445,842,647
	Vision Needs (2015 dollars)			**$519,560,000**
	Total Needs Plan			**$959,815,423**

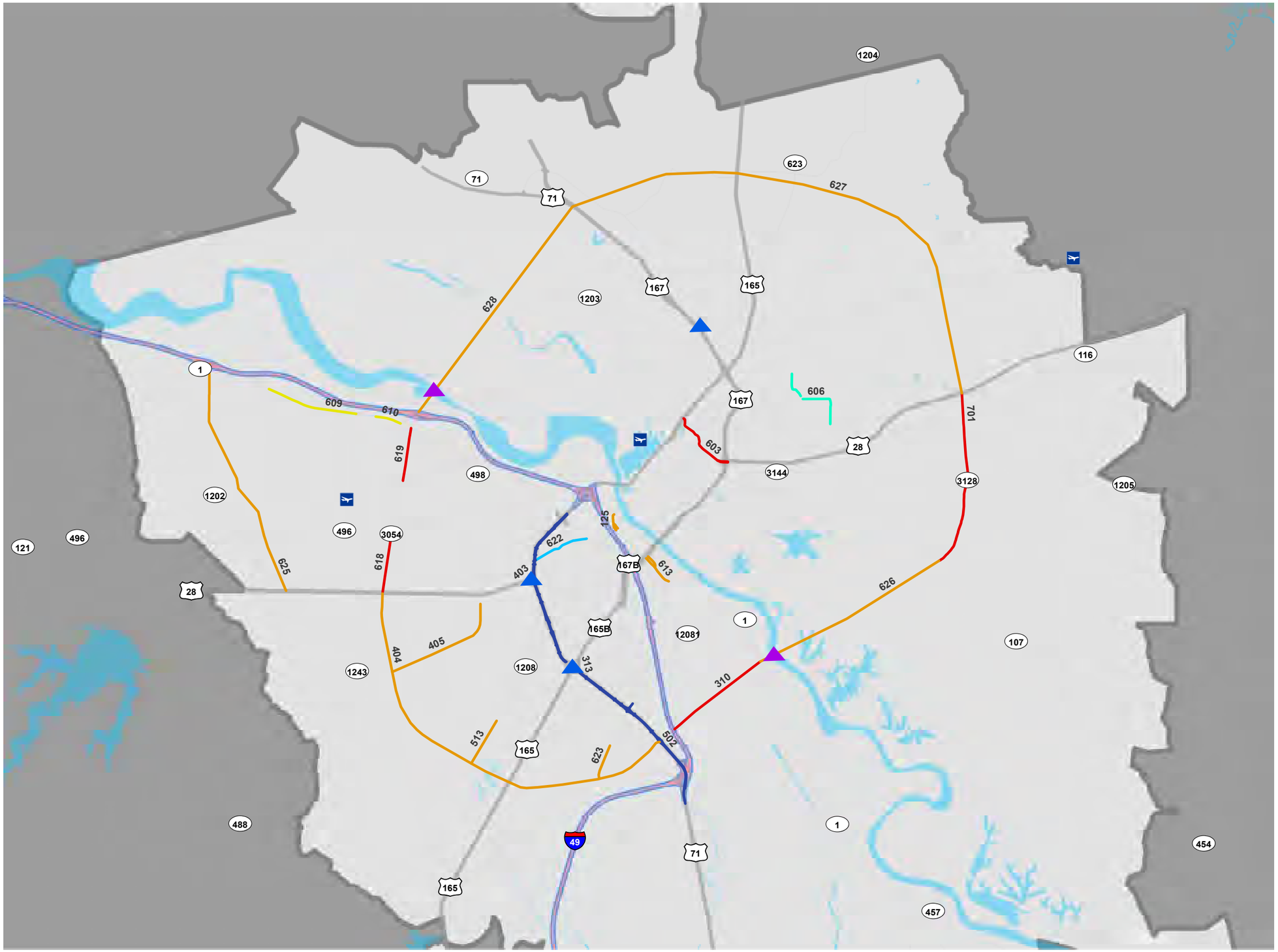
** Annual Inflation Factors - 3% on Project Cost, 3% on Funding Availability*

Alexandria/Pineville

Metropolitan Transportation Plan 2040

Figure 12.5

Vision Projects



Source:APMPO Travel Demand Model, RAPC, NSI

LEGEND

- Aiport
- Water Bodies
- MPA
- New Roadway
- Road Widening
- Add Turn Lanes
- Add Center Left Turn
- New Interchange
- Reconstruction
- Upgrade to Expressway
- New Bridge

Vision Projects Estimated Cost: $520 million

0 0.75 1.5 3 Miles

N

PREPARED BY:

RAPC DOTD

NEEL-SCHAFFER

Date:08/26/2016

12.5 Phased Improvement Program: Transit

To develop accurate cost estimates for continuation of existing and future services, recent expenses from Atrans and other transit industry national standards were used. These expenses cannot exceed the Federal funding levels that are provided to Atrans. As explained in Chapter 11 under the transit financial section 11.3, the total amount forecast potentially available for transit operations and capital improvements through 2040 is $30,440,092, and is shown in Table 12.9.

Table 12.9: Phased Forecast of Transit Revenue

Year	Section 5307	Section 5339	Section 5310[1]
Phase 1 (2016-2020)	$5,510,668	$523,247	$225,927
Phase 2 (2021-2030)	$12,473,168	$1,184,348	$0
Phase 3 (2031-2040)	$14,475,621	$1,374,485	$0
Total	**$32,459,457**	**$3,082,080**	**$225,927**

** [1] Excludes funding assumed to go to other providers like Rapides ARC*

Source: LADOTD, Atrans, RAPC, 2016

Photo 12.1: Roundabout at England Airpark

Source: Cenla Focus

12.6 Additional Transportation Considerations

Following is a brief overview of the status of other transportation related activities, which were considered in the preparation of this Plan.

12.6.1 England Economic and Industrial Development District

England Air Force Base closed in December 1992. The England Economic and Industrial Development District (England Airpark) became the operator of the facility at that time. England Airpark is composed of 2,200 acres.

England Airpark contains:

- Over 50 businesses employing 1,300;
- Over 300 occupied housing units;
- 1 million sq. ft. of space leased; and
- Alexandria International Airport.

Alexandria International Airport (AEX) currently supports over 60,000 air operations per year. The Airport is serviced by three commercial carriers, which provide connections with Houston, Atlanta, and Dallas. Over 175,000 passengers per year take advantage of these services.

As stated in the England Airpark's master plan update in 2009, the goal and objectives of the Airpark master plan are:

> *"The goal of the master plan update was to define current and future aviation demand at AEX, the means and alternatives for addressing this demand, the role of the airport in the local, regional and national aviation system, and the need for and financial feasibility of new infrastructure and airport facilities. The primary objective of the Master Plan Update was to create a 20-year development program that will maintain a safe, efficient, economical, and environmentally sustainable airport facility for the England Authority, City and the surrounding 8-parish region. The secondary objective was to create a comprehensive airport landside plan that provides sustainability to the aviation operations of AEX."*

1 http://www.englandairpark.org/master-plan

The Airpark is a transportation and employment center which will continue to function both as a catalyst and as an incubator for regional economic development.

The Alexandria International Airport within the England Airpark received FAA and State grants for the following projects :

- **Noise Mitigation:** Measures for residences adjacent to the airport to meet requirements outlined in the latest Airport Noise Compatibility Plan ($10 million)
- **Emergency Access Road:** Construct roadway (3.5 miles) to improve emergency personnel's response time during the airport's emergency and evacuation activities ($4.95 million)
- **Pavement:** Reconstruction of 63,500 square yards of apron pavement ($2 million)
- **Rehabilitation:** Ramp concrete replacement ($7 million)
- **Overlay:** Mid-section runway asphalt rehabilitation. ($2.1 million)
- **New Fuel Farm:** Construction for downloading 6 million gallons in 72 hours. ($6.1 million)
- **Fuel Farm Access Road:** Construct roadway to provide access from Chennault Ave. to the new Fuel Farm ($1.2 million)
- **Wildlife Hazards:** Removal of wildlife hazards identified near the west side of the airfield ($396K)

Additionally, the Airpark is developing a 1500 acre parcel for future industrial development. The Mega site is anticipated to provide a boost to the MPA's employment. The MTP has taken into consideration the development of the Mega site in population/employment forecasting as well as anticipated increase in traffic (car/truck) volumes in the APMPO travel demand model.

Photo 12.2: Alexandria International Airport Terminal

Source: England Airpark

12.6.2 Central Louisiana Regional Port

The Central Louisiana Regional Port (CLRP) is located at a prime location in the center of the state, close to I-49 and Alexandria International Airport, which gives the Port of Alexandria many advantages for commercial and industrial commerce. The port provides immediate access to Union Pacific and KCS Railroads, Interstate 49, US Highways 71, 165 and 167, and LA Highways 1 and 28.

The port includes about 125 acres, containing a public terminal, a 60,000 square-foot warehouse, petroleum dock, steel bulk-head dock, general cargo dock with rail access and a 40-ton bridge crane equipped with a clamshell bucket, grappler and hopper-loader. Nearly 250,000 tons of cargo cross the docks annually, and that trend is expected to continue.

The CLRP has had the distinction of being the largest receiver and shipper of military equipment on inland waterways in the continental United States. The port's proximity to Fort Polk's Joint Readiness Training Center in Leesville has attracted heavy use by the U.S. Army and other military units, which utilize the river to move equipment in and out for training exercises at the nearby military post.

Additionally, the Louisiana National Guard has regularly used the Port to ship barge-loads of equipment to such distant locales as Belize and Honduras for construction missions.

Industrial use of the port primarily includes bulk fertilizer blending, storage and distribution, aggregate transport for construction projects, and creosote handling. With its existing amenities, as well as future planned expansion and enhancements to its infrastructure, the complex is an attractive site for business relocations and new enterprises as the port is in Foreign Trade Zone # 261 authorized, but not activated.

Facilities

3

airports

2 http://www.thetowntalk.com/story/news/2016/08/26/airport-receives-17-million-grants/89434312/

12.7 Financial Constraint

The anticipated State and Federal street and highway funding for the plan period (2016 – 2040) was estimated at $445.8 million. Identified total cost of projects in the Phased Improvement Program is $440.3 million, which is less than the estimated funding. The transit expenses for the plan horizon is equal to the estimated transit revenue.

Therefore, the Alexandria/Pineville MTP 2040 is financially constrained.

RAPC