

Acadiana Metropolitan Transportation Plan Update

Developed for:

LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT In Coordination With:



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Transportation Model Documentation

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Glossary

3-C Process	- Comprehensive, Cooperative and Coordinated Urban Transportation Planning
ADT	- Average Daily Traffic
CBD	- Central Business District
CAC	– Citizen Advisory Committee
Demo	- Federal Demonstration Fund
FHWA	 Federal Highway Administration
FTA	- Federal Transit Administration
НСМ	– Highway Capacity Manual
ISTEA	 Intermodal Surface Transportation Efficiency Act of 1991
ITS	 Intelligent Transportation System
LA DOTD	 Louisiana Department of Transportation and Development
MAP-21	- Moving Ahead for Progress in the 21st Century
MPO	 Metropolitan Planning Organization
MTP	 Metropolitan Transportation Plan
NHS	 National Highway System
N-S	- Neel-Schaffer, Inc.
STP	- Surface Transportation Program
TTC	- Transportation Technical Committee
TEA-21	- Transportation Equity Act for the 21st Century
TIP	 Transportation Improvement Program
TPC	- Transportation Policy Committee
TRANPLAN	 Transportation Planning Computer Modeling Software
TransCAD	- Transportation Planning Computer Modeling Software
UTPS	- Urban Transportation Planning Software





CHAPTER 1: INTRODUCTION AND PLANNING PROCESS

Introduction

Transportation is one of the most important aspects of daily life. The where and how residents travel to school, work, and shopping dictate one of the largest allocations of tax collections on the local, state, and federal levels. Metropolitan Planning Organizations are charged with investing this public funding in a public and efficient manner.

The 2040 Metropolitan Transportation Plan (MTP) is a 24-year plan that communicates the transportation vision of the Acadiana region. The plan sets forth strategies for moving people and goods within our region safely and efficiently. The MPO transportation planning process enables a regional perspective through a comprehensive, coordinated and continuous planning process. The process is data-driven, goal-oriented and facilitates meaningful input from stakeholders and the public. It also encourages us to examine and learn from our past, understand where we are at present, and determine our best future direction.

Funding for transportation is and will continue to be limited and competitive, so we must focus on our top priorities and invest in the right transportation projects and programs. Our long range plans must be developed in a financially realistic manner, meaning we cannot plan to spend more than we expect to receive. Finally, our plan must be developed through engaging key stakeholder organizations and the people within our region.

Organization

This Metropolitan Transportation Plan (MTP) was developed in accordance with the latest Federal metropolitan planning regulations. Under these regulations, the Acadiana MPO has been designated by the Governor of Louisiana as the MPO for the Acadiana Metropolitan Planning Area and is the responsible agency for transportation and planning activities. The Acadiana MPO is housed within the Regional Planning Commission for the Acadiana region, the Acadiana Planning Commission.

Planning Area

The Acadiana Metropolitan Area encompasses all of Lafayette Parish and portions of Acadia, Vermilion, Iberia, St. Landry and St. Martin Parishes. The Acadiana MPO Study Area is approximately 650 square miles in size with a population of approximately 340,000.

The 2010 Census Lafayette Urbanized Area boundaries were expanded to include greater portions of Iberia, Acadia, Vermilion, St. Martin and St. Landry Parishes. On July 18, 2013 the United States Department of Transportation designated the Lafayette MPO as a Transportation Management Area (TMA). As the MPO moved into a more multi-jurisdictional context, it moved to the Acadiana Planning Commission in July 2015 and renamed itself the Acadiana MPO. The Acadiana MPO worked with the Louisiana Department of Transportation and Development to identify the planning area boundaries for the Acadiana MPO. The Acadiana MPO study area boundaries changed from 426 sq. miles to 650 sq. miles and from a population of 245,619 to a population of 340,389. The boundaries were adopted by the MPO on August 27, 2013. The Acadiana MPO Study Area boundaries and the Urbanized Area boundaries are shown in Figure 1, Acadiana Study Area and 2010 Urbanized Adjusted Area.



MPO Duties

The major duties and responsibilities of the MPO are outlined in the Code of Federal Regulations 450 Subpart C and accomplished through a fair and public participation process. The process is governed by the Transportation Policy Committee and technically advised by the Transportation Technical Committee, in addition to other advisory committees. These duties include:

- 1. Maintaining a fair and impartial setting for making regional decisions
- 2. Identifying and evaluating transportation improvement projects
- 3. Incorporating the public into the decision making process

Unified Plan- ning Work Pro- gram	Congestion Management Process	Public Partici- pation Plan	Transportation Improvement Program	Metropolitan Transportation Plan
Outlines the annual work duties and re- sponsibilities of the MPO	Outlines the strategies for the efficient management and operations of the trans- portation net- work	Details the incorporation of the public into the MPO process	Details the short-range funded pro- jects and pro- grams for the MPO area on a 3 year horizon	Outlines the long range transportation plans and goals for the region on a 30 year horizon

Public participation in the Metropolitan Transportation Plan process occurred with the presentation of the preliminary demographic findings of the report at a visioning meeting in April of 2014.

Governance and CommunityParticipation

Two committees oversee the planning process for the Acadiana MPO Planning Area: the Transportation Technical Committee (TTC) and the Transportation Policy Committee (TPC), the MPO governing Board.

The Transportation Policy Committee (TPC) provides decision-making with regard to the approval and adoption of transportation plans and programs. It is comprised of principal elected officials, or their designees, in the metropolitan area as well as state and Federal representatives. The Transportation Technical Committee (TTC) membership includes local, state and Federal transportation planners and engineers as well as other technically qualified persons with an interest in the transportation system. The TTC provides review and evaluation of the technical aspects of planning activities.



The MPO also has two single-focus subcommittees, the Bicycle Advisory Committee and the Acadiana Regional Transportation Safety Coalition. The Bicycle Advisory Committee is made up of cycling enthusiasts and activists in the community and developed the MPO Bicycle Plan. The Acadiana Regional Transportation Safety Coalition is charged with implementing the Louisiana Strategic Highway Safety Plan in the DOTD District O3, which includes the Acadiana MPO area.

ACADIANA METROPOLITAN PLANNING ORGANIZATION (MPO)

ORGANIZATION STRUCTURE

Date Revised: 10/25/2016



TIP Selection Process

The Transportation Improvement Program (TIP) is the short term, four -year financial program that describes the schedule for obligating federal funds to state and local projects. The TIP contains funding information for all modes of transportation including highways and bicycle and pedestrian projects as well as transit capital and operating costs. State, regional and local transportation agencies update the program on an as-needed basis .

The projects that utilize STP > 200K funding on the TIP are selected using the Acadiana MPO's TIP Selection Process. Jurisdictions complete a project application that asks detailed questions on different aspects of the proposed projects. The project applications are reviewed and ranked by staff based on pre-determined criteria that was adopted by the Acadiana MPO Policy Committee. The criteria includes ranking priorities for projects with limited or no right of way acquisition, projects with a safety benefit, and bike and pedestrian projects.

Staff present the project list with the rankings to the Acadiana MPO Technical Committee, who vote on a recommended project list to send to the Policy Committee. The Policy Committee makes the final determination as to what projects are placed on the Transportation Improvement Program.

The MTP Development Process

Federal requirements dictate the MTP must be updated every five years and cover a 20 year period at the minimum. The Acadiana MPO 2040 MTP covers a 24-year planning period from 2016 to 2040. The MPO developed the MTP through an analysis-based process:

- Assess Existing Transportation System
- Predict Future Demand
- Assess Community Needs and Desires
- Establish Regional Visions, Goals, and Objectives
- Identify Solutions and Strategies
- Predict Future Financial Resources
- Develop Long and Short Range Investment Strategies
- Prioritize and Evaluate Projects and Programs
- Implement Plans and Monitor System Performance

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Goals and Objectives

The most current federal transportation legislation, Fixing America's Surface Transportation Act (FAST Act) continues the requirements for comprehensive transportation planning set by previous Federal acts. It also requires that additional factors be considered in developing transportation plans and programs. These factors are:

Safety	Infrastructure Condition	Congestion Reduction
System Reliability	Environmental Sustainability	Reduce Project Delivery Delays

These planning factors translate into the goals for the Acadiana MPO and the objectives that will be used to realize the goals. Performance measures of the objectives have been incorporated into the MTP to fully evaluate the effectiveness of the MPO's programs.

Goal 1: Create a Roadway Network that is Safe for All Users

- Work with Acadiana Regional Safety Coalition to implement the Acadiana Regional Transportation Safety Plan
- · Utilize crash data to develop transportation safety infrastructure projects
- Work with local enforcement and public health workers to support non-infrastructure safety projects
- Work with the non-motorized user groups like the Acadiana MPO Bike Committee to create a safer community for active transportation roadway users

Goal 2: Enhance System Reliability of the Transportation Network

- · Develop and promote travel demand strategies for the region
- Utilize the transportation model to prioritize projects that reduce delay and bottlenecks in the network
- · Work with local governments' comprehensive and land use plans to coordinate with transportation projects

Goal 3: Incorporate Asset Management Principles to the Transportation Planning Process

- Track system condition, needs, and performance
- Define asset conditions so that decisions can be made on how best to manage and maintain assets
- Continue to prioritize maintenance projects in the MPO's Transportation Improvement Project Selection

Goal 4: Develop a Transportation System that Promotes Environmental Sustainability and Resiliency

- Incorporate projects that mitigate the environmental impact of motorized transportation such as roundabouts, alternative fuel programs, and travel demand management
- Develop and fund active transportation projects
- · Coordinate with transit operators to expand and improve service

Goal 5: Remove Congestion and Improve Operations

- Address congestion issues with innovative technology improvements such as adaptive signal control
- Implement the Acadiana Regional Intelligent Transportation Systems Architecture
- Priorize projects in the TIP selection process that show significant operations improvements in the model

Goal 6: Reduce Project Delays and Improve the Project Delivery Process

- · Perform a full project assessment of site conditions during the planning stages
- Work with DOTD to accelerate project delivery by bundling projects and explore design/build project management during the project development process

Analyze final project costs to faciliate better project management and reduce the number of change orders in the constructuction phase

The diagram below illustrates the FAST Act's layout for the transportation planning process: data collection and analysis to identify needs, priorities, policies, programs, and projects; goals and objectives to frame those needs and priorities and establish evaluation criteria; performance measures and targets to evaluate alternatives and track progress towards the goals and objectives; project prioritization and programming to identify the mix of projects that meet the goals and objectives of the plan and contribute progress towards the performance target; and evaluation to determine the efficacy of the implementation of the programs and projects.



Credit: <u>FHWA Performance-Based Planning and Programming Guidebook</u>, September 2013.

FAST Act incorporates the factors that were used in plan development from the Safe, Accountable, Flexible, Efficient Transportation Equity Act – Legacy for Users (SAFETEA-LU). These factors are:

- 1. Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency;
- 2. Increase the safety and security of the transportation system for motorized and nonmotorized users;
- 3. Increase the ability of the transportation system to support homeland security and to safeguard the personal security of all motorized and non-motorized users;
- 4. Increase the accessibility and mobility options available to people and for freight;
- 5. Protect and enhance the environment, promote energy conservation, and improve quality of life, and promote consistency between transportation improvements and State and Local planned growth and economic development patterns;
- 6. Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight;
- 7. Promote efficient system management and operation; and emphasize the preservation of the existing transportation system.

MTP Approval Process

The Acadiana MPO has a MTP approval process, adopted as part of the Public Participation Plan.



Relationship Between Transportation Improvement Program and MTP

The Transportation Improvement Program (TIP) is the financial realization of the MTP. The 2040 MTP will serve as the Acadiana MPO's roadmap to guide transportation investments and decisions regarding transit enhancements and expansions, bicycle and pedestrian improvements, transportation demand management strategies, Intelligent Transportation System enhancements, and roadway improvements.

Those needs are translated into implementable projects and programmed for federal funds by means of the TIP. While the MTP establishes the goals and framework, the TIP serves as a tool for program and project implementation.



Visioning Process

On April 16, 2014, Acadiana MPO held a Vision meeting to provide information and receive public input on the projects for inclusion in the long range transportation modelling process. The consultant for the modelling component, Neel-Shaffer, was on hand to receive comments and direction from the attendees.

Meeting were held by the Acadiana MPO with each local government in the planning area to display the results of the modelling effort and to receive project priorities, specific to each jurisdiction.

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CHAPTER 2: FINANCIAL ANALYSIS AND FINANCIAL CONSTRAINT

Introduction

This document used to indicate revenues for transportation projects within the Metropolitan Area is the Transportation Improvement Program (TIP). The TIP provides an annual summary of committed, as well as expected, revenues for use within the Metropolitan Area. Beyond this document, the availability of projected revenues is best obtained from historical analysis of previous roadway improvements. The Louisiana Department of Transportation and Development, as the official coordinating agent for federal transportation improvement dollars for the state, maintains a listing of all contacts awarded for each metropolitan area by programmatic funding source.

Historical Funding for Street and Highway Projects

By analyzing previously expended transportation funds for projects, the MPO can obtain a reasonable figure for estimating future roadway improvement funds that will be available for the area.

Table 1: Acadiana MPO Funding — Historical and Future Forecast

All sources	\$496,232,415	\$1,036,762,979
Line Item	\$101,664,322	\$184,237,289
Non-Line Item	\$394,568,094	\$852,525,690
Capacity	\$140,253,341	\$303,039,141

1991-2012

Forecast

Project Type Improvement Estimation

Estimating the cost of each project type is vital to the long range planning process when analyzing potential projects for inclusion in the TIP. The table below provides an estimate in 2013 dollars of different project types on a per mile basis.

Improvement	Average Cost (2013)	Per
New Interstate	\$16,000,000	Mile
Interstate Widening	\$6,500,000	Mile
Interstate Rehab	\$4,000,000	Mile
New 4 Lane Arterial	\$9,000,000	Mile
New 2 Lane Arterial	\$4,000,000	Mile
Arterial Widening	\$5,000,000	Mile
Center Turn Lane	\$2,000,000	Mile
Reconstruction	\$1,250,000	Mile
Overlay	\$500,000	Mile
New Interchange	\$22,000,000	Each
Interchange Improvement	\$7,000,000	Each
Intersection Improvement	\$750,000	Each
Railroad Overpass	\$3,000,000	Each
Sidewalks	\$500,000	Mile

Table 2: Acadiana MPO Improvement and Average Cost (2013) Per Unit

CHAPTER 3 : DEMOGRAPHICS

Introduction

Urban transportation planning has two equally important components: engineering estimates of the capacity and cost of building roadways and demographic estimates of the amount of persons who will use these roadways. The MPO forecasts the number of people, households, school children, and businesses, each of which generate significant traffic. Appendix 1 provides technical details on the methods. The demographics are the backbone of the transportation model. Elected officials and their technical advisors also use this information to select which roads to build.

Projections

Robust, sustained growth is expected in the Acadiana Metropolitan Area Study Region through the year 2040. The region's population is projected to increase by 148,000 new residents (44 %) from 2010 to 2040. That population is greater than the 2014 population of the City of Lafayette. The bar chart below illustrates these increases with four key variables.



Chart 1: Acadiana MPO Planning Area Population Growth 2010-2040

In the map below, the red -- yellow -- blue spectrum illustrates the least to most population change. Each of the ten colors show ten percent of the total number of person or household or other group being measured. This includes the City of Lafayette and all of the area within the parish. Significant parts of Iberia and St. Martin are included along with adjoining areas of Acadia, Vermilion, and St. Landry.

Within each of these municipalities and unincorporated areas, 991 neighborhoods are mapped and studied. These neighborhoods are technically known as a Traffic Analysis Zones (TAZs), each of which is bounded by a roadway, a stream or a railroad.



Map 3: Acadiana MPO Planning Area Population Growth 2010-2040

Four Demographic Measurements

Four measurements are used to predict the amount of traffic in this planning area: population, households, workers, and schools. Each of these four measurements is measured and counted many different ways to improve the accuracy of the traffic estimate. For example, a TAZ located in a residential area in close proximity to a school and a retail area will, in general, generate a different amount of traffic than a TAZ located in a more rural area without adjacent businesses or schools.

Population and Dwelling Unit Methodology

The demographic estimates are the results of a series of factors. The population of each TAZ is aged to determine the expected number of deaths each decade. Birth rates relevant to each TAZ are applied. In and out migration and the ages of those migrants are estimated by viewing past trends. Past growth in number of dwelling units is analyzed and actual growth in dwelling units through 2013 researched. Assumptions are made regarding expected new housing units and the associated number of migrants expected. Areas of very recent growth are assumed likely to continue growing if available land for development exists. Growth is deemed more likely adjacent to areas already developed, with utilities and infrastructure. Growth is assumed more likely in accessible areas, areas with transportation links – and much less likely in environmentally sensitive areas, like flood zones.

Employment and School Methodology

Employment is projected separately for two distinct employment sectors, using different methodologies. Retail employment growth is directly related to population growth. Regions of greatest population growth can expect significant employment growth. It is assumed, however, that retail employment in all parts of the study area will grow at least modestly, even with very little or no population growth in the immediate area. All parts of the study area should benefit from the overall population growth.

Non-retail employment does not directly depend on the population growth in the immediate area, and thus is more tied to the overall growth of the region. Most jobs are expected to grow at approximately the same rate as the population in the study area. Several specific industry categories, such as finance, medical, government and computer elated services are expected to grow slightly faster than the rate of population growth.

School attendance is driven solely by the population projections. Thus, the school attendance increases results in education employment.

Overall Population Estimates

Acadiana Metropolitan Planning Organization Population Count in 2010 and Estimates by Ten Year Intervals						
YEAR	2010	2020	2030	2040	30 YEAR GROWTH	30 YEAR
						GROWTH RATE
Population	338,325	389,328	434,015	486,878	148,553	43.9%
Dwelling Unit	140,714	157,809	173,305	186,991	46,277	24.7%
Tot Workers	167,209	203,498	227,743	255,986	88,777	53.1%
School Age	88,857	96,573	109,825	126,568	37,711	42.4%

Table 3: Acadiana MPO Population Count in 2010 and Estimates by Ten Year Intervals by Category

As can be seen in Table 3 and Chart 2, the growth is robust in a state with shrinking populations within a southern region undergoing steady urbanization. Four massive hurricanes over a period three years have shifted populations movements along the Gulf of Mexico: Katrina – August, 2005; Rita – September 2005; Gustav – August, 2008 and Ike – September 2008. The MPO Planning Area has mostly been spared severe hurricane winds over the past fifty years. As a result, insurance companies did not raise wind coverage rates nor the National Flood Insurance Program flood protection rates increase as dramatically as areas south of Louisiana Highway 14 in adjoining parishes.

Other factors effecting growth have been increased oil and gas production related to fracking, which is serviced worldwide by petroleum service companies headquartered in the region. Many of these companies are located along US Highway 90 connecting the City of Lafayette to the City of New Iberia, both of which are the major population centers in the planning area. The oil bust in the 1980's resulted in a diversification of the economy in the Acadiana region away from petroleum, although this sector remains dominant.



Chart 2: Acadiana MPO Population Count in 2010 and Estimates by Ten Year Intervals by Category

The University of Louisiana at Lafayette (ULL) has a long tradition of strong computer science programs since the 1950's which resulted in many local residents ready of the digitalization of government, education, commerce and industry in the 1990's and beyond into the Twenty-First



Century. The education investment created a favorable environment for the Fiber to Home Program by Lafayette Utilities System, a public utility wholly owned by Lafayette Government investing over \$100 million in high speed internet, video, and phone services. This has led to location of software developers and digitalization of entertainment industries in the MPO Planning Area.

Medical services also underwent concurrent growth from the 1980's onward leading to the location and expansion of regional medical centers at Lafayette General, Iberia Medical Center, Lourdes Hospital, and Regional Medical Center of Acadiana. Additional specialty hospitals like Women and Children's Hospital and the Cardiovascular Institute of the South have driven growth as well. The medical workforce alone today is more than 20,000 workers.

Other significant components of the local economy are:

New concepts in residential development like the New Urbanist River Ranch, combined with regulatory innovations by local governments, the university and private business have propelled the construction industry forward in commercial activity. Construction activity in 2013 reached over \$281 million.

Nearly one quarter of the MPO Planning Area's sale tax revenues is brought in by spenders from outside of the parish's borders. People from all over the country travel here for many reasons, including shopping, entertainment, recreation, dining, services and business. The population in the MPO Planning Area's trade market is in excess of 600,000 people and over 1 million tourists visit this area every year.

The financial industry within the MPO Planning Area is comprised of 25 locally-owned and nationally operated banking institutions, with an estimated \$5,620,021,000 in deposits as of June 2013. They provide services ranging from simple savings and checking accounts to complex commercial investments. Thirteen credit unions have also been established within the Parish, with estimated total assets over \$384 million in 2013.

The innovation of local manufacturers has resulted in the transformation of traditionally low technology industries into modern high-tech environments through state-of-the-art computers, intelligent manufacturing systems, robots and automation. Thriving manufacturing businesses in the MPO Planning Area can be found across sectors including jewelry, oil and gas, marine, food production, and specialty metals.

Containing the major US highways of Interstates 10 and 49 and US 90 and 167, the MPO Planning Area's strategic location has contributed to the viability of the transportation/distribution industry. Cargo can be delivered via the Intracoastal Waterway, and the proximity of the Gulf of Mexico makes deliveries and exports by sea feasible.

MPO Population by Parish

As shown by Table 4, Lafayette Parish is wholly contained within the Lafayette MPO Planning Area, comprising nearly two thirds of the planning area population. The overall rate of growth for the planning area and the parish of Lafayette show parallel lines on the graph indicating nearly the same rates of growth. However, the remaining portions of adjoining parishes have much flatter and lower trend lines indicating less growth at a lower rate of increase.

Acadiana Metropolitan Planning Organization Population Count in 2010 and Estimates by Ten Year Intervals								
PARISH	I YEAR GROWTH							
	2010	2020	2030	2040	30 YEAR GROWTH	30 YEAR GROWTH RATE		
Acadia	2,659	3,452	4,283	5,297	2,638	99%		
Iberia	60,368	67,273	73,983	82,196	21,828	36%		
Lafayette	221,524	255,231	282,500	314,060	92,536	41%		
St Landry	7,690	9,349	11,200	13,613	5,923	77%		
St Martin	41,233	47,656	54,026	61,544	20,321	49%		
Vermilion	4,851	6,366	8,024	10,168	5,317	1.10%		
TOTAL	338,325	389,328	434,015	486,878	148,553	38.3%		

Table 4: Acadiana MPO Population Count in 2010 and Estimates by Ten Year Intervals by Parish

Chart 3: Acadiana MPO Population Count in 2010 and Estimates by Ten Year Intervals by Parish



MPO Housing Units by Parish

Table 5 and Chart 4 indicate that the household size in the study area is expected to grow from 2.40 persons to 2.60 persons. The growth in household size is estimated by an analysis of race, age and gender combinations in growing neighborhoods. These neighborhoods have more children per household; these children will increase the school population.

The overall rate of growth in the chart is mirrored by Lafayette Parish. However, Iberia and St. Martin Parishes have lower and flatter slopes. This graphic pattern means lower and slower growth rates. The remaining portions of adjoining parishes are very low and flat in growth rates. In terms of distribution, the urban core is losing households while surrounding areas are gaining households. Population density remains steady in the urban core and extending southward and northward in 2040.

PARISH			GROV	VTH RATE		
	2010	2020	2030	2040	NUMBER	PERCENT(%)
Acadia	1,052	1,329	1,626	1,928	876	83
Iberia	24,394	26,384	28,371	30,115	5,721	23
Lafayette	93,621	105,448	115,544	124,163	30,542	33
St Landry	3,255	3,788	4,362	4,971	1,716	53
St Martin	16,488	18,482	20,496	22,351	5,863	36
Vermilion	1,904	2,378	2,906	3,463	1,559	82
TOTAL	140,714	157,809	173,305	186,991	46,277	33
AVG HU SIZE	2.40	2.47	2.50	2.60	0.20	

Table 5: Acadiana MPO Housing Unit (HU) Count in 2010 and Estimates by Ten Year Intervals

Housing Unit (HU) Count in 2010 and Estimates by Ten Year Intervals

Acadiana Metropolitan Planning Organization


Chart 4: Acadiana MPO Housing Unit (HU) Count in 2010 and Estimates by Ten Year Intervals

MPO Employment by Parish

As shown in Table 6 and Chart 5, the number of workers is estimated to increase by 54% in the parish of Lafayette with a household increase of 33% during the same period. Beyond being the most populous, Lafayette Parish has the highest number of workers. The relative increase of workers to the number of households indicates that the number of workers per household is increasing. The relative increase means that more adult, two wage earner households are anticipated to reside in the area or additional workers are commuting into the area for work.

A comparison of the dramatic rate of change in the number of workers is shown in the steepness of curve slope for total employment and Lafayette Parish Employment. The data analysis shows that workers are concentrated in the core of Lafayette Parish. The distribution of employment is the reverse of residential pattern. Workers work in the center of the planning area. Residential households are distributed in the outlying areas around the employment center.

Acadiana Metropolitan Planning Organization Worker Count in 2010 and Estimates by Ten Year Intervals							
PARISH	YEAR					GROWTH RATE	
	2010	2020	2030	2040	NUMBER	PERCENT (%)	
Acadia	447	582	659	748	301	67	
Iberia	27,173	31,900	35,475	39,597	12,424	46	
Lafayette	123,761	151,803	169,811	190,681	66,920	54	
St Landry	1,358	1,698	1,944	2,252	894	66	
St Martin	13,610	16,359	18,537	21,196	7,586	56	
Vermilion	860	1,156	1,316	1,511	651	76	
TOTAL	167,209	203,498	227,743	255,986	88,777	53	
AVG WORKER/HU	1.19	1.29	1.31	1.37	0.18	15.2	

Table 6: Acadiana MPO Worker Count in 2010 and Estimates by Ten Year Intervals



Chart 5: Acadiana MPO Worker Count in 2010 and Estimates by Ten Year Intervals

MPO School Age Attendance by Parish

As shown on Table 7 and Chart 6, there are more student populations in the outlying areas than in the urban core. The number of students in these outlying areas is indicative of an out migration from the urban core to suburban neighborhoods. In addition, these suburban families have larger family sizes than those in the center of the city.

Acadiana Metropolitan Planning Organization School Age Attendance Count in 2010 and Estimates by Ten Year Intervals						
PARISH	YEAR			GROWTH RATE		
	2010	2020	2030	2040	NUMBER	PERCENT
Acadia	533	586	727	1,000	467	88
Iberia	14,101	14,663	17,483	20,207	6,106	43
Lafayette	61,843	67,009	75,038	84,981	23,138	37
St Landry	1,968	2,421	2,950	3,603	1,635	83
St Martin	9,059	10,268	11,839	14,179	5,120	57
Vermilion	1,353	1,626	1,789	2,598	1,245	92
TOTAL	88,857	96,573	109,825	126,568	37,711	42
STUDENT/ HU	1.58	1.63	1.58	1.48		

Table 7: Acadiana MPO School Age Attendance Count in 2010 and Estimates by Ten Year Intervals





Daily Flow and Delay

The map below shows how the distribution of population utilizes the transportation network creating daily flows of traffic. Traffic delay s are characterized by slower speeds, longer trip times, and increased queuing. Each of these criteria are the indicators of traffic demand that is greater than the available capacity of the road network. These conditions are exacerbated by various land use and infrastructure investment decisions that do not promote the most efficient use of the transportation network. Delay is calculated by determining the difference between the estimated travel time under actual (often congested) conditions and under uncongested conditions.



Map 4: Acadiana MPO Planning Area 2010-2040 Circles with a Radius of One Mile (Persons per Square Mile)

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Daily traffic flow and delay is illustrated by the five maps on the following pages, with largest map illustrating the number of daily trips. Roadways are mapped using lines that trend from red to blue. The least number of trips are shown in red while the most number of trips are shown in blue. The blue roads are ones which drivers take from the outlying red road areas into the center of Lafayette Parish. These outlying areas are growth areas, which have growing populations. The center of the parish has declining populations, but more employment. Trips to and from work and home explain the pattern. The four smaller maps depict delay. The bluer the area, the more delay while orange areas have less delay. Yellow and green are midway between these two extremes.

The current 2010 map shows significant delay along the eastern portions of Interstate 10. The 2020 maps shows slightly less delay in the same area along eastern Interstate 10. However, delay is building toward Duson on the western end of Interstate 10 and along Interstate 49 from Carencro northward.

By 2030, we see an increase in delay of these previous areas, but also toward the south along US Highway 90 near northwest of New Iberia. In 2040, all of these blue area intensity indicating widespread delay along major roadway traveling from outlying areas into Lafayette Parish. This pattern reinforces the view that these outlying areas are growth areas, with populations traveling into the center of Lafayette Parish and residing in outlying areas.

Map 5: Acadiana MPO Daily Flow 2010



Daily Flow 2010 - Total Trips per Link



Map 6: Acadiana MPO Hours of Delay per Square Mile - 2010-2040

Acadiana MPO MTP 2040



CHAPTER 4: STREETS AND HIGHWAYS

Introduction

Streets and highways are the backbone of the Acadiana MPO transportation system. Over 95% of trips generated in the area are vehicle based trips that utilize the streets and highway network to navigate the community. This fits in with the largely low-density, suburban and agricultural development patterns that dominate the area. As such, the majority of the effort of analyzing the existing transportation network and developing new projects was focused on expanding and adding capacity to the surface transportation roadway network.

Federal and State Highways

Several Federal and State highways serve the study area. These facilities constitute the main network of roadways in the area. The most significant of the facilities are:

I-10 This freeway is one of the major interstate highways in the United States running from Los Angeles, California to Jacksonville, Florida. It traverses the Acadiana MPO Planning Area in an east-west direction. It connects the Acadiana MPO Planning Area with urban areas in south Louisiana and the southern United States, including Baton Rouge and New Orleans on the east and Lake Charles and Houston, Texas on the west. Access to and from Interstate 10 in the Lafayette area is provided by its interchanges at Austria Road, Apollo Road (LA 93), Ambassador Caffery Parkway (LA 3184), University Avenue (LA 182), Interstate 49/Evangeline Thruway (U.S 167), Louisiana Avenue, Rees Street (LA 328) and Grand Point Highway (LA 347).

I-49 This freeway runs in north-south direction from its interchange with I-10 in Lafayette to Alexandria and Shreveport, Louisiana on the north. It provides access to the northern area of the Acadiana MPO Planning Area with interchanges provided at Pont Des Mouton Rd, Gloria Switch Road (LA 98), Hector Conolly Road, North University Avenue (LA 182) and Napoleon Avenue (LA 182).

US 90 Prior to the construction of the Interstate Highway System, this Federal Highway was the major east/west route in the southern United States. It traverses the Study Area parallel to I-10 East and West of Lafayette through the southern Louisiana cities of Lake Charles, Crowley, New Iberia, Morgan City, Houma, and New Orleans. **US 167** This principle highway follows the Interstate 49 alignment, continues south along Evangeline Thruway, and then Johnston Street, which runs in a northeast-southwest direction through Lafayette Parish. US 167 (Johnston St), which borders the University of Louisiana at Lafayette on the north, continues to the southwest to Abbeville, Louisiana. On the north, U.S.167 connects Lafayette with the Louisiana cities of Opelousas, Alexandria, and Ruston, and continues north to the State of Arkansas.



State Highways: There are numerous state highways, which serve the Acadiana MPO Planning Area and carry relatively high volumes of traffic. The major state highways include:

- LA 182 (University Avenue),
- LA 3073 (Ambassador Caffery Parkway),
- LA 3184 (Bertrand Drive),
- LA 3025 (North/South College Road),
- LA 92 (E. Milton Avenue),
- LA 733 (E. Broussard Road),
- LA 728-3 (Surrey Street),
- LA 724 (Duhon Road),
- LA 674 (Admiral Doyle Drive),
- LA 339 (Verot School Road),
- LA 328 (Anse Broussard Highway),
- LA 98 (Gloria Switch Road),
- LA 94 (Simcoe Street),
- LA 93 (Ridge Road),
- LA 92 (Milton Avenue), and
- LA 31 (Main Highway).



Table 8: Acadiana MPO Roadway Network Mileage by Functional Class

ACADIANA METROPOLITAN PLANNING AREA ROADWAY NETWORK MILEAGE BY FUNCTIONAL CLASS						
Classification	Urban Miles	Percent Urban Miles	Rural Miles	Percent Ru- ral Miles	Total Miles	Percent Total Miles
Freeway	77.42	12.4 %	3.70	1.7 %	81.12	9.6 %
Major Arterial	138.75	22.1 %	31.56	14.6 %	170.31	20.3 %
Minor Arterial	175.35	28.0 %	14.66	6.8 %	190.01	22.5 %
Collector	234.75	37.5 %	166.74	76.9 %	401.49	47.6 %
Total	626.27	100 %	216.66	100 %	842.93	100 %

Existing Street and Highway Functional Classifications

The street and highway network developed for the project was based on the functional classification system prepared by the Louisiana Department of Transportation and Development. The components of this network are freeways, major arterials, minor arterials, and collectors. The distribution of mileage in these categories is shown in the table Roadway Network Mileage by Functional Class.

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 to be served by the facility.

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 standard urban arterial streets.

Expressways This type of facility provides for movement of large volumes of traffic at relatively high speed, and is primarily intended to serve long trips. Expressways have some grade-separated intersections while the majority of the intersections are widely spaced and may be signalized.

Arterials Arterial streets are important components of the total transportation system. They serve both as feeders to freeways, and as principal travel ways between major land use concentrations within the study area. Arterials are typically divided facilities with raised or flush medians (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 This type of facility provides 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 intended sole function of a local street is to provide access to immediately adjacent land. Within the local street classification, three subclasses are established to indicate the type of area served: residential, industrial, and commercial. These streets are not included in the TransCAD modeling network.

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Map 7: Acadiana MPO Highway Functional Classification



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Existing Traffic Volume

Traffic volume, as indicated by traffic counts at various locations on the street system, is indicative of current travel patterns and how well the system is serving the travel demand. LA DOTD and local jurisdictions regularly conduct traffic counts. This traffic count data, which is periodically collected by local jurisdictions and DOTD along with special counts at certain locations (e.g., external stations), provides a basis for determining the overall travel patterns in the study area. There were approximately 340 traffic counts locations for this model update. All traffic count information can be requested through the MPO.





The roadway segment with the highest traffic volume, Pinhook Rd. (LA 182) at the Vermilion River bridge crossing, carries 68,000 vehicles per day. The Evangeline Thruway (US 90) is the next highest, carrying around 60,000 ADT.

The highest traffic volumes are on the interstates of I-49 and I-10 in the northern part of the Study Area where ADT ranges from 50,000-75,000 vehicles per day.

Other areas of significant traffic volume are on Johnston St. (US 167), which runs in a north-south direction (54,310 ADT), Johnston in a northeast-southwest direction (45,000 ADT), Ambassador Caffery Pkwy (45,000 ADT), Verot School Rd (23,592 ADT), East University (27,000 ADT), Kaliste Saloom Rd (33,684 ADT) and US 90 (22,943 ADT). Table 9: Average Daily Traffic on Vermilion River Crossings

AVERAGE DAILY TRAFFIC					
ON VERMILION RIVER CROSSINGS					
Route	Traffic Volumes				
I-10	35,000 ADT				
Carmel Dr LA 94	13,437 ADT				
Lake Martin Rd LA 353	9,940 ADT				
Surrey St	11,402 ADT				
Evangeline Thwy US 90	53,000 ADT				
Pinhook Rd LA 182	67,713 ADT				
Amb Caffery Pkwy	46,593 ADT				
E. Broussard Rd LA 733	20,630 ADT				
Milton Ave LA 92	13,781 ADT				
Camellia Blvd	37,130 ADT				

Roadway Capacity

The primary factor used in evaluating transportation plan alternatives is the adequacy of the network in accommodating future travel demands and satisfying projected facility deficiencies. Year 2040 traffic forecasts, derived from the travel demand model developed as part of this study, will be assigned to alternative transportation networks. These future travel demands will be compared to the capacity of the roadways and associated levels of service to identify areas of deficiencies.

Roadway capacity is generally defined as the ability of a street or highway to accommodate traffic for a specific period of time; typically during a peak hour of travel. Generalized values or 24-hour traffic volumes also are utilized to measure the anticipated congestion and delay of motorists. The main determinant of street capacity is the number and width of travel lanes. However, other factors

such as on-street parking, area type (e.g., CBD, commercial, industrial), vehicle mix, traffic signal operation, and speed can also have major influences on roadway capacity.

For this study, generalized capacity ranges were developed for the various roadway types based on travel lanes and functional classification as defined by the Highway Capacity Manual (HCM).





Model Overview

The Acadiana MPO Travel Demand Model is based upon the conventional trip-based four- step modeling approach. For purposes of the Acadiana Model, Mode Choice has been subtracted as a step due to it being negligible, as defined as less than 1% of all daily trips.

The main model components fall within the following categories:

Trip Generation – The process of estimating trip productions and attractions at each TAZ.Trip Distribution - The process of linking trip productions to trip attractions for each TAZ pair.Trip Assignment – The process of assigning auto and truck trips onto specific highway facilities in the region.

Existing Plus Committed (E + C) Network

The base year network was defined as the street and highway system in the year 2010. Once the base year travel demand model was calibrated and validated, the E+C network was developed by compiling a list of committed projects. Committed projects were those improvements for which construction was either completed or begun since 2010, a contract for construction has been awarded, or projects for which funding has been dedicated such as through legislative approval of the proposed construction program.

Table 10: Existing + Committed Network

PROJECT	LOCATION	DESCRIPTION
Duhon Rd Widening	Rue Du Belier to Johnston St	Road Widening
Dulles Dr Extension	Ambassador Caffery Pkwy to Westgate Rd	Road Widening
Louisiana Ave Extension Phase II-D	Maryview Rd to Gloria Switch Rd	New Construction
N Antoine St Extension	Acadian Hills Ln to Pont Des Mouton Rd	New Construction
Verot School Rd Widening	Vincent Rd to Pinhook Rd	New Construction
U.S. 90 Widening	Pinhook Rd to Albertson Pkwy	Road Widening
Chemin Metairie Pkwy Phase II	Guillot Rd to U.S. 90	New Construction
Apollo Rd Extension	Apollo Rd to Dulles & Rue Du Belier Intersection	New Construction
Kaliste Saloom Widening	Ambassador Caffery Pkwy to E. Broussard Rd	Road Widening
N University Ave Widening	Renaud Dr to Pont Des Mouton Rd	Road Widening
Fairfield Extension	Western Terminus to Youngsville Hwy & Fortune Rd	New Construction
Bernard Extension	Pinhook Rd to Fairfield Extension	New Construction
I-10 Widening	I-49 to Atchafalaya Basin Bridge	Road Widening
U.S. 90 Widening	Albertson Pkwy to Ambassador Caffery Pkwy	Road Widening
E Pont Des Mouton Rd Widening	Louisiana Ave to I-49	Road Widening
U.S. 90 Frontage Roads	Damall Rd to MPO Boundary	New Construction
U.S. 90 Intersection Improvements	W University Ave to Albertson Pkwy	Intersection Improvements

Map 8: Existing + Committed Network



Projected Deficiencies

It is recommended that those facilities which show a projected volume/capacity ratio of greater than 1.40, or in terms of Level of Service (LOS), any facilities which have a LOS of E and higher, should be considered deficient.

Major Corridors Forecasts to be Deficient by the Year 2020

- Ambassador Caffery Pkwy. (LA 3184) at I-10 Overpass
- St. Mary St. from Delhomme Ave. to Cameron St. (US 90)
- Rees St. (LA 328) at I-10 Underpass
- Henderson Hwy. (LA 352) from Nina Hwy. to Grand Point Hwy. (LA 347)
- Grand Point Hwy. (LA 347) at I-10 Underpass
- Napoleon Avenue (US 93) from Pershing Hwy. (LA 178) to Duffy Ave. (LA 93)
- Evangeline Thruway (US 90) from E. University Ave. (LA 182) to E. Kaliste Saloom Rd.
- Pinhook Rd. (LA 182) from South College Rd. to E. Bayou Pkwy.
- Ambassador Caffery Pkwy. (LA 3073) from Ridge Rd. (LA 93) to Johnston St. (US 167)
- Ambassador Caffery (LA 3073) from Broadmoor Blvd. to Settler's Trace Blvd.
- Evangeline Thruway (US 90) from Verot School Rd. (LA 339) to Garber Rd.
- Fairfield/St. Etienne at Ambassador Caffery Pkwy. (LA 3073) Intersection
- Evangeline Thruway (US 90) from Ambassador Caffery Pkwy. (LA 3073) To Coteau interchange (LA 88)
- Old Spanish Trail S. (LA 182) from Terrace Hwy. (LA 96) to Kiper Rd. (LA 3212)
- Jefferson Island Rd. (LA 675) from US 90 to W. Admiral Doyle Dr. (LA 674)
- Evangeline Thruway (US 90) from Johnston St. /Louisiana Ave. (US 167) to University Ave. (LA 182)
- Evangeline Thruway (US 90) from Verot School Rd. (LA 339) to Southpark Rd. (LA 89)
- Bendel Rd. From Coolidge St. to Pinhook Rd. (LA 182)





Major Corridors Forecast to be Deficient by the Year 2030

- Grand Point Hwy. (LA 347) from Bordelon Rd. to Melvin Dupuis Rd.
- University Ave. (LA 182) from I-49 to Bellemin St. (LA 760)
- St. Mary St. (LA 93) at I-10 Overpass
- Evangeline Thruway (US 167) from Castille Ave. to I-10
- Carmel Dr. (LA 94) from E. Pinhook Rd. to Lake Martin Rd. (LA 353)
- Ambassador Caffery Pkwy. (LA 3073) from Congress St. to Ridge Rd .(LA 342)

Major Corridors Forecast to be Deficient by the Year 2040

- Ambassador Caffery Pkwy. (LA 3184) from Willow St. to Bertrand Dr. (LA 3025)
- Apollo Rd. (LA 3168) from St. Mary St. to Old Spanish Trl.
- I-49 from Napoleon Ave. (LA 182) to South of I-10
- Napoleon Ave. (LA 182) from Deanne Hwy. (LA 754) to Duffy Ave. (LA 93)
- Sunset Strip (LA 93) from Mouton Rd. to Churchill St.
- Cameron St. (US 90) from Eraste Landry Rd. to University Ave. (LA 182)
- University Ave. (LA 182) from Walker Rd. to Cameron St. (US 90)
- Pinhook Rd. (LA 182) from Verot School Rd. (LA 339) to S. Bernard Rd.
- Youngsville Hwy. (LA 89) from Pinhook Rd. (LA 182) to Albertson Pkwy.
- Ambassador Caffery Pkwy. (LA 3073) from Verot School Rd. (LA 339) to Chemin Metairie Pkwy.
- Failla Rd. from La Neuville Rd. to Verot School Rd. (LA 339)
- Milton Ave. (LA 92) from Kirk Rd. to Gallet Rd.
- Larriviere Rd. from W. Fairfield Dr. to Chemin Metairie Pkwy.
- Bonin Rd. from Albertson Pkwy. to Tolson Rd.
- Grand Point Hwy. (LA 347) from Doyle Melancon Rd. to Bordelon Rd.
- Resweber Hwy. (LA 347) from Bridge St. (LA 350) to St. John Field Rd.
- Main Hwy. (LA 31) from Bridge St. (LA 350) to Cypress Island Hwy. (353)



CHAPTER 5: PUBLIC TRANSPORTATION

Introduction

There are several public transit options available in the Acadiana Metropolitan Planning Organization area. The transportation services that are available differ by the local jurisdiction. In the City of Lafayette, Lafayette Transit System operates fixed routes with marked stops that operate on regular schedules from 5:45am until 10:20pm, Monday through Saturday. Throughout the Acadiana MPO area, there is also demand response paratransit operating Monday through Friday. Depending on the agency that operates the service, users may be required to establish eligibility for rides through an application process with a social service program. The MPO area is also served by passenger rail, bus, and air service.

Lafayette Transit System

The Lafayette Transit System (LTS) consists of 12 routes which operate solely with the City of Lafayette. Buses are scheduled to converge simultaneously at the Rosa Parks Transportation Center every half hour or hour, depending on the frequency of the route, so that passengers may conveniently transfer from one route to another to reach their final destination. The Rosa Parks hub provides a safe environment that is protected from the elements. After 6:30pm, evening routes operate on a reduced schedule and serve many night shift workers who are on their way to work. These same riders take the bus home when service resumes before sunrise.

Rosa Parks Transportation Center also offers inter-city transportation provided by Amtrak and Greyhound steps away from the bays where LTS buses stop. LTS also offers fixed route, fixed schedule shuttle service to the public on a contracted basis for special events such as Festival International, Festivals Acadiens et Créoles, and the Louisiana Gulf Coast Oil Exposition (LAGCOE). LTS carries 1.3 million passengers per year and is primarily funded through the federal 5307 grant program and local money from the Lafayette Consolidated Government general fund.



Map 9: LTS Service Map



Demand Response Services

There are 16 paratransit operators in the Acadiana Metropolitan Planning Organization area that serve primarily seniors and people with disabilities within a specific parish. In most cases, riders must be screened for eligibility and have their name and contact information on a roster. Paratransit users phone their local transportation agency in advance to request a pickup and drop for the specific time and place they need to travel, hence the name "demand response" service. This form of transportation is currently offered only on weekdays, typically between 7 or 8 o'clock in the morning until mid-afternoon. Some service providers operate through programs that are applicable to specific groups such as seniors, disabled individuals, and low income individuals. These programs are primarily funded by 5310 and 5307 grants.



University Transit

The University of Louisiana at Lafayette operates approximately eight peak period buses during fall and spring semesters. Two buses provide summer semester service. University shuttles connect the main student parking area by the football stadium with the main campus, a journey of two miles. Annual ridership is 980,000 passenger boardings.

Taxi and Subscription Services

The Acadiana MPO has taxi cab services through the Dixie Cab Company. Uber offers rides to subscribers with a pre-approved credit card account through a smart phone application. Both services operate 24 hours per day, every day of the year.

Regional Passenger Bus

Regularly scheduled inter-city passenger bus service through the Acadiana MPO area is provided by Greyhound. Coast-to-Coast service following Interstate 10 between Houston and New Orleans stops in Lafayette. Another route connects Baton Rouge with Alexandria and Shreveport, via Lafayette and Opelousas. Greyhound coaches leave from the same transit island as Lafayette Transit System buses at the Rosa Parks Multi-Modal Transportation Center. The Rosa Parks Transportation Center provides an enclosed waiting area with a restroom for patrons of the Amtrak and Greyhound services.







Passenger Air

Passenger Rail

The Acadiana MPO has two passenger rail stops on the Amtrak Sunset Limited service between New Orleans and Los Angeles that features sleeper compartments. Trains make stops in New Iberia and in Lafayette at the Rosa Parks Transportation Center. The Sunset Limited operates three days a week in each direction, arriving and departing during convenient daylight hours.

Lafayette Regional Airport (LFT) is the only airport in the Acadiana MPO area that provides commercial passenger air transportation. It is located in Lafayette adjacent to US 90. It is served by three airlines that provide connections at hub airports to virtually all national and international destinations. American flies to Dallas / Fort Worth (DFW), Delta flies to Atlanta (ATL), and United flies to Houston Bush (IAH). In 2014, LFT served 501,101 departing passengers. A one percent sales tax was collected for eight months in 2015 to fund construction of a new passenger terminal. LFT is also the regional air cargo depot for UPS and Federal Express.

The Acadiana Regional Airport in New Iberia is currently primarily an oilfield services airport, but the administration recently built a new terminal with the goal of attracting commercial passenger service by Fall of 2016.



CHAPTER 6: BIKE AND PEDESTRIAN PLANNING

Introduction

Alternative transportation is growing in popularity as a modal choice within the United States, as the population chooses to integrate active transportation into their daily lives. Planning for nonmotorized users is a challenge under the current transportation planning paradigm, and cyclists and pedestrians are among the most vulnerable users in the transportation system when it comes to safety. The Acadiana MPO has been working hard to integrate these users in a safe and fair manner, including the adoption of a Complete Streets Policy in 2014.

Bike Planning in the MPO Area

The MPO has been actively developing new bike facilities in the MPO area. The MPO has received several federal Recreational Trails grants that have been used to fund several miles of bike trails and shared roadway markers. In addition to the MPO's direct efforts, other governmental entities such as the University of Louisiana at Lafayette and Lafayette Consolidated Government have received Transportation Alternatives Program funding to build their own bike paths and lanes.

The MPO has also worked with the Bikeway Subcommittee for over two years to develop the 2040 Acadiana MPO Bike Plan. The plan lays out over 200 potential bike projects in the Acadiana MPO area, ranging from urban shared roadways to rural bike path connectors.

Bike facilities are also considered during the initial project phases. The MPO and LA-DOTD Complete Streets policies demand that planners evaluate new roadway projects based on accessibility of all roadway users. The LA-DOTD also analyze crash data on all projects, from overlays to new capacity, and traffic engineers will identify any cyclist safety issues that can be fixed in the design stage.



Credit: BR Advocate

New and Existing Facilities and Routes

In the past ten years, cycling facilities have boomed in the Acadiana MPO area. In some jurisdictions in the MPO, such as Lafayette, cyclists are allowed to use sidewalks as bike paths. This has allowed more flexibility for cyclists in the community.

As a part of a Blue Cross/Blue Shield grant through the local Kiwanis organization, the MPO has assisted in counting and analyzing cyclists in Lafayette's inner core.

The Atakapas-Ishak Trail consists of a mix of shared roadways, dedicated bike lanes, bike trails, and shared sidewalks. The trail connects downtown Lafayette to the Jean Lafitte Acadian Center. It was funded through the federal Recreational Trails program. The project utilized existing infrastructure as well as new to create a new recreational bike trail for the community. Community enhancement features such as decorative neighborhood signs and trailheads that double as bus shelters were complimentary aspects of the project.





In addition to the Atakapas-Ishak Trail, the MPO has also utilized the Recreational Trails program to fund the Urban Bikeways project. This project funding was used to create bike lanes linking downtown Lafayette to the University of Louisiana at Lafayette and to create a bike lane linking a south Lafayette high school to a major arterial.



Other jurisdictions in the area are funding or using grants to develop their own bike infrastructure programs. In 2014, the University of Louisiana at Lafayette created two protected bike lanes on the main roadway of the campus as part of the university's master plan. The University also hosts an existing two mile path along Cajundome Boulevard that links the main campus to the University Commons area that was funded through the Transportation Alternatives Program.

Lafayette Consolidated Government's Comprehensive Plan <u>Plan Lafayette</u> has identified bicycle infrastructure as a major community priority. The LCG Public Works Department has integrated bike lanes into several re-striping projects, such as West Bayou Parkway/Mickey Shunick Memorial route.



Credit: The Independent



Concerns for cyclists' safety on rural roadway in Acadiana prompted the NE Lafayette/St. Landry Parish Bicycle Awareness Signage Project. The project was funded privately through local cycling advocates and Rotary Club North. The project primarily consisted of bicycle warning signs and Share the Road signs placed on rural roadways popular with cyclists. The signs were installed by the LA-DOTD.



Planning for Future Bike Facilities and Routes

The MPO has developed the 2040 Bikeway Plan with the hard work and commitment from the MPO Bikeway Subcomittee. The committee spent over two years evaluating the MPO's roadway system for potential projects. The result is a comprehensive network of bike lanes, paths, and shared roads to facilitate active transportation throughout the Acadiana region.

The MPO has prioritized bicycle projects in the Urban Systems/Transportation Improvement Program project selection process. MPO jurisdictions can submit and receive priority funding for cycling projects in their area. The City of Youngsville has utilized this funding source to program the striping of bike lanes on Chemin Metairie.

Competitive federal grants are among the most reliable funding sources for active transportation projects. In the MPO area, this funding source has primarily come from the Recreational Trails program administered by the Louisiana Department of Culture, Recreation, and Tourism. The Transportation Alternatives Program administered by the MPO and the LA-DOTD is another source of potential cycling infrastructure funding.


Map 11: 2040 Bike Plan



Pedestrian Planning in the MPO Area

Most of the pedestrian planning in the area was done under the previous MPO boundaries, which expanded in 2013. In 2009, the MPO adopted the 2035 Pedestrian Plan. The plan is primarily a policy document to guide program initiatives for the development of new sidewalks. The MPO approached sidewalk development different in 2011, when the MPO adopted the Cost Feasible Pedestrian Plan. This plan utilized the sidewalk analysis matrix in 2035 Pedestrian Plan to map out priority sidewalk projects along with the estimated costs, focusing on the urban core. The plan included some "shovel-ready" sidewalk projects that had been identified by the LCG Public Works Department.



Map 12: Cost Feasible Pedestrian Plan

New and Existing Pedestrian Infrastructure

The majority of existing pedestrian infrastructure in the Acadiana MPO area is in the urban cores and the older sections of the small towns in the planning are boundary. There is a distinct lack of sidewalks along many of the urban major and minor arterials, including many arterials that have commercial properties adjacent to dense residential development. This prevents many trips that could be made via walking , a consequence that results in increased traffic congestion in the surrounding areas. Increasing modal split towards pedestrians allows for improved utilization of the roadway network.

The MPO has facilitated the development of sidewalk linkages, primarily through the creation of the multi-use Atakapas-Ishak Trail. Phase 2 of the Trail included the construction of a new multi-use pathway linking two parks. The LA-DOTD aided this project by building a sidewalk and pedestrian underpass below US 90.





The University of Louisiana at Lafayette built a two mile multiuse path linking the university's main campus to it's University Commons area. Construction of the path was funded by the federal Transportation Alternatives Program from LA-DOTD, and it was designed by architecture students at the university.







Planning for Future Pedestrian Infrastructure

The Acadiana MPO has several pedestrian projects in the development stage. Sidewalks are prioritized in the Transportation Improvement Program selection process for Urban Systems funding. The town of Loreauville is planning sidewalks to improve pedestrian access to schools, churches, and parks. These projects are currently under the design stage.

Other sidewalk projects in the MPO area are being designed and built using competitive federal funds. These projects include four Safe Routes to School projects, scheduled to be bid for construction in 2016. The projects are located adjacent to elementary schools in Lafayette, Scott, Youngsville, and the Duson. LCG has sponsored two projects programmed to be funded through the Transportation Alternatives Program. A sidewalk will be constructed on one side of North University Avenue, and Bertrand Drive is incorporating sidewalks into a larger streetscape and road diet project. LCG also includes occasionally provides funding from its own revenue streams for new sidewalk construction projects.

The University of Louisiana at Lafayette has plans to extend their University Commons multi-use trail south of Johnston Street to create a direct linkage to the heart of campus and allow access to the trail from the student on-campus housing facilities. This project includes constructing a bike/ped bridge over a waterway. This project is being funded by the Federal Transit Administration.



CHAPTER 7: TRANSPORTATION SAFETY

Introduction

Transportation safety is one of the major public health issues of the current time. Death from motor vehicle crashes is the frequently the most common cause of accidental death in the United States. Costs incurred from motor vehicle crashes in 2014 in Louisiana was a total of \$8.12 billion or an average of \$2,762 for every licensed driver. Crashes affect every mode of travel, from motor vehicles to cyclists and pedestrians. Reducing the number of crashes on the roadways and mitigating the effects of crashes is one of the headline duties of an MPO.



Louisiana Strategic Highway Safety Plan

In response to the federal mandate on lowering the number of fatal and serious injuries on the nation's roadways, the LA-DOTD developed the Louisiana Strategic Highway Safety Plan in partnership with Cambridge Systematics. The vision of the plan is to eventually reach zero vehicle related fatalities, so Louisiana's safety initiatives are branded "Destination Zero Deaths". The plan adopts American Association of State Highway and Transportation Officials' long term of benchmark of halving fatalities by 2030.



Louisiana Regional Safety Coalitions



Coalitions are viewed as an effective way of building broad support among all members of the transportation safety community, from law enforcement, educators, engineers, and other community partners. The Acadiana transportation safety coordinator manages public information campaigns, promotes external organization working in transportation safety, and facilitates transportation infrastructure projects in the area. The MPO provides support to the coalition by hosting the coordinator and providing data analysis for transportation projects. The data analysis has been used to justify several transportation projects in the region, such as roundabouts, high friction surface treatment, and access management. It has also been utilized in safety campaigns to target demographics of individuals involved in the crashes and specific actions identified in the crash reports that were leading to the collisions.

Acadiana Regional Transportation Safety Coalition (ARTSC)

As part of the Louisiana Strategic Highway Safety Plan, the Acadiana MPO created the Acadiana Regional Transportation Safety Coalition to promote and fund transportation safety efforts in the LA-DOTD District 03/LA State Police Troop I region. Community traffic safety coalitions have been promoted by the National Highway Safety Institute since the 1990s.



Chart 7: Motor Vehicle Fatality Type by Region



Acadiana MPO Safety Plan

The guiding document for the Acadiana Regional Transportation Safety Coalition is the Acadiana Regional Transportation Safety Plan. The plan follows similar goals and strategies as the statewide Louisiana Strategic Highway Safety Plan, with data and priorities targeted to the Acadiana region.



The plan has a similar benchmark to the state plan to halve fatalities and serious injuries by 2030.The plan is supported and implemented by the members of the ARTSC, and the progress of the plan is reviewed at the meetings of the coalition.

It outlines four emphasis areas and the steps, action leaders, performance measures, timeline, and budget for achieving the targeted crash reductions.

The four emphasis areas are:





Occupant Protection

Despite reaching an all time low in 2012, unrestrained fatal and serious injury crashes continue to be a serious issue in the Acadiana region. The Occupant Protection Emphasis Area has tasks that reach across all major population groups in the region, from children in car seats to teens to older drivers who began their driving careers prior to the 1995 seatbelt enforcement legislation.

The Occupant Protection tasks are divided among various members of the coalition. Enforcement members hold checkpoints and install car seats. The Southwest Louisiana Area Health Education Center and Sudden Impact promote occupant protection in high schools and other educational settings. The Safety Coordinator manages safety campaigns to encourage proper use of vehicle restraints.



Infrastructure and Operations

Data analysis of Louisiana's crashes has shown that the highest area of concern of the roadway safety infrastructure is crashes at intersections and crashes classified as roadway departure. LA-DOTD has approximately 40 millions dollars in annual funding dedicated to improving safety on the state's roadways. The MPO has dedicated tasks to identifying high crash locations and locations that share characteristics with high crash locations through the District 03/Troop I area. Using that analysis, the ARTSC programs projects through DOTD and the Louisiana Technical Assistance Program to mitigate reduce the number of crashes at those locations.



The Infrastructure Emphasis Area also has tasks dedicated to improving safety for pedestrians and cyclists through improved roadway infrastructure for those modes of transportation. Pedestrians and cyclists have higher fatality and serious injury rates than motorists when involved in crashes with motor vehicles. Louisiana is a pedestrian and cyclist safety focus state for the Federal Highway Administration.

Crashes Involving Young Drivers

Young drivers are overrepresented in fatal crashes in the area. In Acadiana, young drivers (15 to 24 years old) accounted for 34 percent of fatalities, but only 14.5 percent of licensed drivers. ARTSC members are working to reach those youth, through programs such as Sudden Impact and "SNAP" (Social Norming for Alcohol Prevention) and with the University of Louisiana at Lafayette.

Sudden Impact program in Acadiana is offered by the Regional Medical Center of Acadiana and Women's & Children's Hospital. In conjunction with the Louisiana State Police, this seven-hour program is designed to teach high school students the consequences of driving while impaired. Participants receive information on laws, decision making, communication and impairment.





Project SNAP tackles the causal factors of alcohol use and abuse by youth 12-18 years old by implementing a social norms campaign. In this program, youth may believe that most of their peers drink and drive, when in reality, only a small percentage do. SNAP changes the youth's perception about alcohol use and abuse and this change in perception is bringing about change in their behavior.



Impaired Driving

Another crash type in Acadiana that is overrepresented in the data is crashes attributed to impairment from alcohol or other drug use. Alcohol-related impairment was only exceeded by roadway departure as the leading cause of motor vehicle fatalities in the Acadiana region. Several organizations have taken on the task of educating the public on the dangers of impaired driving .

On the enforcement side, the Lafayette Police Department implemented a "No Refusal" program to obtain a judge's order to draw blood from suspected impaired drivers. This blocks drivers from avoiding a Driving Under the Influence arrest by refusing to give a breathalyzer sample. The Knowledge Effect, a coalition to prevent substance abuse hosted by the Lafayette Police Department, is assisting in publicizing the program in order to warn drivers not to attempt to drive intoxicated by showcasing that there is no way to avoid a DUI.

Youth are a major demographic for influencing the importance of sober driving. Project SNAP's primary focus is showing teens that "not everyone is doing it" and encouraging them to develop their own safety campaigns. The Knowledge Effect is working to limit entry into bars and nightclubs by underage adults in order to reduce the number of underage impaired drivers involved in crashes.

Bike/Pedestrian Safety Campaign

In 2014, the MPO received approximately \$400,000 in Highway Safety Improvement funding to initiate a bike and pedestrian safety campaign. The campaign was titled "The Movement" and the tagline was, "Let's Look Out for One Another." The MPO staff analyzed motor vehicle crashes involving cyclists and pedestrians to systemically target the behaviors of operators of all three modes to reduce the number of collisions. The media consultant took the top three causes of crashes for each mode and developed a radio, tv, newspaper, and billboard campaign around these causes. The consultant also produced a Responsibility Card that listed the top crash behaviors by mode, and the brochure has been distributed to many community organizations, high schools, and university students. In 2015, the MPO shared the materials from the campaign with the University of Delaware's safety office for use on the campus.







CHAPTER 8: TRAVEL DEMAND MANAGEMENT

Introduction

Travel Demand Management is the application of strategies to redistribute or reduce the demand on the roadways, primarily through the reduction and redirection of single occupancy vehicle trips in space or time. This is achieved by analyzing trips by mode and congested peak hour time periods, and proposing and implementing programs to redirect and redistribute that demand.

Journey to Work by Mode and Geographic Distribution

Trips to work are the most common vehicle trip in the transportation network, so how and when workers make this trip is an essential part of balancing network capacity in the MPO area. For the Acadiana area, the overwhelming majority of trips are made in non-carpooling vehicles. At 82%, the Acadiana Metro area has 6% more vehicles with lone drivers than the national mode split. However, the Acadiana area has 2% more vehicles choosing carpooling than the U.S. as a whole. Significantly fewer commuters use transit in the region than the nation, less than 0.5% compared to 5.2%. Given that fixed route transit service is relegated to City of Lafayette, this is not unexpected. Walking, bicycling, and working at home are about half of the national numbers.

Total:	214,281	Percentage		
Drove alone	176,605	82.42%		
Carpooled:	24,349	11.36%		
Bus or trolley bus	1,012	0.47%		
Bicycle	783	0.37%		
Walked	3,379	1.58%		
Taxicab, motorcycle, or other means	3,320	1.55%		
Worked at home	4,822	2.25%		

Table 11: 2009-2014 ACS Journey to Work Data for Acadiana Metro Area

The regional hub for the Acadiana MPO is Lafayette Parish. It has the majority of trips commuting in and holds the majority of trips commuting out.





Total into Lafayette Parish:

34,255 Commute Trips

Map 15: Commute Trips out of Lafayette Parish



Total out of Lafayette Parish:

10,132 Commute Trips

Programs to Lower Demand and Redistribute Trips

The MPO has worked to develop a variety of programs to lower demand on the roadways and redistribute trips to different modes. Staff plans to reach out to the community through visiting employers to educate about alternative work schedules and promoting travel demand information and trip planning through the MPO website.

ALTERNATIVE WORK SCHEDULE

MPO staff has worked to develop an alternative work schedule program for employers to utilize as a benefit to their employees and a benefit to the traffic congestion on area roadways. Alternative work schedules allow for employees to have greater flexibility in their work schedules, from starting times to eliminating work trips one to two days a week through a 4/10 or 9/9 work schedules.

REGIONAL TRANSIT PLAN

The MPO has received a grant from LA-DOTD to study and propose transit improvements in the Acadiana region.



VANPOOLS AND CARPOOLS

Carpools and vanpools are the second most common mode of journey to work in the MPO area. The MPO plans to dedicate a section of the website to transportation demand management programs and trip planning information on the website, including ways to find and use a carpool or vanpool.





CHAPTER 9: ENVIRONMENT

Introduction

Environmental forethought is a major aspect of transportation planning. Every federally funded project is required to consider or evaluate the impact of the project on the surrounding environment. The MPO is also responsible for managing the impact of mobile source emissions on ambient air quality in the MPO planning area. The federal Congestion Mitigation and Air Quality funds are frequently used by MPOs to reduce congestion and improve air quality for areas that do not meet the National Ambient Air Quality Standards for ozone, carbon monoxide, or particulate matter (nonattainment areas) and for former nonattainment areas that are now in compliance (maintenance areas).

The Acadiana Metropolitan Planning Area is currently in an attainment area and the MPO does not have to consider Mobile Source emissions as part of our Long Range Planning Process. And also that we anticipate staying in an attainment area based off of EPA Ozone Standards set forth on October 26, 2015.

Air Quality

The Acadiana MPO is involved in air quality improvement efforts, due to its federal responsibility for mitigating ozone formation that results from mobile sources or vehicles. Ground level ozone is created when VOCs and NOx are emitted from businesses, industries, and vehicles and the chemicals react with sunlight. The highest concentration of this ozone occurs on days with high temperatures and limited or no cloud cover. Ozone has been widely shown to cause health and respiratory problems, especially in children, people with existing lung conditions, people who are active outdoors, and older adults. Figure 3 shows the fluctuations in ground-level ozone for the Lafayette area. After spiking in the 80s, 90s, and 00s, levels of ozone formation have started a significant downtrend trend.



Chart 8: Lafayette Area Ozone Design Values, 8-Hour

Source: LA Department of Environmental Quality

In 2014, the MPO worked with Lafayette Consolidated Government to join the Ozone Advance Program to outline what steps the MPO and LCG are taking to reduce ozone formation in the Acadiana area. It involves many tasks outlined in the MPO's UPWP, including travel demand management, bike and pedestrian project programming, and transit planning.



Intelligent Transportation Systems

The federal government recognizes Intelligent Transportation Systems as a proven system for improving the environment. Through its Applications for the Environment: Real-Time Information Synthesis or AERIS, it has developed potential ITS emissions reductions programs such as the Eco-Signal Operations. It uses connected vehicle technologies to decrease fuel consumption and decrease air pollution by reducing idling, the number of stops, unnecessary accelerations and decelerations as well as improving traffic flow at signalized intersections.

While not as advanced as the federal initiative The MPO is funding a similar program with Urban Systems funds for the most congested section of its planning area in Lafayette Parish. The Adaptive Signal Control program, in conjunction with well engineered signal timing, could allow for an emissions reduction of up to 20%. \$3.2 million is dedicated to this effort and it is set to be Let in Fiscal year 2017. The project sets adaptive signal systems at approximately 50 locations on urban major and minor arterials.

ITS Regional Architecture

In 2014, the Acadiana MPO Policy Committee adopted the Lafayette Regional ITS Architecture. This document lays out the majority of the Management and Operations systems in the region. The plan was developed in coordination with LA-DOTD, the Lafayette Consolidated Government's Traffic Engineering Department, the Louisiana State Police - Troop I and the Acadiana MPO.

The plan lays out existing ITS infrastructure, deficits in the current system, and recommends new strategies for implementing Management and Operations programs. These include new Dynamic Message Signs, vehicle detection equipment, an improved Transportation Management Center, Transit Management Subsystems, and a new communications hub site at the I-49/I-10 interchange.



Map 21: ITS Deployment Plan Schematics

Source: Stantec





Bike and Pedestrian Plans and Infrastructure

Shifting vehicle trips to non-motorized transportation is one of the ways of lowering mobile source emissions in the 1990 Clean Air Act. The Acadiana MPO has worked with partners to develop several miles of cyclist and pedestrian infrastructure in the past ten years. It has also developed and promoted non-infrastructure programs such as "Bike to Work Day", Festi-Velo, and "Walk to School Day".

On the education side, the MPO has held trainings to teach potential cyclists how to ride on the roadways and endorsed a Safe Routes to School program to teach school children bike safety.



Alternative Fuel Program

Compressed Natural Gas (CNG) is the cleanest burning alternative transportation fuel available today. Partnering with the MPO to manage the program implementation, LCG has undertaken a major effort to provide CNG infrastructure and convert its own fleet to CNG vehicles. The city-parish government built and operates a fast-fill CNG fueling station that is open 24 hours a day and accepts transactions from both public and private CNG vehicles.







Through this program the city-parish has transacted over 100,000 GGE for its own uses and dispensed over 6,000 GGE for private vehicles in FY12-13. For the fleet conversion program, LCG has over 45 cars, trucks and vans converted for dedicated or bi-fuel CNG use. The transit program has 25 CNG transit buses in operations with another four on order.

Roundabouts

"When in Doubt, Roundabout" is a popular saying among traffic engineers, but the intersection configuration is the roadway improvement whose benefits never seem to end. In addition to creating a safer intersection configuration and reducing traffic congestion, roundabouts are also a proven countermeasure for improving air quality.

The Acadiana MPO has been one of the leaders in roundabout installation in the country. There are currently 15 roundabouts built in the parish, with more identified in the Transportation Improvement Program. One those locations, W Broussard and Duhon, is to be funded with Congestion Mitigation and Air Quality funding. LA-DOTD is supporting the effort to expand roundabouts by allocating funds for the MPO to study and initiate preliminary design plans for several other roundabout projects.

The MPO has an open project that allocates money to study 50 locations for the feasibility of a roundabout. 20 locations are in the process of being studied. At the conclusion of these studies, the MPO will have allocated \$10 million dollars to the construction of the approved locations.



BEFORE: LA 339 and LA 92

AFTER: LA 339 and LA 92







Source: www.cartracks.com Southern Pacific freight train at Mermentau Swing Bridge

CHAPTER 10: FREIGHT

Introduction

Facilitating the movement of goods and services for economic purposes is one of the most important aspects of the US transportation system. MPOs work to ensure that freight operators have a voice at the table when it comes to allocating transportation improvement funding.

New Legislation

On December 4th, 2015, President Obama signed the Fixing America's Surface Transportation (FAST) Act, the first stable federal transportation funding bill in ten years. The importance of this signing is that the FAST Act creates a National Highway Freight Program to provide financial assistance for projects of regional or national significance. This new bill represents a substantial shift in resources for freight related transportation projects, and MPOs must work to ensure that their planning documents reflect this change.

Existing Freight Conditions and Roadway Designations

The previous transportation bill, MAP-21, required the US DOT to define a Primary Freight Network of no greater in length that 27,000 miles. In the Acadiana MPO area, this network is primarily Interstate 10 and the Evangeline Thruway/I-49 Connector through the city of Lafayette. The I-49 connector project is an upgrading of at-grade arterial into a limited access interstate highway. This project is indicated in the regional transportation model to have a significant improvement on the movement of freight in the state of Louisiana. The MPO has a task item in the Unified Planning Work Program dedicated solely to the development of the I-49 Connector.



Map 16: Tier 1 Freight Corridors in Acadiana

Waterways handling > 10 Million Tons

---- Class 1 Railroads

Source: CDM Smith and LA DOTD

Freight Community: Outreach and Coordination

The freight community is represented on the Acadiana MPO's Technical Committee. As a representative of the freight community, the freight representative has assisted the MPO in reaching out to the freight community in the area. The MPO has held public meetings with the freight community to keep them informed of freight-related transportation projects and to solicit their input on current and future projects in the MPO area.

Multimodal

There is one NHS Intermodal Connector located in Lafayette, the Rosa Parks Transportation Center. The Center contains an Amtrak station, a Greyhound station, and the hub for the Lafayette Transit System. This allows for ease of access across modes of public transportation.

Land Use

The Acadiana MPO works extensively with local planning departments to coordination transportation and land use needs in their respective communities. Freight is an important aspect in this coordination, as land use is the primary determinate of traffic generation. The MPO catalogs current and future freight-related land use and assists in developing projects that facilitate potential new freight movements in the planning area.

Map 17: Tier 2 Freight Corridors in Acadiana



Air

There are two airports that service flight operations in the Acadiana MPO region, the Lafayette Regional Airport and the Acadiana Regional Airport. The Lafayette Airport is primarily a commercial airport with two air cargo operators, UPS and FedEx. The a enplaned 11 million pounds of cargo and deplaned 55 thousand pounds in 2014. The Acadiana Airport is a general aviation airport that assists in offshore oilfield operations.

Map 18: Tier 3 Freight Corridors in Acadiana

Water

The MPO area has navigable waterways in the area, though neither waterways are used for freight nor transportation related movements. Just outside of the planning area is the Port of Iberia, a small port that primarily services offshore oilfield operations.



Source: CDM Smith and LA DOTD

Rail

The Acadiana MPO has one Class 1 rail freight operator, a line jointly owned by BNSF and Union Pacific. In addition to carrying significant amount of freight, this line also services the Amtrak Sunset Limited. BSNF also has a Class 1 traditional carload switching yard in Lafayette. The line follows the US 90 corridor from the west to south into New Iberia and operates at a high level of service, moving between 5 to 10 million tons of freight a year.

The Louisiana Delta Railroad operates two Class III short line operators also service small agricultural operations in the region and the Port of Iberia.



Map 19: Freight Railroad Lines in Acadiana

Source: CDM Smith and LA DOTD

I-49

The upgrading of the US 90 corridor to I-49 is the project with the greatest improvement on traffic congestion in the Acadiana region. Originally built in 1929 as the "Old Spanish Trail", this corridor has boomed as a result of the proliferation of business servicing the oil and gas industry along its route. Due to the substantial cost and regional and statewide impact on traffic operations, it has been classified as a mega-project. Louisiana Freight Mobility Plan identified it as the top priority megaproject that would alleviate one of the worst freight bottlenecks in the state.

ID No.	Area	Facility	Limits	Improvement Type	Mode/Tier	Total Cost (\$M)	DOTD (\$M)	Other (\$M)
1	Lafayette	I-49 South	I-10 in Lafayette to Lafayette Airport	Upgrade to freeway	Trucking/2	\$750	\$700	\$50
4	Lafourche & St. Charles Parishes	I-49 South	Raceland to Des Allemands	Upgrade to freeway	Trucking/2	\$190	\$190	\$0
23b	Shreveport	I-20	Red River Bridge (I-49, Shreveport to Traffic Street, Bossier City)	Widen to 6 lanes	Trucking/1	\$135	\$135	\$0
23c	Shreveport	I-20	LA 3 to I-220 E	Widen to 6 lanes	Trucking/1	\$90	\$90	\$0
24	Monroe	I-20	LA 546 to LA 594 (Monroe)	Widen to 6 lanes	Trucking/1	\$220	\$220	\$0
25	Sulphur/Lake Charles	I-10	TX SL to LA 108	Widen to 6 lanes	Trucking/1	\$65	\$65	\$0
26	Lake Charles	I-10 (Calcasieu River BR./ Approaches)	I-210W to US 90 (Lake Charles)	Replace bridge, widen highway	Trucking/1	\$450	\$450	\$O
27	Lake Charles	I-10	UPRR Overpass (Lake Charles) to I-210	Widen 4 to 6 lanes	Trucking/1	\$50	\$50	\$0
28	Lafayette	I-10	LA 93 to I-49	Widen 4 to 6 lanes	Trucking/1	\$100	\$100	\$0
29	Baton Rouge	I-10	I-110 to I-12 (Baton Rouge)	Widen 6 to 8 lanes	Trucking/1	\$320	\$320	\$0
30a	Ascension	I-10	LA 42 to LA 74	Widen 4 to 6 lanes & new interchange	Trucking/1	\$100	\$100	\$0
31	New Orleans	I-10	Williams Blvd. (LA 49) to Veterans Blvd	Widen to 8 lanes	Trucking/1	\$150	\$150	\$0
34	Slidell	I-12	LA 21 to Airport Rd (to I-10/ I-59)	Widen 4 to 6 lanes	Trucking/1	\$170	\$170	\$0
44	New Orleans	LA 23	Belle Chasse Tunnel (New Orleans)	Build 4-lane bridge	Trucking/3	\$180	\$160	\$20
64	St. Tammany	LA 3241 (TIMED)	I-12 to Bush	New 4 lane	Trucking/?	\$230	\$230	\$O
65	St. Bernard	Florida Avenue (TIMED)	Bridge and Approaches	New Bridge and Approaches	Trucking/3	\$270	\$270	\$0

Table 10-8: Priority A Megaprojects

Source: CDM Smith and LA DOTD



Map 20: Louisiana Statewide Megaprojects Near Major Bottlenecks

Source: National Performance Management Research Dataset

Source: CDM Smith and LA DOTD





CHAPTER 11: MANAGEMENT AND OPERATIONS

Introduction

Management and Operations is an integrated approach to optimize the performance of existing infrastructure through the implementation of multimodal, intermodal, and often cross-jurisdictional systems, services and projects. This includes regional operations collaboration and coordination activities between transportation and public safety agencies. Management and operations strategies aim at improving service efficiency, enhancing public safety and security, reducing traveler delays, and improving access to information for travelers. This encompasses a broad range of activities, many of which are covered in other sections of the MTP. These include transit operations, incident management, travel demand management, and freight management.

Congestion Management

Regions with more than 200,000 people must maintain a congestion management process (CMP) and use it to inform transportation planning and decision-making. The CMP identifies potential improvements based on quantifiable data and considers congestion in developing transportation improvements. The process establishes a baseline condition for future comparison of conditions and allows for project prioritization based on potential congestion mitigation. The CMP provides solutions beyond simply adding roadway capacity, as mitigation development includes other solutions that may be more effective and cost-efficient. Economic competitiveness is encouraged as a part of the process, and it increases the reliability of planning for all modes and all journey purposes.

Within the CMP study area, fifteen corridors were developed equaling a total one-way length of approximately 95 miles. The process lays out potential improvements for each area of congestion along the corridor. The final determination of the CMP is that physical improvements alone will have a minimal impact upon congestion. As a long term strategy, significant reductions in congestion can be achieved if physical improvements are tied to land use policy and demand management approaches. For example, limiting direct access (i.e. curb cuts) onto principal arterial-corridors will stabilize flow interruptions originating from adjacent land uses. Additionally, policy that requires large, high volume development to provide access to adjacent land uses through shared driveways will reduce the demand for direct arterial access points.



Source: DOTD

The Congestion Management System has been described as a "7 Step" process; with the addition of a new "first step," the Congestion Management Process is an "8 Step" process, as follows:

Develop Congestion Management Objectives;

Identify Area of Application;

Define System or Network of Interest;

Develop Performance Measures;

Institute System Performance Monitoring Plan;

Identify and Evaluate Strategies;

Implement Selected Strategies and Manage Transportation System; and

Monitor Strategy Effectiveness.

Map 22: CMP Corridors




CHAPTER 12: ACADIANA'S PRIORITIES

Introduction

The Acadiana MPO strives to develop projects that are valued by the community, solicited from local officials through the TIP selection process. These projects ideally will have the a significant on traffic congestion throughout the network and service all members of the region. These projects should be facilitating all modes of travel where appropriate, including bike, pedestrian, and transit facilities, and contribute to a safer travel experience.





Staged Improvement Plan

Analyzing the existing and committed transportation network improvements is important to plan improvements for facilities which have a v/c (volume/capacity) ratio greater than 1.00 as these would be considered deficient. The plan recommends that greater emphasis be placed on these projects as well as those where the v/c ratio is greater that 1.40 and those facilities with a Level of Service (LOS) of E or higher based on those ratios.

A LOS of E represents operating conditions at or near the capacity level. All speeds are reduced to a low, but, relatively uniform value. Freedom to maneuver within the traffic stream is extremely difficult.

The staged improvement plan is separated into priorities. The first priority includes projects with dedicated funding while the second called the Vision Plan has desirable but unfunded projects. Based on historical funds spent within the MPO area from 1991-2012, it is estimated that the MPO will have approximately \$300,000,000 in funding for projects that will increase roadway capacity to be spent in the next 30 years.

When evaluating the list of available projects that result from the deficiencies analysis, only some can be built. All of the projects are prioritized through multiple venues and the ones that rank highest are put into the Staged Improvement Plan.

The Staged Improvement Plan identifies projects with dedicated funding as shown in the following table and in the corresponding Map 23, Staged Improvement Plan. These projects are funded with local, state and Federal funds. The local dollars will be in only to match the State and Federal funds. The planned projects represent various stages of improvements consisting of intersection improvements, roadway widening, new roadway construction and new bridge construction.

2040 Staged Improvement Plan						
	Project:	Work Task:	Description:	Limits:	Funding Source:	Total Cost:
	Youngsville Hwy	Stage 0	Widen to 4 Lane Boulevard	Amb. Caffery Pkwy South Ext to Youngsville Pkwy	NFI/STP>200K	\$500.000
Stage 1: 2015-2020	Breaux Bridge Hwy	Stage 0	Widen to 4 Lane Boulevard	Louisiana Ave to Sawmill Hwy	NEL	\$500.000
	E Broussard Rd	Stage 0	Widen to 4 Lane Boulevard + Bridge	Johnston St to Kaliste Saloom Rd	NFI	\$500,000
	Pinhook Rd	Stage 0	Widen to 4 Lane Boulevard	Southpark Rd to S Morgan	NFI	\$500,000
	I-10 @ La 354 Interchange	Stage 0	Ramps for interchange	La 354 Flyover (Sawmill Hwy)	NEL	\$500,000
	Verot School Rd	Environmental	Widen to 4 Lane Boulevard	Vincent Rd to LA 82 (Chemin Agreable)	STP>200K	\$400,000
	N University Ave Widening	Environmental	Widen to 4 Lane Boulevard	Pont Des Mouton to I-49	STP>200K	\$400,000
	St. Martinville Bypass	Engineering Design/Env/Construction	New 4 Lane Boulevard	Smede Hwy to Main Hwy via Caprito Rd	STP>200K	\$2,300,000
	South City Pkwy	Engineering Design/Env/Right of Way	New 4 Lane Boulevard+Bridge	Robley Dr to Vincent Rd	Local dollars	\$16,000,000
				+ *	•	
	Ambassador Caffery N Phase 1	Engineering Design	New 4 Lane Boulevard	Renaud to W Gloria Switch Road	NEL	\$4,500,000
	Ambassador Caffery N Phase 2	Engineering Design	New 4 Lane Boulevard	W. Gloria Switch Rd to I-49	NFI	\$8,000,000
	Verot School Rd	Engineering Design	Widen to 4 Lane Boulevard	Vincent Rd to LA 82 (Chemin Agreable)	NEL	\$5,000,000
Charles 2, 2021 2020	St Martinville Bypass	Right of Way/Util Relocation	New 4 Lane Boulevard	Smede Hwy to Main Hwy via Caprito Rd	NFI	\$3,000,000
Stage 2: 2021-2030	N University Ave Widening	Engineering Design	Widen to 4 Lane Boulevard	Renaud to Pont Des Mouton	NE	\$4,000,000
	N University Ave Widening	Engineering Design	Widen to 4 Lane Boulevard	Pont Des Mouton to I-49	NEL	\$5,000,000
	1-10@ La 354 Interchange	Environmental/Engineering Design	Ramps for interchange	La 354 Flyover (Sawmill Hwy)	NFI	\$1,000,000
	South City Pkwy	Construction	New 4 Lane Boulevard+Bridge	Robley Dr to Vincent Rd	NEL	\$40,000,000
		•		· ·	•	
	Ambassador Caffery N Phase 1	Right of Way/Util Relocation	New 4 Lane Boulevard	Renaud to W.Gloria Switch Road	NFI	\$9,000,000
	Ambassador Caffery N Phase 2	Right of Way/Util Relocation	New 4 Lane Boulevard	W Gloria Switch Rd to I-49	NEL	\$16,000,000
	Verot School Rd	Right of Way/Util Relocation	Widen to 4 Lane Boulevard	Vincent Rd to LA 82 (Chemin Agreable)	NE	\$21,000,000
Stars 2: 2021-2040	St Martinville Bypass	Construction	New 4 Lane Boulevard	Smede Hwy to Main Hwy via Caprito Rd	NFI	\$41,500,000
Stage 3: 2031-2040	N University Ave Widening	Right of Way/Util Relocation	Widen to 4 Lane Boulevard	Renaud to Pont Des Mouton	NE	\$12,000,000
	N University Ave Widening	Right of Way/Util Relocation	Widen to 4 Lane Boulevard	Pont Des Mouton to I-49	NFI	\$23,000,000
	Ambassador Caffery N Phase 1	Construction	New 4 Lane Boulevard	Renaud to W Gloria Switch Road	NFI	\$66,000,000
	1-10@ La 354 Interchange	Construction	Ramps for interchange	La 354 Flyover (Sawmill Hwy)	NFI	\$10,000,000
		+			+	
				Line item/Miscellaneous:		\$12,400,000
						\$303,000,000

Table 11: Staged Improvement Plan

Map 23: Staged Improvement Plan



Transit Expansion

In 2016, the Acadiana Metropolitan Planning Organization received a transit grant to study and develop regional transit routes for the Acadiana area. These transit routes would serve rural communities in the outlying areas and connect into the Lafayette Transit System, allowing for further connections in the urban City of Lafayette.

The first route to be developed and funded starts in Crowley in Acadia Parish and runs along U.S. 90 through Duson and Scott before ending at Lafayette General Hospital. This route is being funded through an US Department of Agricultural grant.

The Acadiana MPO plans to develop several other similar rural transit routes throughout the Acadiana community.

EAST- BOUND	Crowley 1st Street	14.7 miles direction	Duson	11.7 miles direction	Lafayette General	east- Bound
depart	6:30 AM	\rightarrow	6:55 AM	\rightarrow	7:35 AM	arrive
depart	7:30 AM	\rightarrow	7:55 AM	\rightarrow	8:35 AM	arrive
depart	8:50 AM	\rightarrow	9:15 AM	\rightarrow	9:55 AM	arrive
depart	9:50 AM	\rightarrow	10:15 AM	\rightarrow	10:55 AM	arrive
depart	3:40 PM	\rightarrow	4:05 PM	\rightarrow	4:45 PM	arrive
depart	4:40 PM	\rightarrow	5:05 PM	\rightarrow	5:45 PM	arrive
WEST- BOUND	Crowley 1st Street	14.7 miles direction	Duson	11.7 miles direction	Lafayette General	WEST- BOUND
WEST- BOUND arrive	Crowley 1st Street 8:40 AM	14.7 miles direction	Duson 8:15 AM	11.7 miles direction	Lafayette General 7:40 AM	WEST- BOUND depart
WEST- BOUND arrive arrive	Crowley 1st Street 8:40 AM 9:40 AM	14.7 miles direction	Duson 8:15 AM 9:15 AM	11.7 miles direction	Lafayette General 7:40 AM 8:40 AM	WEST- BOUND depart depart
WEST- BOUND arrive arrive arrive	Crowley 1st Street 8:40 AM 9:40 AM <i>3:30 PM</i>	14.7 miles direction	Duson 8:15 AM 9:15 AM 3:05 PM	11.7 miles direction	Lafayette General 7:40 AM 8:40 AM 2:20 PM	WEST- BOUND depart depart depart
WEST- BOUND arrive arrive arrive	Crowley 1st Street 8:40 AM 9:40 AM 3:30 PM 4:30 PM	14.7 miles direction	Duson 8:15 AM 9:15 AM 3:05 PM 4:05 PM	11.7 miles direction	Lafayette General 7:40 AM 8:40 AM 2:20 PM 3:20 PM	WEST- BOUND depart depart depart depart
WEST- BOUND arrive arrive arrive arrive	Crowley 1st Street 8:40 AM 9:40 AM 3:30 PM 4:30 PM 6:05 PM	14.7 miles direction	Duson 8:15 AM 9:15 AM 3:05 PM 4:05 PM 5:40 PM	11.7 miles direction	Lafayette General 7:40 AM 8:40 AM 2:20 PM 3:20 PM 4:50 PM	WEST- BOUND depart depart depart depart

Safety Priorities

As part of its regional transportation safety duties, the Acadiana MPO incorporates safety into its project selection process and incorporates safety countermeasures as a matter of course into its projects.

Staff is developing Local Road Safety Plans for seven parishes in the Acadiana area. These parishes (Acadia, Iberia, Lafayette, St. Landry, St. Martin, St. Mary, and Vermilion) rank in the top 20 parishes in Louisiana for local road crash frequency.

From these plans, the MPO will develop local road safety projects for submittal to the Local Road Safety Program funding. The priorities will be driven by the unique crash profile for each parish. Safety countermeasures aimed at mitigating these crash types will developed.



Bicycle and Pedestrian Priorities

The Acadiana MPO is currently in the process of updating its 2040 Bicycle and Pedestrian Plans. The new plans will take a regional focus to the bicycle and pedestrian facilities development process.

Through the Transportation Improvement Program Selection process, the MPO prioritizes bicycle and pedestrian facilities and corridor studies that incorporate Complete Streets principles into traditional road projects. It is expected that bicycle and pedestrian projects will be continue to be a significant portion of its Urban Systems funding.

The Transportation Alternatives Program, a program that is partially administered by the MPO, provides biannual funding for bicycle and pedestrian facilities in the region. The MPO will continue to work with this program for project development.

Road diets are a new way for bicycle facilities to be built in the Acadiana region. There are several road diets planned for the area, and the MPO will work to develop more of these projects to increase the lane miles of dedicated cyclist facilities.



Source: Michael Ronkin



Source: DOTD

Freight Priorities

The federal FAST Act has greatly emphasized the prioritization of freight connections in the transportation project development process. The Acadiana MPO has also re-organized its procedures to reflect the changes in federal legislation and allow for greater freight incorporation and outreach when funding projects.

In August 2016, the MPO area received \$100 million dollars from the federal freight FASTLANE funding program to widen I-10 from Lafayette to Henderson. The MPO will continue to pursue funding opportunities for further freight funding for projects such as building the Lafayette Connector portion of I-49 South and improvements for access to the Acadiana Regional Airport. These projects are among the highest freight priorities for the Acadiana region, from traffic congestion and economic development perspectives.

The MPO's Urban Systems program continues to fund planning for the I-49 Connector. The MPO is also currently developing projects for intersection improvements around the Acadiana Regional Airport.

Planned and Future Roundabout Locations

Roundabouts have a dedicated stream of Urban Systems funding in the Acadiana MPO. This has produced several Stage 0 studies, the first stage of the project development process. The Acadiana MPO plans to study more locations for potential roundabout construction utilizing this funding.

After the location has been studied and determined to be a suitable candidate for a roundabout configuration, the roundabout location's governing jurisdiction can apply for design and construction of the roundabout through this dedicated funding program.

As roundabouts have several documented safety, traffic congestion, and access management benefits, the Acadiana MPO places a high priority on the continued development and construction of this intersection configuration.



Vision Plan

The staged improvement plan addresses transportation improvements which are funded and adopted as part of the long range plan. However, a great many other transportation improvements are needed. The Vision Plan identifies those necessary but unfunded transportation improvements.

The projects in the Vision Plan are important to the future efficiency of the transportation network but remain unfunded for various reasons. Delayed funding for a transportation improvement project may be the result of the projects' 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 exacerbate over time.

The unfunded transportation improvements are included in the Vision Plan to serve as a constant reminder of future needs, and annually re-analyzed to determine if adjustments or changes are needed. The vision projects are shown in the table below. An associated graphic of the Vision Plan is depicted in Map 24, Vision Plan. Funding and implementation of the Vision Plan will have tremendous impact on the transportation network of the community. As the community continues to grow and redefine itself, regular and routine review of the Vision Plan is necessary to be responsive to changes.

Highest Ranked Unselected 2040 Long Range Transportation Plan Projects (Currently Unfunded)						
TTC Survey Ranking	Route	Limits	Improvement	Length	Revised (2015 project cost)	
1	W Mills Ave	Henri Penn Rd to Berard St	4-Lane Blvd	1.89	\$13,000,000	
2	Johnston St Redevelopment - Ph2	Lafayette Parish Boundary to Study Area Boundary	6-Lane Widening	3.00	\$47,000,000	
3	Johnston St Redevelopment - Ph1	Amb. Caffery to Lafayette Parish Boundary	6-Lane Widening	4.80	\$59,000,000	
4	LA 182 (Pinhook)	S. Morgan to La. 88	Widen to 3 Lane	8.09	\$28,000,000	
5	Youngsville Hwy	Pinhook Rd to Amb. Caffery Pkwy South Ext	4-Lane Blvd	1.76	\$12,500,000	

Table 12: Unfunded Vision Projects

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Map 24: Unfunded Vision Projects

Implementation through the TIP

The Transportation Improvement Program is the implementation stage of the Metropolitan Transportation Plan. The Acadiana MPO utilizes its TIP Selection Process and its weighted evaluations to balance the requests from the community with the goals outlined in the MTP.

The MPO staff meets with each member entity on an annual basis to assist in developing projects that will have the greatest impact on the traffic reduction, pavement preservation, and asset management. Ultimately, the MPO Policy Committee has the final determination of the projects that are added to the TIP.





Conclusion

The Acadiana Metropolitan Planning Organization has had a long history of vibrant and active transportation planning which will continue with the 2040 Transportation Plan. A continuing transportation planning process is an important part of overall planning. It is also an essential requirement to ensure that the transportation system is serving the travel demand in an efficient and effective manner. In addition an annual evaluation is required by the 3-C Planning Process. The MPO is responsible for conducting continuing transportation planning which is coordinated with other local, State, and Federal planning activities.

The 2040 Transportation Plan will also be used in the annual budget preparation processes as it so greatly affects capital improvement programs. The MPO does receive and will continue to receive periodic status reports on the progress of infrastructure improvement projects. This information assists the MPO in evaluating its progress and future planning activities.

The Acadiana Metropolitan Planning Organization recommends that the 2040 Transportation Plan be accepted, adopted and implemented. The plan provides the necessary data and direction to meet the growing transportation needs of the metropolitan area well into the future.

The transportation needs of today and tomorrow can only be met if 2040 Transportation Plan is utilized only a daily basis. The plan needs to be consulted when new development is proposed; it needs to be consulted annually during the budget adoption process; it needs to be consulted as new public facilities such as parks and recreation areas are planned; it needs to be consulted as new educational facilities are planned; and the plan needs to reassessed on a regular basis to measure the community's effectiveness in implementation and to adjust to land use changes throughout the metropolitan planning area.



CHAPTER 13: PERFORMANCE MEASURES

Introduction

Congress introduced Transportation Performance Management into federal legislation with MAP-21. These measures are to be adopted on an annual basis to ensure that decision makers understand the consequences of transportation investment decisions across all assets and modes. It is also intended to improve communication between transportation users and decision makers and that good data is being collected and applied during the funding allocation process.

Safety Performance Measures

The Acadiana MPO Policy Board decided on January 20, 2021 to adopt a -1% reduction in fatalities and serious injuries as the safety performance measure for the Acadiana urbanized area for 2021. The targets are quantified in 5 year moving averages and are as follows:

Number of Fatalities

From a moving average of 50 from 2014 to 2018 to a moving average of 48 for the years 2016 to 2020.

Number of SeriousInjuries

From a moving average of 98 from 2014 to 2018 to a moving average of 97 for the years 2016 to 2020.

Rate of Fatalities per 100 Million Vehicle Miles Traveled

From a moving average rate of 1.439 from 2014 to 2018 to a moving average rate of 1.401 for the years 2016 to 2020.

Rate of Serious Injuries per 100 Million Vehicle Miles Traveled

From a moving average rate of 2.832 from 2013 to 2017 to a moving average rate of 2.855 for the years 2016 to 2020.

Number of Non-motorized Fatalities and Serious Injuries

From a moving average of 24 from 2014 to 2018 to a moving average of 24 for the years 2016 to 2020.

These targets will be evaluated and updated on an annual basis.

Pavement and Bridge Condition Performance Measures

The Acadiana MPO Policy Board decided on September 19th, 2018 to adopt and support the LA-DOTD's statewide pavement and bridge condition targets for 2018. The targets are as follows:

Non-Interstate NHS	2-Year	4-Year	
Good	20%	20%	
Poor	20%	20%	

Including Local NHS Bridges	2-Year	4-Year
Good	35%	30%
Poor	9.9%	9.9%

Travel Time Reliability Performance Measures

The Acadiana MPO Policy Board decided on September 19th, 2018 to adopt three travel time reliability targets for 2018. The targets are for Travel Time Reliability for Interstate (% of Person Miles Reliable), Travel Time Reliability for Non Interstate (% of Person Miles Reliable), and Truck reliability index for Interstate (Level of Truck Travel time Reliability). The targets are as follows:

The existing data shows 95.4% and 100% (Interstate) for percentage of Person Miles Reliable. The target is for 90% for 2020 and 2022.

The existing data shows 1.13 for Truck Travel Time Reliability. The target is for a measurement of 1.3 for 2020 and 2022.