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16. Abstract

This research entailed the development of minimum requirements for local growth management policies for use in Louisiana. The purpose of developing minimum statewide standards is to try to alleviate some of the stress placed on state and local governments by uncontrolled development, while improving state and local governments' ability to meet current and future demand for transportation infrastructure and effectively implement existing state transportation policies and programs.

This study evaluated the current state of growth management practice, evaluated statewide trends, existing conditions, and opportunities, and solicited extensive local participation feedback. In addition, this study included evaluation of the potential economic, social, and environmental impacts of implementing selected growth management policies. This was achieved through a mixed methods approach that includes both quantitative and qualitative methods of data collection and analysis, including the following components: a review of the literature, identification of current state-of-practice in Louisiana and analysis of the legal framework underlying growth management policy, a socioeconomic and demographic analysis of the trends at the Parish level, two statewide polls, a series of stakeholder meetings, modeling the effectiveness of potential policies based on transportation and return-on-investment outcomes, additional workshops with stakeholders to determine the feasibility and demand for implementation of proposed policies.

The result of this research was the development of a series of potential Growth Management Guidelines that local jurisdictions, regional agencies, and the State of Louisiana may use to better align transportation and land use planning and facilitate the growth of more livable communities across the state. It includes a set of key guidelines that constitute a "blueprint" for Louisiana growth management policy.

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ABSTRACT

This research entailed the development of minimum requirements for local growth management policies for consideration in Louisiana. The purpose of developing minimum statewide standards is to try to alleviate some of the stress placed on state and local governments by uncontrolled development, while improving state and local governments' ability to meet current and future demand for transportation infrastructure and effectively implement existing state transportation policies and programs.

This study evaluated the current state of growth management practice, examined statewide growth trends, existing conditions, and opportunities, and solicited extensive local participation feedback. In addition, this study included evaluation of the potential economic, social, and environmental impacts of implementing selected growth management policies. This was achieved through a mixed methods approach that includes both quantitative and qualitative methods of data collection and analysis, including the following components: a review of the literature, identification of current state-of-practice in Louisiana and analysis of the legal framework underlying growth management policy, a socioeconomic and demographic analysis of the trends at the Parish level, two statewide polls, a series of stakeholder meetings, modeling the effectiveness of potential policies based on transportation and return-on-investment outcomes, additional workshops with stakeholders to determine the feasibility and demand for implementation of proposed policies.

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Center for Planning Excellence
Rapides Area Planning Commission
South Central Planning and Development Commission
North Delta Regional Planning District
Northwest Louisiana Council of Governments

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IMPLEMENTATION STATEMENT

This project creates a "blueprint" for growth management policy in Louisiana. A series of guidelines are presented for adoption by municipalities, parishes, metropolitan planning organizations, and state agencies. Implementation tools include, but are not limited to, city or parish land use policies, development codes, zoning regulations, and specific development and land use requirements. The authors identify low, medium and high priority growth management guidelines. By implementing these policies, taxpayers can save millions in future infrastructure costs and reduce harmful impacts to the environment.

This study includes tools that can be utilized for the Baton Rouge and New Orleans metropolitan regions to consider how changes in population growth and other built environment and transportation variables impacts vehicle miles travelled (VMT) and transportation safety from 2010 - 2030. The study found, for example, that if by 2030 Baton Rouge adopted, development densities and transit usage levels found in the New Orleans region today, coupled with average fuel prices of $4.16 per gallon (in 2010 dollars), the total VMT would not increase and transportation safety would improve despite population growth. Many regions across the United States are seeing a leveling-off of VMTs. The key question for planners and policymakers in Louisiana is what set of policies need to be adopted now to support such trends in Louisiana.

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INTRODUCTION

Growth in and around many urban areas in Louisiana is not consistently managed or planned. This can negatively impact state and local governments' ability to meet current and future demand for transportation infrastructure, particularly with respect to related policies and programs adopted by the Louisiana Department of Transportation and Development (DOTD), including access management and complete streets policies, and a state-local road transfer program. For example, if building setbacks are not required, acquisition of sufficient right-of-way to provide space for additional travel lanes or the addition of active transportation infrastructure on state roads and highways may be prohibitively expensive. This includes providing space for future transportation demands generated by growth in that area—including demand for bicycling and walking. Transportation infrastructure includes travel lanes, turning lanes, bicycle infrastructure, sidewalks and transit facilities.

This research entailed the development of minimum requirements for local growth management policies for use in Louisiana. The purpose of developing minimum statewide standards is to try to alleviate some of the stress placed on state and local governments by uncontrolled development. The purpose of growth management is not to limit development, but is intended as a mechanism for coordinating infrastructure investment with development to encourage safe, efficient, and sustainable communities. Growth management practices affect almost all aspects of municipal concern, from encouraging public engagement to providing a variety of transportation and housing choices. The first phase of this research was limited to defining minimum requirements with respect to transportation with a focus on understanding how it relates to the new complete streets policy.

The purpose of this research effort was to better understand the current state of growth management practice in Louisiana and across the nation, and to develop better tools and policies for coordinating infrastructure investment with development to encourage a safe, efficient, sustainable, and multimodal transportation system.

The result of this research was the development of a series of potential Growth Management Guidelines that local jurisdictions, regional agencies, and the state of Louisiana may use to better align transportation and land use planning and facilitate the growth of more livable communities across the state.

OBJECTIVE

The goal of this research was to identify policies, programs, and strategies aimed at supporting the alignment of land and transportation assets and planning in order to more efficiently manage growth that could be effectively implemented in urban, suburban, and rural communities in Louisiana, at all levels of government. The study aimed to address the following research questions:

1. What is the current state of the practice in statewide growth management policy?

2. What tools, policies, or programs should Louisiana consider implementing at the state and/or local level in order to balance the short term needs of development with the long term goal of efficient use of roads, highways, and other transportation infrastructure, and to encourage livable, economically vital communities?

3. How will implementation of the growth management guidelines proposed impact economic and land use outcomes, compared to the status quo?

The ultimate objective of this research was to develop a blueprint for growth management and guide to model policies at the State, metropolitan planning organization (MPO), Parish, and Municipal levels in Louisiana. This is a tool that the state can use to develop and encourage policy implementation and to facilitate better coordination across jurisdictions and agencies to integrate transportation investments with land use decisions. This is also be a tool that local governments can use directly to find solutions to the specific issues they face in their communities.

SCOPE

The research entailed the development of minimum requirements for local growth management policies for use in Louisiana. The first phase of this research was limited to defining minimum requirements with respect to transportation with a focus on understanding how it relates to the new complete streets policy. Future phases can address flood control and other infrastructure issues. The approach entailed a literature search, a survey of other states, and a cross-section of municipalities to gain an understanding of state-of-the-practice concerning growth management as it relates to transportation infrastructure. This included a statewide poll of transportation planners, engineers, and policymakers, a series of consensus-building meetings with a task force comprised of representatives from metropolitan planning organizations, municipal and parish public works engineers, municipal and parish planning officials, and DOTD engineers and planners. Different approaches address different contexts regarding rural and urban areas.

This study consisted of a mixed methods approach that included both quantitative and qualitative methods of data collection and analysis. The study included a review of the literature and identification of current state-of-practice in Louisiana. It also included legal analysis, a socioeconomic and demographic analysis of the trends at the Parish level, a statewide poll, stakeholder interviews, an inventory of growth management policies for rural and urban areas, modeling effectiveness of potential policies based on transportation and return-on-investment outcomes, creating draft Growth Management Guidelines for Louisiana, and work with stakeholders to determine the potential ability for implementation of such policies.

Task 1 – Conduct a literature review, identify the states that have implemented growth management policies, and review best practices from their experience. Also review models used to estimate the impact of applying growth management policies.
Deliverable: A Literature Review for Examining Growth Management in Louisiana

Task 2 – Conduct a survey to identify current state-of-practice and legal framework in Louisiana. This step is required to find out which parishes in Louisiana have growth management policies in place and what policies are currently active, if any, and what legal frameworks exist at the state and local levels in Louisiana for growth management.
Deliverable: State of the Practice and Legal Framework for Growth Management in Louisiana

Task 3 – Conduct a socioeconomic and demographic analysis of population trends obtained from last US census data at the Parish level across the State of Louisiana.
Deliverable: Socioeconomic and Demographic Analysis of Trends across Louisiana

Task 4 – Conduct a statewide poll of opinions and issues related to growth management and policies. This will likely be an Internet-based survey utilizing Qualtrics software (similar to Survey Monkey).
Deliverable: Statewide Poll Results on Growth, Development, and Transportation across Louisiana

Task 5 – Hold meetings with stakeholder agencies such as the Police Jury Association, MPOs, representatives from DOTD, American Planning Association (APA), Urban Land Institute, Chamber of Commerce, and Louisiana Realtor Association. The full composition of the Task Force will be determined as Tasks 1 and 2 are completed and a full appreciation of the involvement of different agencies is developed.

Task 6 – Develop a list of growth management policies or guidelines for managing growth for both rural and urban transportation networks as related to the project scope. This will be based on data gathered in prior tasks, especially Tasks 1, 2, 4 and 5.

Task 7 – Demonstrate the effectiveness of the guidelines by hypothetically assuming one or two of the policies or guidelines developed in Task 6 were applied in Louisiana in the past, use models to predict their consequences for the present, and then compare the predicted conditions with the current situation.

Task 8 - Develop Return on Investment analysis for implementation of guidelines. Impediments for implementation should be identified including political, legal, and economical.

Task 9 – Develop draft Growth Management Guidelines for Louisiana

Task 10 – Hold meetings with stakeholder agencies such as the Police Jury Association, Chamber of Commerce, and Louisiana Realtor Association to present findings, solicit comments, and establish a consensus-building approach. Identify possible pilot entities for implementation of guidelines.

Task 11 – Develop final report documenting entire research effort

Deliverable: Final Report Summarizing Tasks 5 – 10 with an Appendix to Guide Model Policy for Growth Management at the State, Metropolitan Planning Organization, Parish and Municipal Levels in Louisiana

METHODOLOGY

This study involved a mixed methods approach that included both quantitative and qualitative methods of data collection and analysis, including the following components: a review of the literature, identification of current state-of-practice in Louisiana and analysis of the legal framework underlying growth management policy, a socioeconomic and demographic analysis of the trends at the Parish level, two statewide polls, a series of stakeholder meetings, modeling the effectiveness of potential policies based on transportation and return-on-investment outcomes, additional workshops with stakeholders to determine the feasibility and demand for implementation of proposed policies, and creating a series of model growth management guidelines for Louisiana.

Literature Review

Over the past several decades, many states have come to realize the need for a statewide policy framework to address inter-jurisdictional challenges associated with growth and development in an equitable, cohesive manner across municipal and county boundaries. The need to proactively plan for infrastructure needs and public services associated with growth through internal policies and legislation has emerged as a priority in communities of all sizes, across the nation. However, in Louisiana, local and regional comprehensive planning has generally occurred on an ad-hoc basis, often as a reaction to the negative consequences of a natural or man-made catastrophe. Following Hurricanes Katrina and Rita in 2005 the Louisiana Speaks process marked the state's first major effort toward comprehensive plan-making for a significant portion of the state. Unfortunately, this did not result in any legislative action to advance statewide goals and objectives for a more livable, sustainable Louisiana identified as identified through the process.

The research proposed for the *Development of Minimum State Requirements for Local Growth Management Policies—Phase I* represents a preliminary effort toward advancing statewide growth management policies, defining specific regulatory and incentive-based growth management tools and developing guidelines for state agencies and local jurisdictions for planning coordinated transportation networks. These efforts are in line with the goals of the United States Department of Transportation (USDOT) Strategic Plan and are in direct relation to the DOTD's 2010 Complete Streets Policy, which stipulates a multi-modal approach to the state's future transportation investments, as well as DOTD's 2012 Access Connections Policy, which guides future access management decision-making for all state roadways.

This literature review addressed several key research questions related to this effort:

- What is the current state of the practice in statewide growth management policy?
- What states have implemented growth management programs to date, and in particular, what role can state DOTs play in growth management policy?

- What tools have those programs employed, and what can we learn from other states' experiences?
- What models of measurement and evaluation are appropriate in estimating the impact of policies, prior or subsequent to their adoption and implementation?
- How have other states with similar social, environmental, and economic concerns to those of Louisiana addressed growth management?
- How can growth management policies implemented at the state, regional, and local level help to advance the US DOT's five strategic goals, and maximize Louisiana's ability to remain competitive for future federal transportation funding opportunities?

From this framework, the authors examined the specific aspects of growth management pertinent to the aims of this project. Specifically, the authors looked first at the role of statewide planning and relate these findings to the State of Louisiana's planning and policy efforts to date. The authors then focused on how growth management interrelates with transportation planning and infrastructure expenditure (though the authors have found that the literature dealing directly with this important component of growth management policy is less extensive). Next, the authors examined the evolution of growth management policy and identify recurring key themes throughout the literature, differing areas of concern for urban, suburban, and rural communities, and the strategies for addressing the needs of each. The authors also reviewed the specific policies and programs implemented in states where statewide growth management planning has occurred. Finally, the authors reviewed efforts to model and evaluate the impacts and effectiveness of various interventions, and identify best practices in policy development and implementation. The complete Literature Review can be found in Appendix A.

Legal Analysis

This task, accomplished with the assistance of land use law experts at Villavaso and Associates, involved the identification of the current state-of-practice and legal framework in Louisiana. This step wass required to find out which parishes in Louisiana have growth management policies in place and what policies are currently active, if any, and what legal frameworks exist at the state and local levels in Louisiana for growth management.

In order to complete this task, Villavaso and Associates conducted an analysis of the current legal framework in Louisiana for planning and zoning, analyzed implemented legislation and master plans, where available, in all parishes and municipalities throughout the state of Louisiana to determine if they have growth management policies in place. All relevant state laws in Louisiana were reviewed to establish the legal framework for planning and zoning in Louisiana. The relevant legal authorities include the Louisiana State Constitution, various revised statutes enacted by the Louisiana State Legislature over the past seventy five years, and Louisiana case law.

Once the legal framework for planning and zoning was established, Villavaso & Associates undertook a detailed and systematic review of every parish and municipality in Louisiana to determine which parishes have some growth management policies in place and what policies, if any, are currently active.
To begin, the research focused on parish wide policies looking for evidence of growth management policies on the parish level. Once all parishes were reviewed, larger cities, such as New Orleans, Baton Rouge, Lafayette, Monroe, and Shreveport were specifically reviewed, and ultimately every municipality in the state was reviewed and assessed for these specific land use tools.

The analysis of all parishes and municipalities was conducted using online resources such as Municode, Louisiana Speaks, and various websites from the respective parishes and municipalities. These sources were reviewed and examined for evidence of planned and implemented growth management policies. The following specific methodology was used in this research:

1. Review relevant parish/municipal information from Master Plan document
    a. If available, review the actual document for any relevant growth management planning. This includes, but is not limited to, a discussion of multi-modal transportation systems, pedestrian and cyclist friendly enhancements, mixed land uses, overlay districts, walkable neighborhoods, and variety of housing choices

2. Review relevant parish/municipal codes, ordinances, and regulations for evidence of implementation of growth management policies
    a. This review includes, but is not limited to, a Comprehensive Zoning Ordinance (CZO) – text and map, Subdivision Regulations, codified Planned Unit Developments (PUDs), Traditional Neighborhood Developments (TNDs), cluster development, approved special districts, overlay districts, mixed use districts, sidewalk regulations, dedicated bike lanes

Relevant information from each parish and municipality was reviewed, and evidence of active growth management policies were recorded. Based on this information, a determination was made as to whether or not the parishes were actively engaged in growth management planning. For some parishes, even if the parish had not implemented growth management policies, but a large city or a number of small towns had growth management policies in place, it was determined that the parish employed growth management. The complete Legal Analysis Task Report can be found in Appendix B.

Demographic Analysis

In order to evaluate potential tools and policies, it was first essential to understand the current and projected demographic and socioeconomic conditions and trends affecting local jurisdictions and the state as a whole, particularly with respect to the transportation needs and habits of Louisiana residents. The purpose of this component of the study was to evaluate those trends, looking at Louisiana relative to the nation as a whole and to the southern region of the U.S., as well as evaluating and comparing parishes

individually. This analysis utilizes U.S. Census data from 2000 and 2010, American Community Survey 5-year estimates for 2006-2010, and the Louisiana Parish Population Projections Series through 2030. In addition to looking at transportation characteristics of Louisiana households (e.g., commute mode, travel time to work, household vehicle access), current and projected population by age cohort is evaluated, as the number and proportion of children, seniors, and young adults in the state in the coming decades will have a tremendous impact on how to plan communities and transportation networks for the future.

The data indicate how households are changing overall, with greater overall racial and ethnic diversity, a trend toward smaller families and more single person households, and many older adults in the coming decades. Income, poverty, education, employment and unemployment, homeownership rates, vacancy rates, as well as cost of living as benchmarked by the percentage of income spent on housing costs were also evaluated, with the data suggesting that many communities may be facing challenges to provide and maintain new and existing infrastructure in the coming years.

The complete Demographic Analysis Task Report can be found in Appendix C.

Statewide Polls

From October to November 2013, the Merritt C. Becker Jr. Transportation Institute at the University of New Orleans conducted a public poll about transportation across Louisiana, as well as a poll targeted to stakeholders including planners, engineers, and other professionals with an interest in and knowledge of transportation issues. The second poll was directed principally to local and regional government agencies, though representatives of non-profit organizations, the private sector, and state agencies were permitted to participate as well. The goal of the public poll was to reach a broad base of Louisiana residents representative of the state, especially residents of metro areas that are concerned with transportation. The goal of the stakeholder survey was to gain detailed insight into both statewide issues and topics or concerns of particular priority to certain regions, as a supplement to the stakeholder focus group series. The polls were conducted using Qualtrics, an online survey platform. Qualtrics provides a "ballot box stuffing" feature that prevents people from completing the survey more than once per computer, which was employed in the final version of the surveys.

Public Poll

The public poll was marketed a variety of ways, including publicity though neighborhood organizations, local government and professional networks, local television, radio, and print media. Several media outlets in the major markets, including Baton Rouge and New Orleans ran stories about the poll encouraging the public to go to the website to take the poll. The stakeholder survey was distributed through direct email to a list (developed concurrently with the list of invitees for the stakeholder focus group series) of government agency staff and other potentially interested parties from all regions of the state. The results of the poll were weighted based on gender and racial composition of the State of

Louisiana. Evaluation of the characteristics of the weighted poll sample revealed the following key points:

- The weighted sample is more educated than the state population
- The weighted sample over-represents married persons (52%) that the state population (44%), however, the weighted sample underrepresents respondents with children under 18 at home (28%) compared to the state population (33%)
- The weighted sample over-represents homeowners (72%) compared to the state population (66%)
- The weighted sample over-represents Democrats (55%) compared to the state population (49%). However, it's important to note that the raw sample under-represented Democrats (44%) compared to the state population. This shift was an unintended result in weighing the data with respect to gender and race.
- The vast majority of the weighted sample was from Orleans (32%) or East Baton Rouge Parishes (39%) for a total of 71%) as compared to 18% of the state's population that live in these two parishes. This was likely do to the media markets that ran stories encouraging people to fill out the survey in these locations. Because of this significant concentration of the sample, the findings of the poll should be interpreted with this potential bias in mind. However, it is important to note that people in these two metro areas are more likely to be concerned about transportation given that the level of traffic congestion is more severe in these regions as compared to others in the state.
- The weighted sample was wealthier than the state's population.
- The weighted sample was older than the state's population; however, it was not expected many people under the age of 18 would complete this poll.
- 92% of the respondents have a driver's license and have access to a vehicle for most of their trips

Table 1 compares the poll's raw sample to the state's population. The table also reports the weighted sample, which is used as the basis for reporting of results. The poll's raw sample was over-weighted with respect to males and whites. The weighted sample corrected for this over-representation and matched the sample for the same percentages of gender and race at the state level. Table 1 shows how the weighted sample compares to the state's population. The weighted sample over-represents the following categories, which are important to consider when interpreting the results.

Table 1
Socio-demographics of public poll sample compared to state population

	Public Poll Raw Sample	Louisiana 2012 ACS 1-year estimates	Public Poll Weighted Sample
Gender	Percent (%)	Percent (%)	Percent (%)
Male	56	49	49*
Female	41	51	51*
No answer	3		NA
Race			
Black	8	32	32*
White	81	63	63*
Asian	1	2	NA
Other/multiple	4	3	5
no answer	7		NA
Last Grade Completed			
Grade school	0	6	0
Some high school	0	11	0
High school graduate	3	34	3
Some college, no degree	12	22	12
Vocational training/2 year college	4	5	5
4 year college/bachelor's degree/some postgraduate work with no degree	39	14	37
Postgraduate degree	41	8	42
Decline to answer	0		
Marital Status			
Married	57	44	52
Single, never married	30	35	23
Separated	0	3	0
Widowed	2	7	2
Divorced	9	12	12
No answer	2		1
Children Under 18 at Home			
Yes	24	33	24
No	76	67	76
Rent or Own			
Rent	27	34	28
Own	73	66	72
	Public Poll Raw Sample	**Louisiana 2012 ACS 1-year estimates**	**Public Poll Weighted Sample**
Parish			
Orleans or East Baton Rouge	70	18	71
Everywhere else	30	82	19
Political			
Democrat	44	49**	55

Republican	28	27**	21
Independent/other	28	24**	25
Household Income			
Less than 10,000	2	10	3
10,000-50,000	20	45	24
50,000-75,000	16	16	18
75,000-100,000	14	11	13
100,000-150,000	19	11	15
More than 150,000	17	7	14
No answer	12		13
Age Group			
Under 18	0	24	0
18-24	4	9	4
25-34	24	14	23
35-44	19	12	21
45-54	16	14	17
55-59	12	7	11
60-64	12	6	12
65-74	7	8	13
75 or over	1	6	1
No answer	2		1

*The sample data were weighted to reflect the state population profile with respect to gender and race. For race, the data were categorized as Black, White and Other. Cases with no answer were coded as "Other". Cases not reporting Gender were eliminated from the analysis due to weighting methodology issues.
** Data comes from Louisiana Secretary of State Statewide Report of Registered Voters, 7/1/2012

Stakeholder Survey

Questions for the stakeholder survey were developed based on the research completed in previous tasks. Questions for the public poll were partially drawn from previous national survey research conducted by Transportation for America, in order to permit potential comparisons of the opinions of Louisianans relative to the nation as a whole *[1]*. Remaining questions were derived from the literature review, in order to assess specific local priorities. Draft versions of each poll were tested for clarity and user-friendliness by at least ten individuals not affiliated with the project, and revised in response to tester feedback.

The complete survey results can be found in Appendix D.

Stakeholder Meetings

A series of initial stakeholder focus groups were conducted during the spring and fall of 2013 on the topic of growth management and transportation in Louisiana. The focus groups were intended to identify current transportation and development concerns, priorities, and policy efforts in each region of the state, in order to identify contextually appropriate tools and policies that could help the state encourage local

and regional agencies to more effectively guide growth to protect and enhance the effectiveness of the state's transportation networks.

In order to capture regional variances that impact growth management and transportation needs and outcomes, the state was divided into six regions: North Louisiana (including the Shreveport and Monroe metropolitan areas), Central Louisiana (including the Alexandria metropolitan area), Southwest Louisiana (including the Lafayette and Lake Charles metropolitan areas), the Baton Rouge Metropolitan Region, the New Orleans Metropolitan Region, and the Southeast Coastal Region (including the Houma and Thibodaux metropolitan areas).

Local partners for the focus groups were identified. In four of the six regions, an MPO within that region served as the local partner and meeting host. In Baton Rouge, the statewide non-profit Center for Planning Excellence served as the local partner. In New Orleans, the University of New Orleans (UNO) hosted the meeting in-house. Invitation lists for each region were developed in consultation with local partner organizations, as well as with the input of other professional contacts familiar with the area. In addition, the team solicited the assistance of DOTD's Louisiana Technical Assistance Program to engage and invite statewide professional and governmental associations. Invitees included representatives from municipal and parish planning or public works departments, planners working for regional consolidated governments and MPOs, representatives of the Louisiana Municipal Association, Louisiana Police Jury Association, Louisiana chapter of the American Public Works Association, the Louisiana Parish Engineers and Supervisors Association, the Louisiana chapter of the American Planning Association, local transit agencies, local chambers of commerce, non-profits engaged in transportation issues, and representatives of DOTD's district offices. Invitations were sent by email, and in some cases followed up by a phone call to encourage participation. Invitees were permitted to share the invitation to other interested parties as they saw fit.

Ultimately, a diverse array of state, regional, and local stakeholders attended the meetings, although the size of the groups varied substantially (See Table 2). In total, 70 people (excluding UNO Transportation Institute [UNOTI] staff) attended the series of meetings, including 10 state government employees, 19 regional government staffers, 26 local government representatives, 4 non-profit organization representatives, and 7 private sector workers including representatives from chambers of commerce, architecture and planning consultants, and one unaffiliated neighborhood advocate. All invitees were sent a draft meeting agenda outline the overarching themes that would be discussed, as well as background information on the project.

At the outset of the focus group, the moderator presented briefly on the overall project goals, the goals of the focus groups, and UNOTI's role as the meeting facilitator. Meeting attendees also received a packet of information outlining the presented information, as well as a sample list of possible growth management policies and tools for reference throughout the discussion. The sessions were moderated by either UNOTI Director Dr. John Renne or UNOTI Research Associate Tara Tolford, and attended by at

least two additional UNOTI staffers who transcribed the discussion. No audio recordings were taken in order to make attendees feel more comfortable speaking openly.

The discussions were guided by a pre-arranged set of themes and questions, though divergences from this outline were permitted when regionally important issues emerged that did not fall within the script, or new topics not previously considered by the research team came up. Participants were asked questions relating to the following themes:

1. **Current growth management efforts:** is growth management a priority, and if so, are there examples of local policies or projects that reflect implementation of a growth management approach?
2. **Inter-jurisdictional coordination:** in what ways do entities in this region coordinate, and where are tensions or communication breakdowns occurring?
3. **Transportation priorities:** what are the top issues and goals for this region in the next 5 – 15 years?
4. **Obstacles to growth management:** what are the most important barriers to implementing growth management ideas?
5. **Moving forward:** what steps do state, regional, and local agencies need to take to promote more integrated land use and transportation decision-making in Louisiana?

The focus groups generated important insights into local issues, policy efforts, and barriers to growth management that differ by region as well as by community type (i.e., urban, suburban, and rural).
Each focus group meeting lasted two hours. Following each meeting, the notes of all UNOTI researchers present were combined into a master meeting transcript, then synthesized into the focus group summaries and overarching statewide findings that follow in this report. With a few exceptions, no names or titles of individual participants are reported in these summaries, though differences in perspective among various geographic jurisdictions or professional roles are noted where pertinent to the overall conclusions (e.g., local public works department, DOTD representative, transit advocate, elected official).
Following the stakeholder meetings, attendees received a follow-up email thanking them for their participation, letting them know what to expect next from this research effort, and inviting them to participate in the concurrent online stakeholder survey in order to capture any additional comments or ideas that may not have come through in the focus group discussion.

The complete Stakeholder Meeting Summary Report can be found in Appendix E.

Table 2
Summary of growth management and transportation focus groups

Region	Meeting Date	Total Attendees	State Government	Regional Government / MPO	Parish/ Municipal Government	Non-Profit/ NGO	Private Sector/ Chamber of Commerce
New Orleans	3/11/2013	10	2	2	4	1	1
Houma-Thibodaux	9/12/2013	20	2	6	10	0	2
North LA	10/16/2013	5	0	2	2	0	1
Central LA	10/17/2013	7	3	3	1	0	0
Baton Rouge	10/21/2013	9	2	0	3	3	3
Lafayette	10/28/2013	13	1	6	6	0	0
Total		70	10	19	26	4	7

Note: The number of participants does not include UNOTI research staff or note-takers

Growth Management Policy Modeling Exercise

The purpose of this exercise was to model the potential impacts of implementing a growth management policy approach. This exercise builds on recent studies that have demonstrated a statistically significant correlation between built environment and transportation variables with vehicle miles travelled (VMT), the crash rate, injury rate and fatality rate at the metropolitan level *[2]*.

The project team utilized and adapted two elasticity models designed by Dr. Reid Ewing at the University of Utah to 1) model VMT growth in US Urbanized areas based on a variety of economic and demographic variables and 2) predict change in crash rates based on changes in VMT and built environment variables *[2,3]*. Using these models, and the elasticities for each variable developed by Dr. Ewing, the authors developed an editable worksheet, populated with data for each metropolitan region, which shows how changes to the built environment or resulting from policy change (e.g., gross population density, fuel price, transit miles per capita, etc.) could result in changes in VMT and traffic safety outcomes. Dr. Ewing was hired as a sub-consultant to the UNO team to ensure accurate and valid outcomes for our work in this Task.

For a full description of the development of the Growth Management Policy Impact Model, including modeling workbooks, see Appendices F and G.

Growth Management Policy Return-on-Investment Analysis

The purpose of this task is to develop a return on investment analysis for the implementation of one or more growth management strategies, including the identification of economic, political, and legal impediments to its implementation.

This task report demonstrates some of the potential benefits of fully implementing access management features into arterial roadways in the two largest metro areas in Louisiana, Baton Rouge, and New Orleans. The goal of this analysis is to model the benefits of congestion reduction and associated cost savings by applying access management principles across the full network of arterial streets. Since the analysis is retrospective, only foregone benefits are measured.

In addition, this research outlines a possible methodology for additional research which is needed to more comprehensively evaluate the costs and benefits of extending access management features to a greater percentage of Louisiana roadways.

This analysis relies principally on data and assumptions presented in the Texas Transportation Institute's 2012 Urban Mobility Report (UMR) which includes data for the New Orleans and Baton Rouge metro areas *[4]*. The UMR includes an evaluation of the percentage of arterial roadway miles which include access management features, as well as an evaluation of the number of hours of delay which are avoided as a direct result of those features *[5]*. Using this data, it is possible to extrapolate the potential impact of an expansion of such features across the full arterial network, over the five-year period (2007-2011) for which these data are available.

For a complete description and results of this exercise, see Appendix H.

Stakeholder Policy Workshops

A second series of stakeholder meetings was conducted during the spring of 2014. These meetings were designed as workshops to allow participants to provide feedback on the findings of this research to date, and to develop consensus about which of the draft growth management guidelines are the state's top priorities. In addition, these workshops sought to identify the key stakeholders who should or must be involved in the development of priority policies, as well as the resources and actions needed to implement such policies, and the relative level of overall difficulty in achieving policy implementation. Building consensus in each region visited about statewide priorities allows the project team to refine the draft list of guidelines developed in previous phases of the research to ensure recommendations resulting from this project are relevant and practicable.

The same list of stakeholders that was invited to the previous series of stakeholder meetings, plus several stakeholders who were subsequently identified, were invited to the workshop series. Due to schedule

constraints and relatively low interest in the Central Louisiana meeting in the fall, this region's stakeholders were invited to attend any of the other regions' meetings at their convenience. Meeting events were hosted in coordination with the Northwest Louisiana Council of Governments, Lafayette MPO, the Center for Planning Excellence, South Central Planning and Development Commission, and the University of New Orleans.

A total of 45 people (not including UNOTI faculty and staff) attended the workshop series. Attendees represented DOTD, regional government and MPO staff, local planners and engineers, transit agency representatives, non-profit planning and community development experts, and private sector consultants (see Table 3).

Table 3
Summary of growth management and transportation focus groups attendance

Region	Meeting Date	Total Attendees	State Government	Regional Government/ MPO	Parish/ Municipal Government	Non-Profit/ NGO	Private Sector/ Chamber of Commerce
New Orleans	4/7/14	7	0	2	2	0	3
Houma-Thibodaux	4/4/14	7	0	3	4	0	0
North/Central LA	4/2/14	7	0	2	3	2	0
Baton Rouge	4/3/14	13	1	0	4	5	3
Southwest LA	4/3/14	11	1	5	5	0	0
Total:		45	2	12	18	7	6

Note: The number of participants does not include UNOTI research staff or note-takers

In advance of the meeting, attendees who indicated they would attend were sent a copy of the workshop agenda, as well as the feedback worksheets and a document summarizing each of the draft growth management guidelines proposed. At the meeting, the overall project goals and workshop purpose were discussed, and participants were given approximately 20 minutes to complete the feedback worksheets on the feasibility and priority level of each of the draft guidelines presented.

Once stakeholders finished filling out the worksheets to the best of their ability, the workshop moderator asked all participants to vote on whether each guideline was a high, medium, or low priority for the state and their region, allowing time for any clarification about unfamiliar guidelines as needed. These votes were tallied on a poster for the group, in order to guide the rest of the workshop's discussion by focusing

only on those guidelines that were assessed to be a high priority by the majority of participants. Dissenting opinions were encouraged, allowing each group to build a general consensus about which issues are of the greatest importance, and why.

Discussion of each of the high-priority guidelines centered on why this is a critical issue for Louisiana and/or the specific region, what specific steps need to be taken, what impediments to implementing the guideline exist, and what stakeholders should be involved in addressing the concern. Notetakers recorded the groups' discussions, and at the end of the meeting, each stakeholder's individual worksheet was collected for further analysis and to ensure that all participants' opinions were taken into consideration in developing recommendations for policy action.

See Appendix I for complete stakeholder workshop summary report.

DISCUSSION OF RESULTS

Literature Review

The review of published technical reports and academic research documenting the evolution of growth management policy, its relationship with transportation planning and its role in urban, suburban, and rural contexts revealed that Louisiana has not followed national trends in planning for population growth and development on a statewide level. It is among only a handful of states that have yet to enact some form of growth management, smart growth, or sustainability initiative addressing the coordination of land use patterns and transportation infrastructures. However, several significant planning efforts, such as the Louisiana Speaks process, suggest Louisiana is ready for a more thoughtful approach to growth and development. In terms of policy development and adoption, there are several broad lessons underlying the bulk of this literature review:

- The general policy approach (mandates versus voluntary guidelines) as well as specific policy design elements should be determined based on careful consideration of a variety of factors. While both approaches can produce positive results, greater progress toward state goals is more likely through regulatory mandates, provided that it has strong political backing and compliance mechanisms
- Effective growth management policies require tight, inter-jurisdictional coordination, preferably through legislative action. MPOs and state agencies should provide outreach and serve as advisers to local jurisdictions
- Strong local support for the concepts of growth management, smart growth, and sustainability is reinforced by collaborative partnerships between local officials and property owners, a focus on quality of life issues, an inclusive community engagement process, and fostering local, political or community champions to assist in creating and implementing the community's vision

The Role of State-Level Leadership

While growth management can be addressed at all levels of government, some degree of state-level involvement is preferable for the following reasons:

- Local governments are often unable or unwilling to address land use issues that cross political boundaries; uncoordinated local plans or policies may have unintended negative impacts on their neighbors
- Statewide planning and coordination helps local jurisdictions more effectively address federal environmental regulations and access federal resources
- Demographic and economic shifts (e.g., suburbanization of poverty, decentralization of employment centers) have led to an increased need for regional cooperation in order to maintain livability and economic viability

- A coordinated effort from both state and local governments to minimize sprawl and increase the efficiency of infrastructure investments can reduce costs in the long term

Without specific legislation guiding highway development and coordination with local government, it is up to DOTs and local agencies to voluntarily form agreements or ensure regular communication, which does not always occur organically, particularly in small or rural communities with limited staff resources. Local agencies are generally not required to consult the state about local land use decisions, even if they impact highway facilities in significant ways. Formally established communication protocols can help prevent negative unanticipated consequences for all agencies involved.

Key Themes

Across the literature, certain key themes and policy elements recur frequently: consistency, concurrency, and walkable development. *Consistency* refers to the coordination of policy and actions across levels of government, among neighboring jurisdictions, and/or within departments or agencies (Table 4). *Concurrency* stipulates that development should only occur in conjunction with the provision of sufficient public services and facilities to support growth. *Walkable development* is the general goal for minimizing land consumption and creating more efficient settlement patterns as appropriate to the context of the community. In addition, the concept of smart growth has fully permeated contemporary discussion of growth management as a holistic framework for evaluating growth and development, transportation, environmental concerns and livability.

An evaluation of how state DOTs can most effectively play a role in advancing these themes at both state and local levels reveals that, while typically not the leading state agency involved in comprehensive growth management policy development, departments of transportation have been engaged with growth management efforts in a variety of ways. Many DOTs serve in an advisory capacity for local governments by providing grants, technical assistance, and encouragement in the implementation of local policies. Frequently, DOTs also engage in growth management through specific policies and programs that apply to the state highway system, most notably access management, corridor preservation, and complete streets policies. State leadership in these key areas can lead to local and regional policy development that promotes integrated, statewide land use and transportation planning without requiring major legislative action or new state planning initiatives.

Table 4
Key themes of growth management

Key Growth Management Theme	Description
Consistency	Consistency requires interagency or inter-jurisdictional coordination to ensure that the interests of the state as a whole are advanced at all levels of government. There are three general types of consistency important to a growth management policy, depending on the level(s) of government involved: • **Vertical consistency:** local plans must be consistent with state goals and policy • **Horizontal Consistency**: local plans coordinated with those of neighboring jurisdictions in a region • **Local Internal Consistency**: local development activities and regulations (i.e., zoning) remain consistent with the comprehensive plan
Concurrency	Concurrency policies stipulate that new development is contingent upon the existence of adequate infrastructure and public services, and that the impacts of the development on public services and facilities must be accounted for. A concurrency requirement ensures that new growth is located strategically and in accordance with growth management goals and/or the community's comprehensive plan. Stronger concurrency requirements (e.g., Florida) stipulate that development projects will not be approved unless minimum specified level of service standards for infrastructure facilities can be maintained. Due to growth's impacts on road congestion, transportation infrastructure is a key consideration for concurrency requirements.
Walkable Development	Walkable development is the general goal of controlling land consumption, limiting 'sprawl' development patterns and promoting more contained, efficient settlement patterns that facilitate and encourage walking for residents' daily needs. Walkable development often implies, but does not necessarily require, increased residential or commercial density. It can be an effective tool for cutting costs associated with the provision of public services and infrastructure.
Smart Growth	Contemporary (1990s and later) growth management policies have looked to smart growth as a more holistic framework for addressing growth and development together with transportation and other community needs like affordability and environmental protection. *Key Tenets of Smart Growth (Zovanyi 2007):* • growth containment in compact settlements • protection of the environment, resource lands and open space • multimodal transportation systems • mixed use development • collaborative planning and decisionmaking

The Growth Management Toolbox

Findings also demonstrate that the particular needs of urban, suburban, and rural communities are important considerations in developing growth policy; programs should be tailored to allow all types of communities to benefit from state growth management policy. Preservation of farmland and 'rural character,' as well as economic concerns, tends to dominate growth management discussions in rural

areas. Specifically with regard to transportation, many rural communities struggle with improving local access to economic opportunity and, often, basic goods and services.

Successful efforts to mitigate these problems have employed regional development and transportation coordination, investment in multimodal transportation options, and the revitalization of local town centers with a focus on a walkable community design. Resilient and redundant transport options for both passengers and freight are essential to quickly recover from disasters. Historically, Louisiana already has a robust multimodal transportation system, including rail, water, and highway-based transport. Statewide planning and growth management initiatives can help ensure integration among jurisdictions, secure funding opportunities and fill gaps in technical capacity, resulting in outcomes that may not have been possible through isolated, local policy efforts. Table 5 outlines a select list of growth management tools that were identified from the literature.

Table 5
The growth management toolbox

Growth Management Tools, Policies, and Design Strategies	
Access Management	**Tools for reducing traffic congestion, promoting pedestrian and vehicle safety, and preserving the character of roadways by minimizing conflicts and maximizing street connectivity**
Driveway Spacing Requirements	Minimum distance requirements between driveways to reduce conflict points on roadway
Flag Lot Requirements	Regulations to minimize or avoid creation of flag lots to reduce need for additional roadway access points
Joint Access Requirements	Mandates for commercial corridor development to limit driveways to one per existing parcel
Lot Frontage and Dimensional Requirements	Requirements to minimize access points to roadways by regulating minimum dimensions of parcel subdivision on roadways
Lot Split Requirements	Regulations for review of small parcel divisions normally exempt from subdivision review process
Outparcel Requirements	Requirements to encourage coordination of access and circulation for lots on perimeter of larger parcels
Private Road Ordinances	Regulations to ensure accessible, efficient private roads that integrate effectively with public street network
Roundabouts	Used as an access management tool; reduces conflict points and can increase roadway capacity
Service Roads and Alternative Access Requirements	Requirements for the provision of alternative access roads for new development, especially reverse frontage roads
Subdivision Regulations	Any other regulations that ensure new subdivisons are developed in a manner consistent with access management goals, ensuring effective integration with existing roadway network
Corridor Preservation	**Sets aside of right-of-way for transportation infrastructure needed to support future growth and development and to maintain a desired level of transportation service**
Cluster Development Zoning	Limits the location and area of development on land lots so that the rest may be preserved for farming, forestry, or green space
Interim Use Agreements	Agreements with property owners to allow limited use of corridor right-of-way (ROW) until such time as land acquisition is necessitated

Setback Requirements and Waivers	Regulations dictating required setback of development from street; may be used to preserve ROW. Waivers of setback requirements on secondary roadways can facilitate preservation of primary corridor
Transportation Impact Fee Credits	Credits back to developers for dedicating ROW for corridor preservation
Rural Land Preservation Tools	**Tools designed to prevent the conversion of rural or agricultural land to low-density suburban development**
Conservation Easements	Preservation tool by which land owners retain ownership, but give up development rights on protected land in exchange for tax reductions or credits
Land Banking	Government purchase of land for preservation purposes (also for corridor preservation)
Large Lot Zoning	Establishes minimum lot sizes to facilitate farming or forestry, and prevent parcelization of rural land
Tax Abatements	Reductions or reprieves from tax obligation in order to achieve preservation goals; e.g., tax deductions for contributions of land, use valuation for property taxes
Urban Growth Boundaries	Sets outer boundary limit for a jurisdiction to encourage walkable development and minimize loss of rural land
Transfer of Development Rights (TDR)	A means of controlling land use to complement zoning and strategic planning for more effective urban growth management and land conservation through the assignment of development credits representing a property's unused development potential
Additional Policies and Tools	
Complete Streets	Policy concept that encourages street design to incorporate elements for the safety and accessibility for users of all abilities and multiple modes of transportation
Concurrency Requirements	Requirement that supporting infrastructure is constructed prior to (or concurrent with) new development
Density Credits or Transfers	Allowing the transfer of development rights from a site or portion of a site to another, as in conjunction with TDR programs, to preserve ROW on a corridor, or in exchange for meeting specified growth management criteria
Expedited Development Review	Fast-tracked approval process for development projects conforming to established criteria or community goals, e.g., jobs near transit, infill development, etc
Historic Preservation Easements	Legal agreement restricting the development of historically significant buildings or land in exchange for tax benefits
Impact Fees	Fees imposed on new development to cover the cost of public services for the area
Intergovernmental Coordination Initiatives	State-led efforts to facilitate or enhance regular intergovernmental and/or interagency coordination and communication
Local/Regional Planning Grants	Funds provided to local governments for citizen participation, planning consultants, land use inventories, etc. as needed to develop or update local comprehensive and transportation plans
Overlay Districts	Zoning tool designed to enhance, supplement, or modify existing zoning laws for a corridor.
Road Transfers	Tool for transferring state highways to local communities or local roads to state agencies, in order to promote revitalization efforts and/or redirect traffic to maximize network capacity
Smart Growth Design Guidelines	Adoption of Smart Growth design regulations, zoning and building codes; e.g., mixed-use zoning designations, Traditional Neighborhood Design, minimum

	building densities, maximum parking ratios, form-based codes
Smart Growth Project Priority Funding	Prioritization of funding for projects that align with established state smart growth criteria and goals, e.g., compliance with Complete Streets policy, or housing near transit
Technical Assistance Programs	Provision of non-monetary resources to increase local jurisdictions' ability to plan for and implement smart growth principles
Transit Oriented Development	Dense, mixed-used development around transit stops encourages walking and limits need for automobile.

Growth Management in Louisiana

The importance of effective, coordinated transportation planning and infrastructure expenditure in shaping livable, economically thriving communities is well documented. The Louisiana Speaks process clearly highlighted the need for policy to link and direct regional growth, transportation planning, and economic development in order to ensure the state's economic competitiveness. It also revealed that greater transportation choice is a priority of the residents of southeast Louisiana. The primary argument against sprawl development is that it is too expensive. In both urban and rural areas, sprawl results in inefficient infrastructure networks and increasing costs to provide basic services to residents. Sprawl development also tends to result in:

- Conversion of natural or rural land to low-density development
- Increased spending on building and maintaining roads
- Higher individual travel costs
- Increased congestion
- Decreased livability (i.e., affordability, urban decline, inadequate services, socioeconomic segregation, limited access to transit or active transportation)

In adherence to the goals of the USDOT Strategic Plan for 2012-2016, including the goals of increasing economic competitiveness and enhancing livability through transportation, growth management planning can address these problems by ensuring that houses and jobs are developed in locations that support and are supported by multimodal transportation investments. Enabling legislation or other formal agreements that establish a higher degree of cooperation between local and state agencies is essential for inter-jurisdictional cooperation in transportation planning and should be a major consideration for any statewide growth management effort.

Conclusions

Overall, the literature suggests that managing growth through transportation policy and the efficient use of resources and available infrastructure is vital for maximizing service and capacity. In many cases, this means minimizing the need to construct new roads by directing development to areas where excess capacity exists, or where there are opportunities to reduce automobile travel demand.

The benefits of growth management to states, in terms of infrastructure costs saved, are well-established and significant within the literature. Several multi-state examinations of the various impacts of growth management policy implementation provide a body of evidence suggesting that certain characteristics are especially important to policy success:

The level of state dedication to local capacity - and commitment - building to embrace and implement mandates or recommendations

- The degree of interagency cooperation and communication, especially via legislation specifying how this shall occur
- Gubernatorial or legislative support for program or policy goals
- Incentives
- Strong enforcement mechanisms for any requirements or regulations
- Flexibility and context sensitivity in policymaking

Ultimately, this literature review provides a foundation for the examination of: various state approaches to growth management, key issues relating to planning for rural and urban communities and the importance of transportation decision-making in shaping growth. These lessons will guide the remainder of this research as we evaluate how to best apply them in Louisiana to facilitate the development of more livable, sustainable, and economically viable communities.

The full Literature Review and list of all associated resources can be found in Appendix A.

Legal Analysis

The purpose of developing minimum statewide standards is to try to alleviate some of the stress placed on state and local governments by uncontrolled development. The purpose of growth management is not to limit development, but is intended as a mechanism for coordinating infrastructure investment with development to encourage safe, efficient, and sustainable communities.

Growth management practices, affect almost all aspects of municipal concern, from encouraging public engagement to providing a variety of transportation and housing choices. The APA has identified several core principles of growth management *[6]*. These include providing a greater mix of uses and housing choices, establishing neighborhoods and communities focused around human-scale, mixed use centers, and creating balanced, multi-modal transportation systems that provide increased transportation choices.

Legal Framework

All relevant state laws in Louisiana were reviewed to establish the legal framework for planning and zoning in Louisiana. The relevant legal authorities include the Louisiana State Constitution, various revised statutes enacted by the Louisiana State Legislature over the past seventy five years, and Louisiana case law. Both the constitution and revised statutes contain broad grants of power to local communities to plan, regulate land use, and enact zoning regulations to protect the health, safety, morals, or general welfare of the community *[7]*. Further, the Louisiana Supreme Court has interpreted these laws and confirmed their constitutionality in the 1989 case, *Palermo Land Co v. Planning Commission of Calcasieu Parish [8]*.

The Louisiana State Constitution provides initial and overarching authority for local communities to regulate land use, zoning and historic preservation. In order to further this broad grant of power, the Louisiana legislature has implemented two fundamental enabling statutes; a planning enabling statute and a zoning enabling statute. Additionally, the Louisiana Supreme Court decision, *Palermo Land Co. v. Planning Commission of Calcasieu Parish*, is the landmark Louisiana case interpreting planning and zoning law, in which the court verifies that local governments, both at the parish and municipal level, have the authority to zone and re-zone land, for "the purpose of promoting health, safety, morals, or the general welfare of the community," *[8]*.

The majority of municipalities in Louisiana are incorporated under the Lawrason Act. The Lawrason Act provides a general legislative charter and applies to all municipalities except those governed by a special legislative charter or a home rule charter. The other common form of local governance in Louisiana is the "home rule charter." Any parish or municipality in the state has the option of adopting a home rule charter which "shall provide the structure and organization, powers, and functions of the government of the local governmental subdivision, which may include the exercise of any power and performance of any function necessary, requisite, or proper for the management of its affairs, not denied by general law or inconsistent with this constitution," *[9]*.

State of the Practice

After all relevant parish and municipal documents were reviewed for each parish, it was determined that approximately 23 of the 64 parishes (over 35%) have combinations of policies in place that would achieve the general designation of "growth management" parishes. This designation was given for parishes with parish-wide master planning and zoning, and also to parishes where municipalities in that parish have undertaken master planning and zoning on a level significant enough to affect the entire parish. Parishes achieving "growth management" designation are: Acadia, Ascension, Bossier, Caddo, Calcasieu, Cameron, East Baton Rouge, East Feliciana, Iberville, Jefferson, Lafayette, Lafourche, Livingston, Orleans, St. Charles, St. John, St. Mary, Tangipahoa, Terrebonne, Vermilion, West Baton Rouge, and West Feliciana (Figure 1).

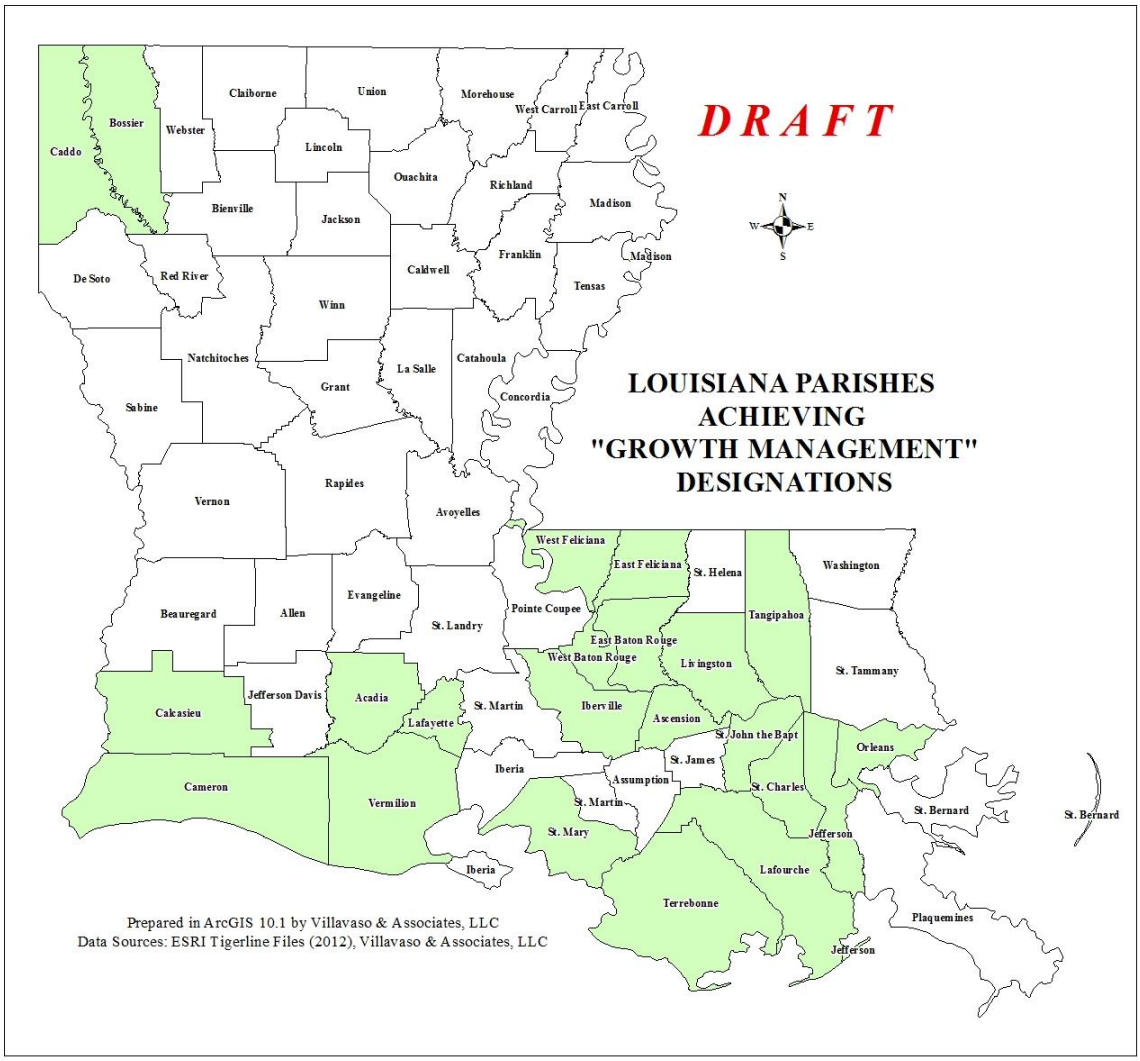

Figure 1
Louisiana parishes achieving "Growth Management" designation

Some level of planning happens even in those parishes that did not achieve the "growth management" designation. The review and analysis of parishes across the state reveals that 35 of the 64 parishes (over 50%) have adopted or are in the process of adopting and/or updating new master plan documents, most of which are directly tied to growth management techniques (Figure 2).

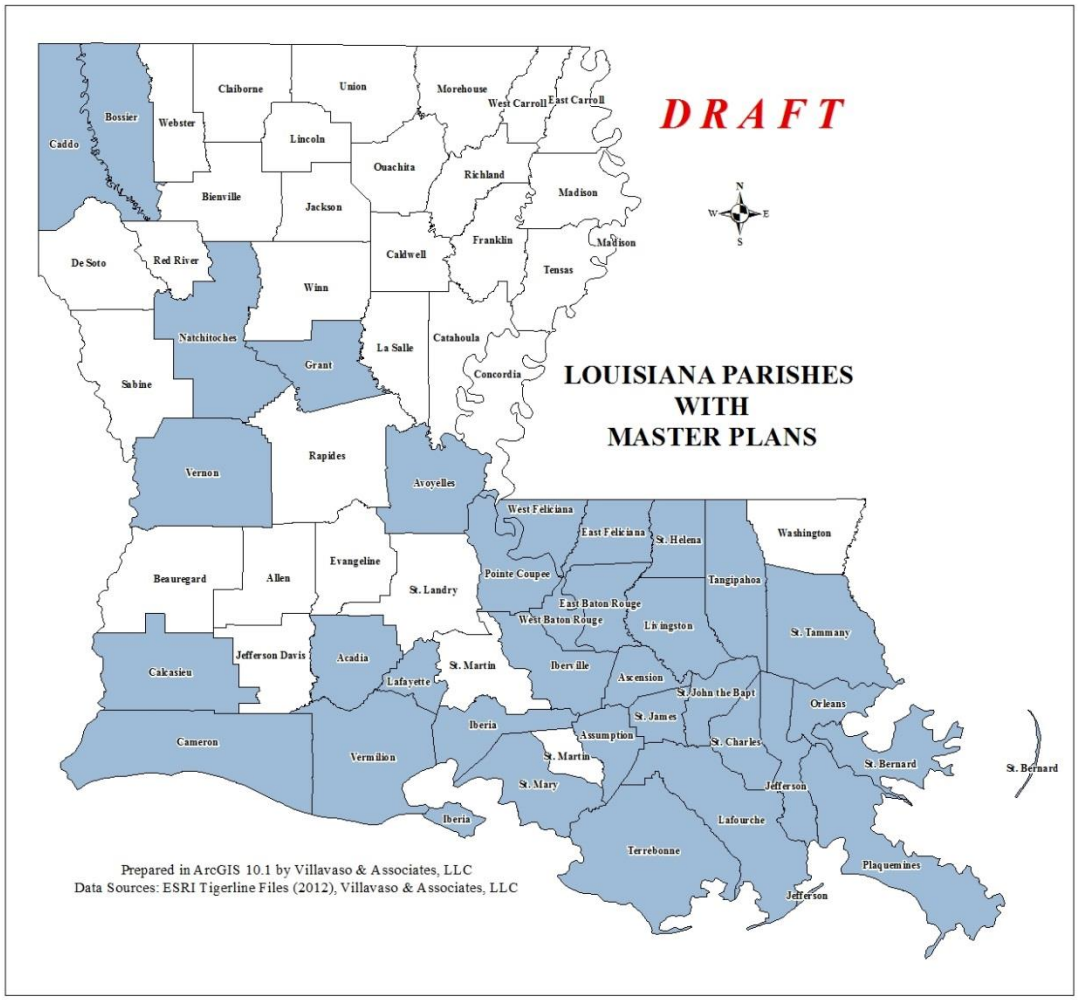

Figure 2
Louisiana parishes with master plans

Moreover, at least 21 of the 64 parishes (33%) are implementing transportation related growth management policies or are including these as goals or elements in their master plans. As discussed above, some of the most important aspects of growth management planning are related to transportation and transportation infrastructure issues. The level of incorporation of these growth management policies varies a great deal. Orleans Parish, for example, has officially adopted the "complete streets" policy, whereas other communities such as St. Charles Parish have stated goals in their master plan to increase transportation options and create a friendlier environment for cyclists and pedestrians *[12]*.

The parishes actively engaged in transportation-related growth management planning are: Acadia, Ascension, Bossier, Caddo, Calcasieu, East Baton Rouge, East Feliciana, Iberville, Jefferson, Lafayette, Lafourche, Livingston, Orleans, St. Charles, St. Mary, St. Tammany, Terrebonne, Vermillion, Vernon, West Baton Rouge, and West Feliciana (Figure 3).

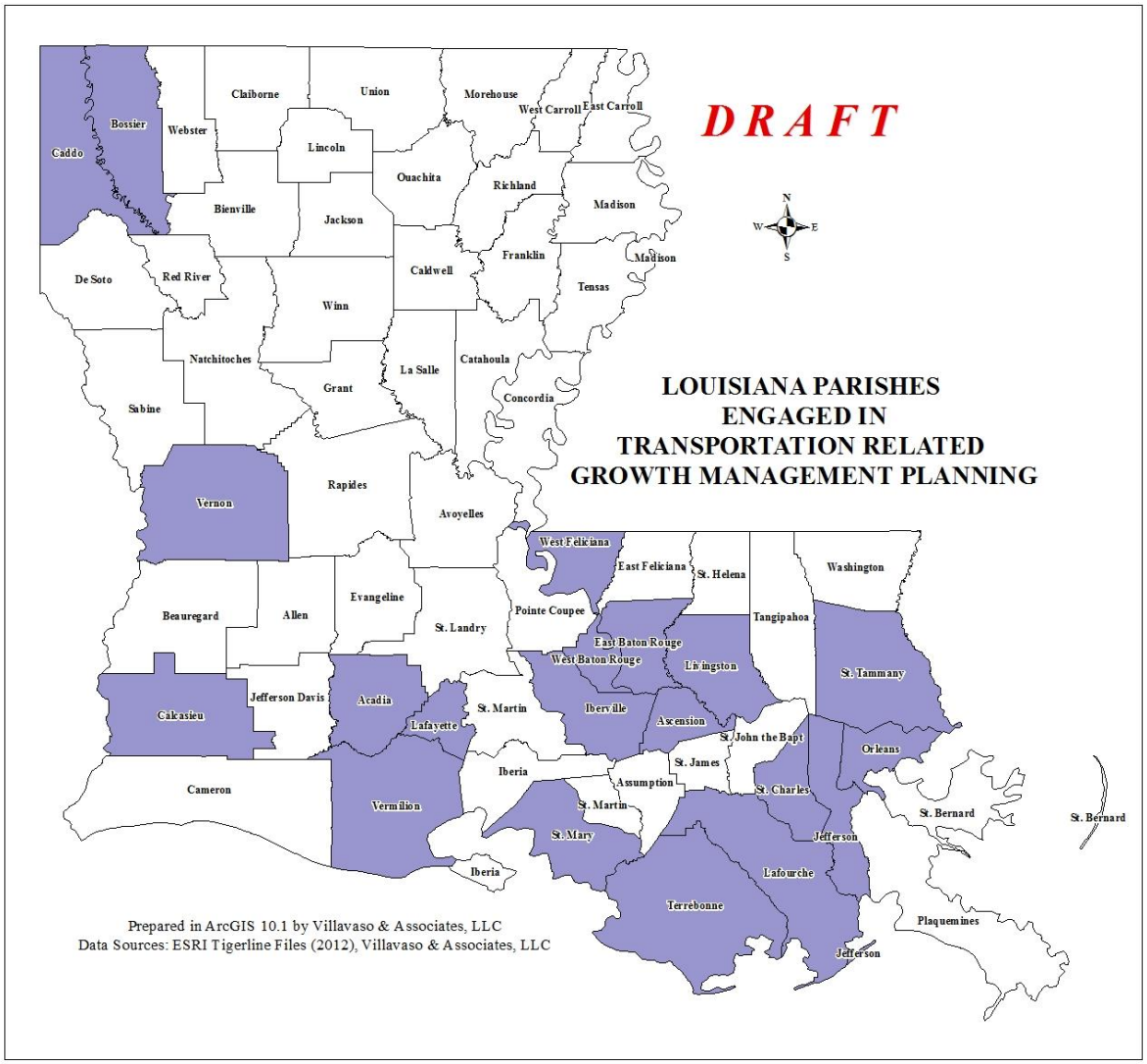

Figure 3
Louisiana parishes engaged in transportation-related growth management planning

While many parishes are including some growth management in their plans, few parishes have actually achieved full implementation of these planned policies through zoning or codified regulation. Currently, only 9 of the 64 parishes (about 15%) have implemented an updated comprehensive zoning ordinace (CZO) or similar code. Several parishes, however, are in the process of updating their zoning and will likely include growth management regulations in the coming iterations. And, as stated above, it is true that in many parishes where the parish has not enacted parish wide regulations, there are municipalities that have enacted these regulations through comprehensive planning and zoning.

Parishes with updated and adopted CZO: Ascension, Bossier, East Baton Rouge, Iberia, Jefferson, Lafayette, Orleans, St. Tammany, and Terrebonne (Figure 4).

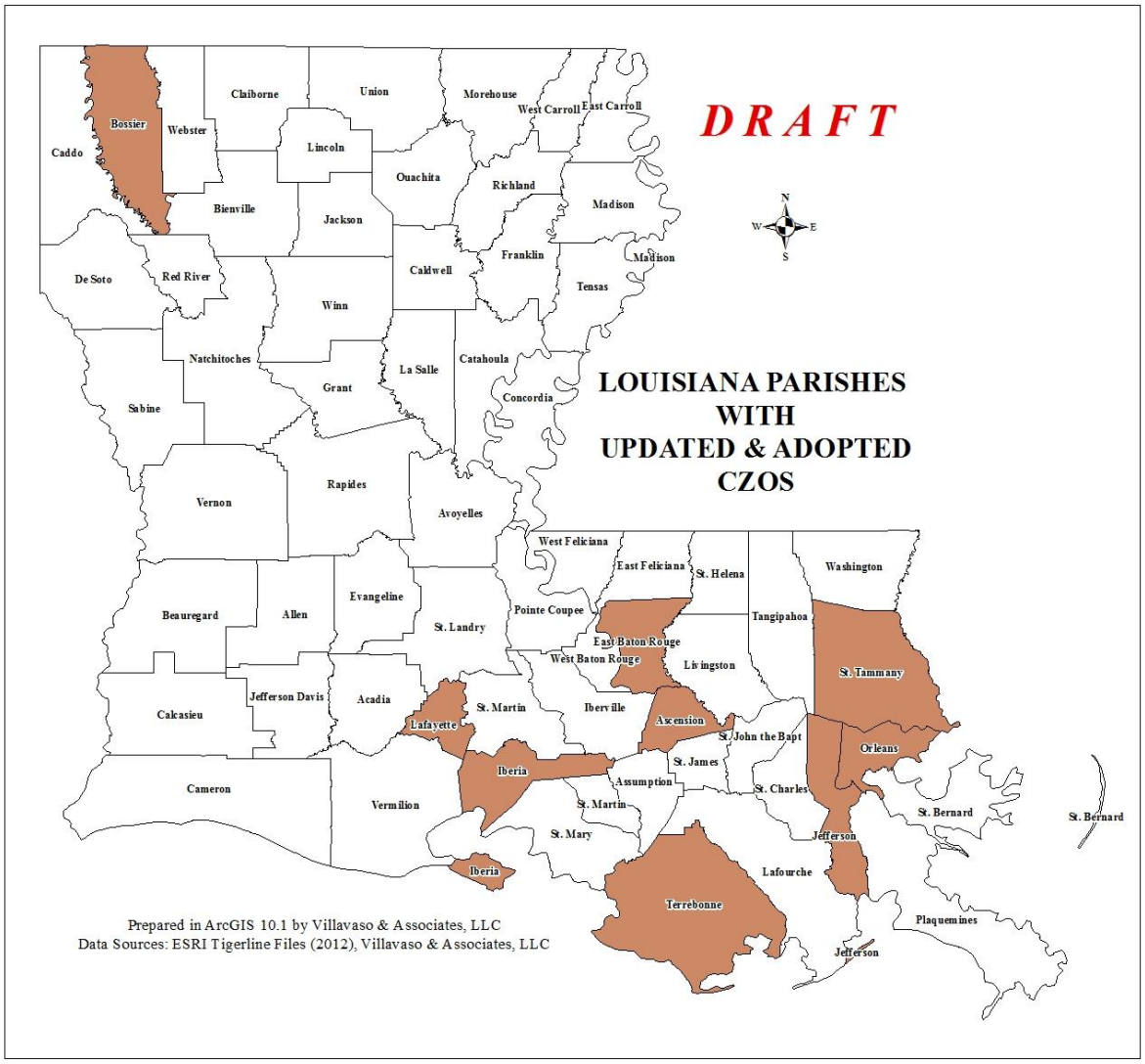

Figure 4
Louisiana parishes with updated and adopted CZOs

Conclusions

The audit of growth management practices in Louisiana has revealed that several parishes are actively engaged in growth management planning, incorporating resiliency and sustainability into adopted master plans and land use regulations. The audit also revealed, however, that many parishes, mainly in rural areas, still do not have an adopted master plan or parish-wide land use regulations. Across the state, there is a greater awareness and acceptance of growth management techniques and policies on

the parish and municipal level. Parishes and municipalities across the state, however, still have many opportunities to further incorporate growth management policies into their planning and land use regulations.

As the audit has demonstrated, the legal framework in Louisiana is firmly established and clearly allows all parishes and municipalities across the state to adopt master plans and enact land use regulations to promote the health and safety of the community. While there is still a great deal of work to be done to implement sensible growth management regulations statewide, the legal framework exists to allow for this implementation.

The full legal analysis can be found in Appendix B.

Demographic Analysis

This analysis involved identifying demographic and socioeconomic conditions and trends affecting local jurisdictions and the state as a whole, particularly with respect to the transportation needs and habits of Louisiana residents, relative to the nation as a whole and to the southern region of the U.S., as well as evaluating and comparing parishes individually. In addition to looking at transportation characteristics of Louisiana households (e.g., commute mode, travel time to work, and household vehicle access), current and projected population by age cohort is evaluated, as the number and proportion of children, seniors, and young adults in the state in the coming decades will have a tremendous impact on how to plan communities and transportation networks for the future.

Select characteristics are included below; for full analysis results and detailed data tables, see Appendix C.

Demographic Change

Louisiana's overall rate of growth is less than the national average, increasing by 1.4% from 2000 to 2010, a much lower rate of growth than the national average of 9.7%, and far below the overall growth rate for the southern region of the United States of 14.3% for this period. Growth was concentrated in a few key parishes (Figure 5). These rapidly growing parishes may be ideal candidates for applications of local growth management techniques. In other parts of Louisiana, populations are declining and vacancy rates are increasing, which will have important land use and transportation ramifications as well, particularly with regard to infrastructure maintenance and public service provision.

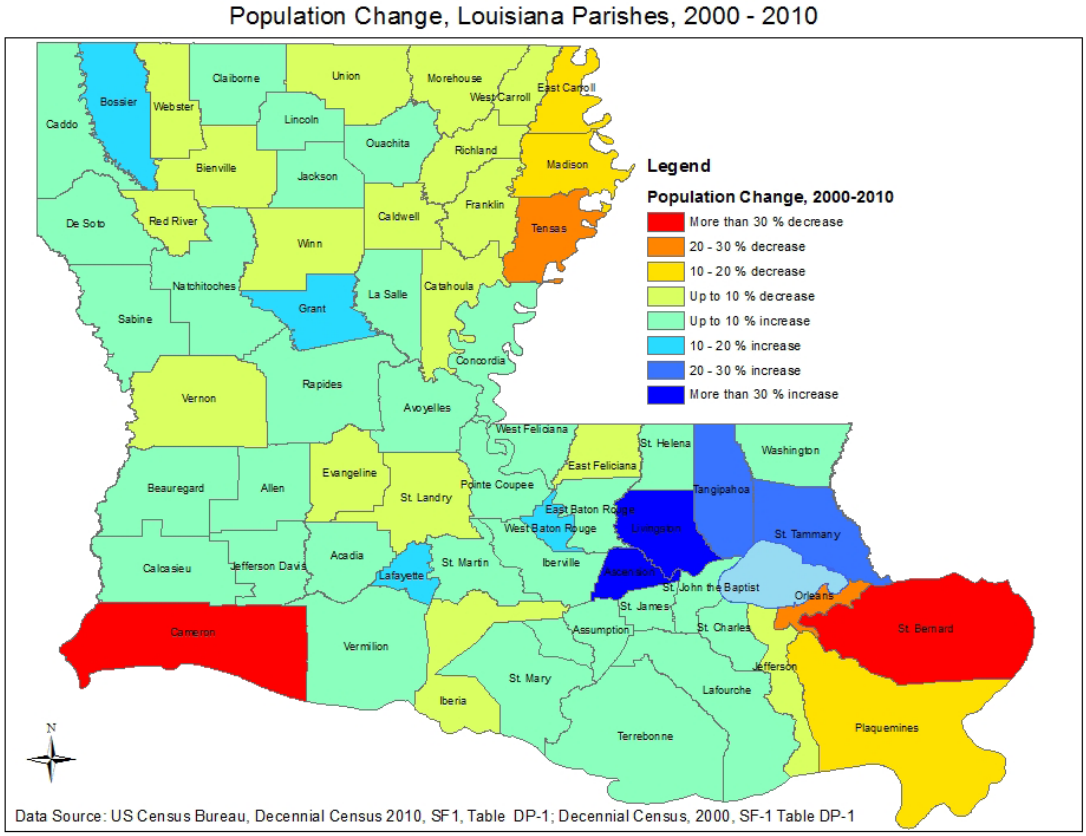

Figure 5
Population change, Louisiana parishes, 2000 – 2010

Louisiana's population is also getting older, with fewer households with children, more single-person households, and more elderly residents in most parishes. The proportion of Louisianans 18 and under decreased in the vast majority of parishes with a statewide rate of -8.3%, largely as a result of population shifts and relocations following Hurricanes Katrina and Rita in 2005. Notable exceptions are Ascension, Bossier, Livingston, St. Tammany, and Tangipahoa Parishes with increases from 9.1% to 33.3%. Louisiana's population of adults between 18 and 64 increased by 4.6%. The population 65 and older increased at a rate of 7.9%. Noteworthy parishes are Ascension, Bossier, Livingston, West Feliciana, St Tammany, and St John the Baptist with increases in the retirement-age population between 36.7% and 62.2% (Figure 6). This will significantly impact housing and transportation needs in the years to come.

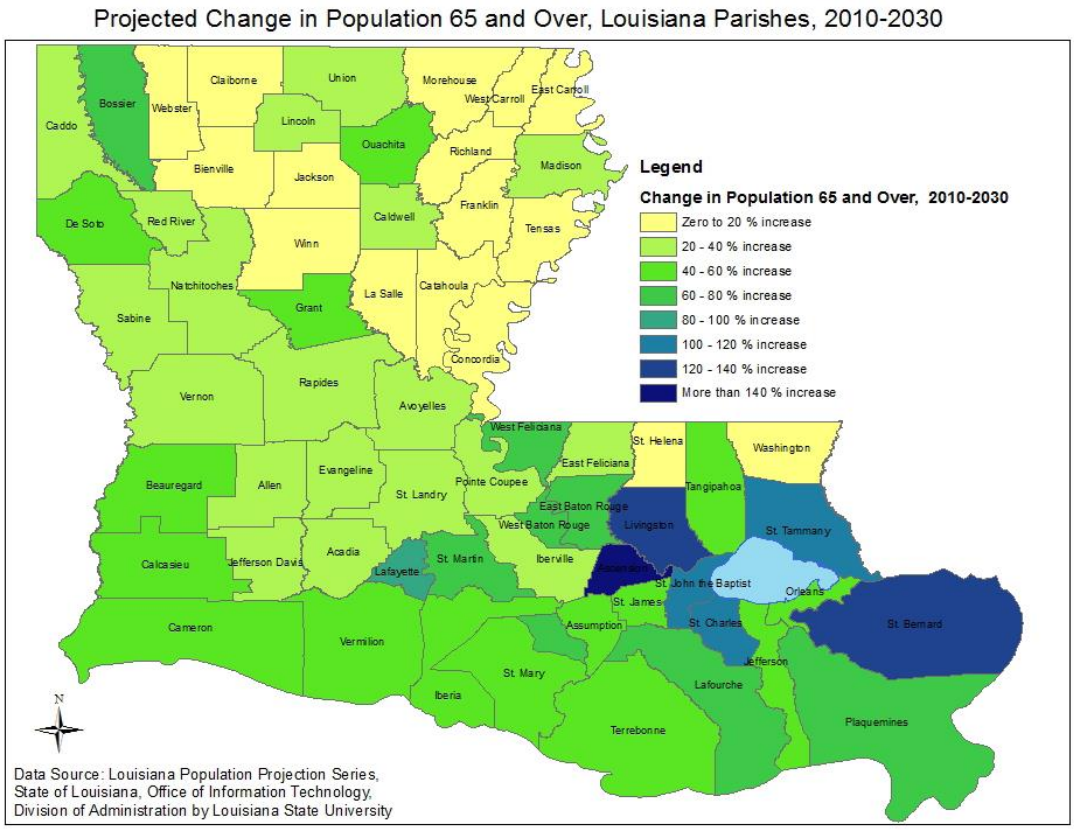

Figure 6
Percent of population over age 65, Louisiana parishes, 2010

The share and number of non-family households increased in nearly every parish, led by Orleans Parish with a 46% share of non-family households in 2010. The only exception to the trend was Cameron Parish, with a slight increase in the share of family households. Similarly, one-person households increased in nearly every parish (again, except for Cameron). Households with related children under 18 years decreased in every parish except for St. Bernard. While some of these shifts may be attributed to post-hurricane relocation of families with children, these trends are also consistent with nationwide shifts in household composition and increasing numbers of childless households, especially among single people and the elderly.

Overall, the median income for the state of Louisiana in 2010 was substantially lower than the national average. Among the wealthiest parishes were Ascension, Bossier, Cameron, Livingston, Plaquemines, St. Charles, St. James and St. Tammany, while the poorest parishes were East Carroll, Madison, St. Helena, and Tensas. In general, the poorer parishes tend to be shrinking while the wealthier parishes tend to be experiencing population growth. Statewide, individuals living under the poverty level averaged 18.1% of the population from 2006-2010, more than 4 percentage points higher than the national average. Among the parishes, Concordia, East Carroll, Madison, and Tensas

had the highest percentage of population under the poverty level with rates of 30% and higher (Figure 7). At the other end of the spectrum, Ascension, St. Charles, and St. Tammany had the lowest percentages of total population under 200 percent of poverty level (a commonly used threshold of economic instability), indicating a smaller share of households struggling financially.

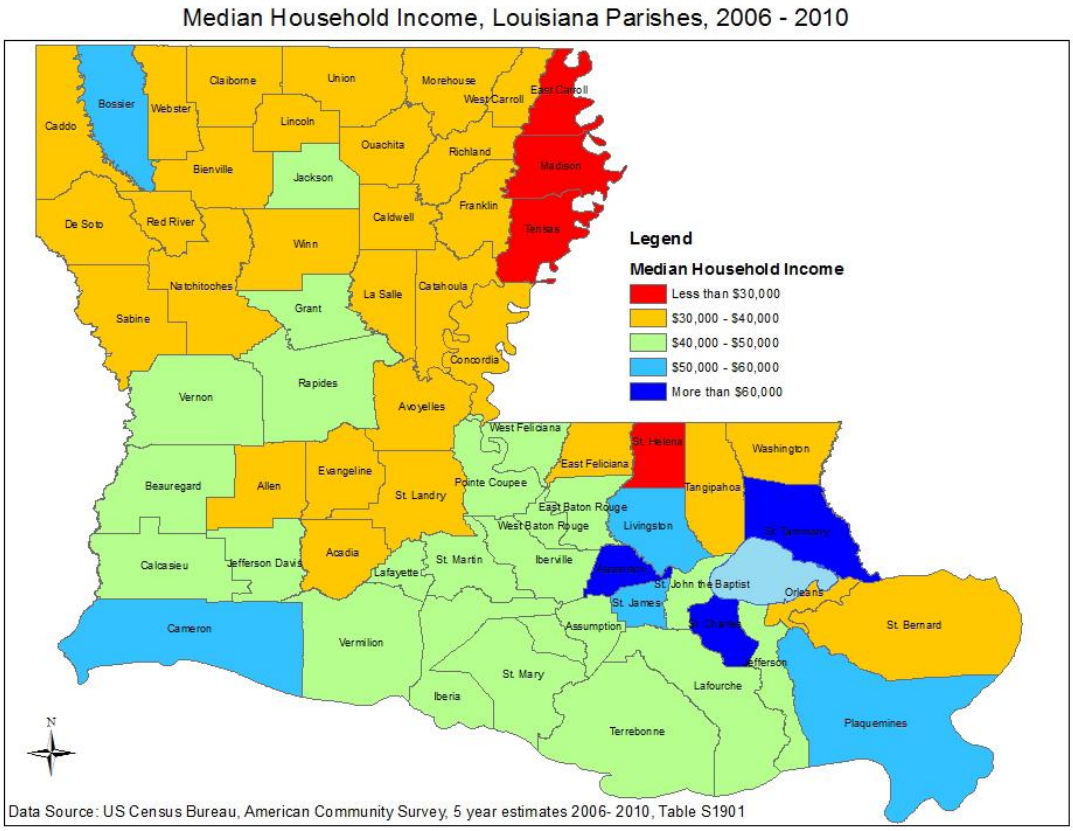

Figure 7
Median household income, Louisiana parishes, 2006-2010

Population Projections

Population projection figures are from the Louisiana Parish Population Projections Series, 2010-2030, which was developed for the State of Louisiana, Office of Information Technology, Division of Administration by Louisiana State University. The observed rate of migration from 2000-2005 was assumed to remain constant through 2030. Rates of birth and death are also held constant based on 2000-2004 vital statistics data.

Based on these projections, between 2010 and 2030 the overall population of Louisiana will increase by about 10% to 4,813,220 (Figure 8). Thanks in part to the 2005 hurricanes, the top five projected growth parishes from 2005 to 2010 were Ascension, Livingston, St. Tammany, Tangipahoa, and St. John the Baptist, all within the Baton Rouge or New Orleans metropolitan areas. From 2010 to 2030, the top fastest growing parishes are expected to be Livingston, St. Tammany, Ascension, St John the

Baptist, and Plaquemines. Again, all these parishes are in the southeast region of the state. On the other hand, 36 of Louisiana's 64 parishes are expected to experience a net population loss between 2010 and 2030.

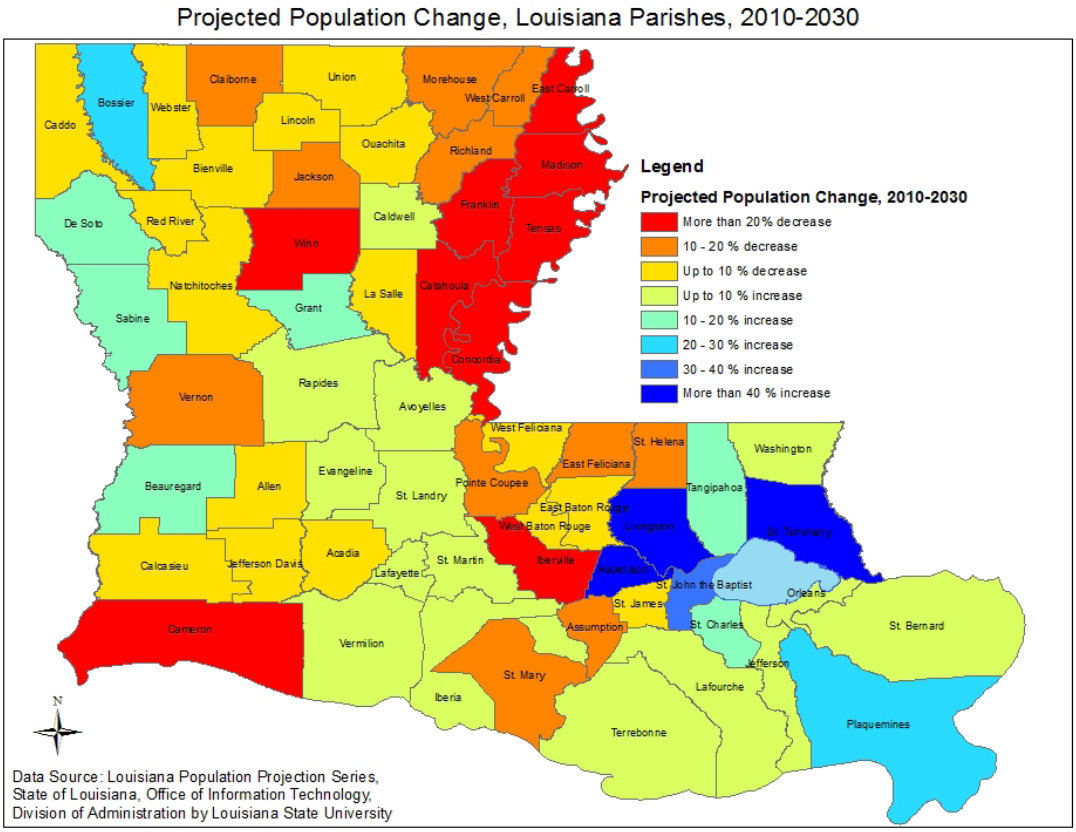

Figure 8
Projected population change, Louisiana parishes, 2010-2030

Notably, the portion of the population that is age 65 or over will increase from 546,140 in 2010 to 847,200 in 2030, a jump from 12.5% to 17.6% of the population, though the distribution of increasing proportions of aging residents will be uneven (Figure 10). Similarly, the proportion of the population that is 19 and under will decrease slightly, from 27.5% in 2010 to 26.6% in 2030 (Figure 9).

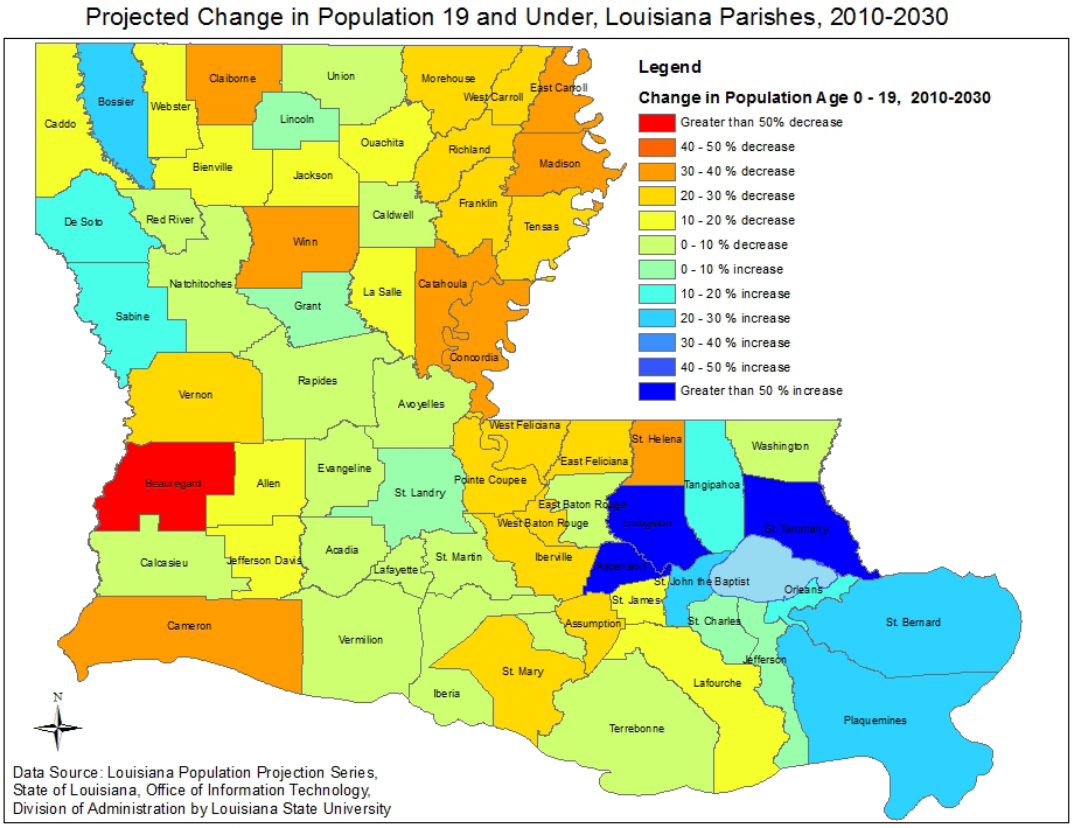

Figure 9
Projected change in population 19 & under, Louisiana parishes 2010-2030

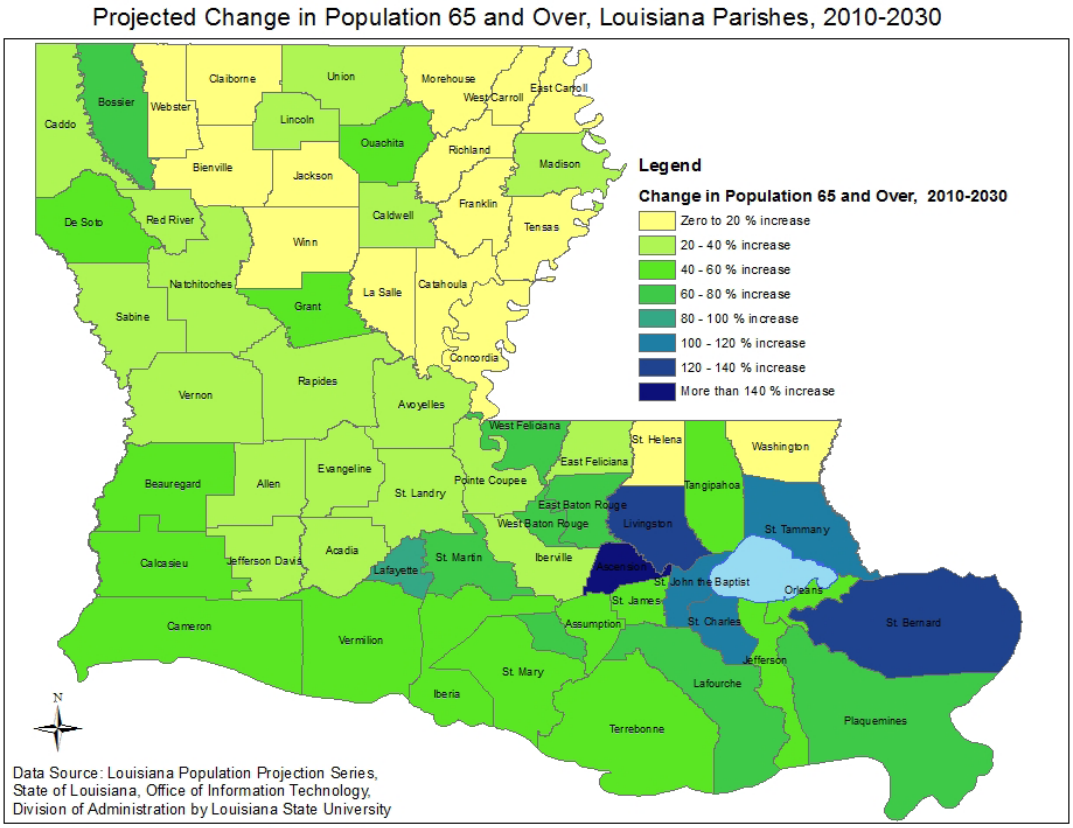

Figure 10
Projected growth in proportion of population over age 65, Louisiana parishes, 2010-2030

Transportation Characteristics

Among Louisiana workers, just over 81% drive to work alone, while 11% carpool, and the remainder take an alternative form of transportation or work at home. While Louisiana's rate of public transit use is much lower than the national average (1.27% to 4.94%), the rates of bicycling and walking are roughly comparable to national figures. In some parishes, active transportation is a significant component of residents' work commutes, led by LaSalle and Orleans Parishes for bicycling with greater than 1% of all workers riding to work, while in Cameron, Concordia, Franklin, Iberville, Lincoln, Orleans, Vernon, and West Baton Rouge parish, more than 3% of the population walks to work (Figure 11).

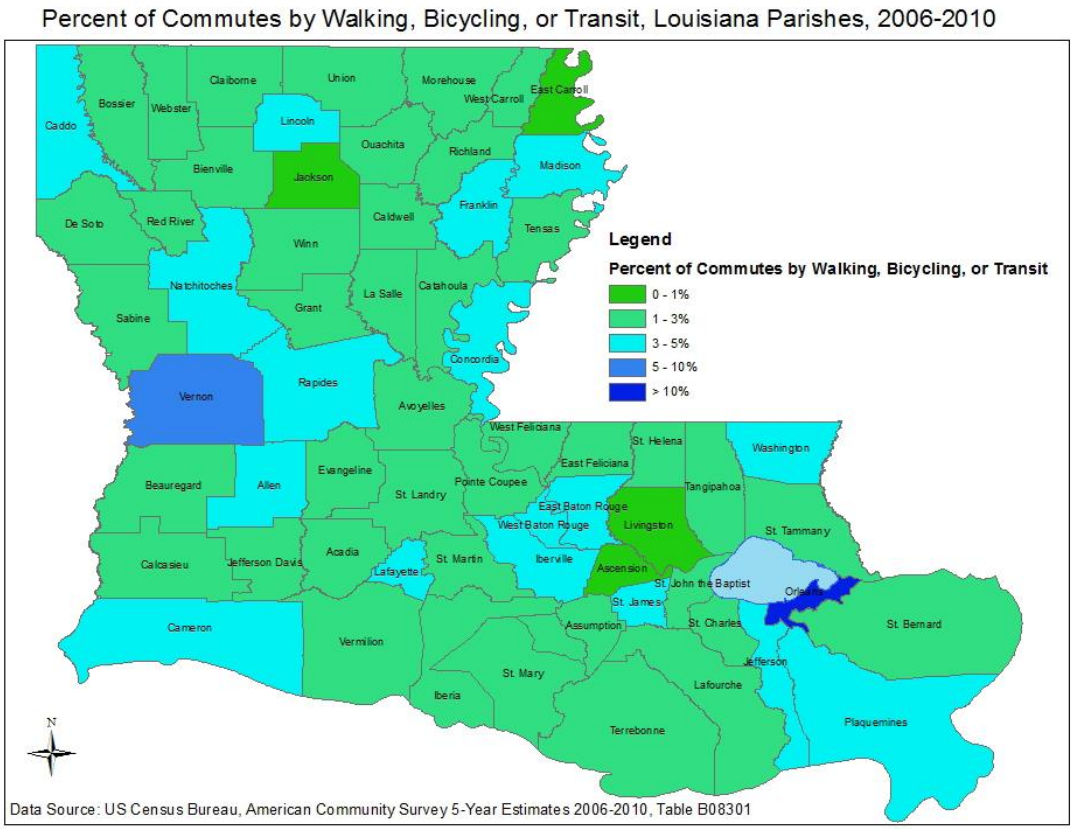

Figure 11
Percent of commutes by walking, bicycling, or transit, Louisiana parishes

Overall, Louisiana households' level of access to vehicles is slightly higher than the national average, with 91.5% of households having one or more vehicles available, while 8.5% of households—139,013—lack vehicle access. This figure is slightly lower than in 2000, when 11.85% of households lacked vehicle access, again due in large part to the dislocation of many lower income residents following Hurricane Katrina, and may not reflect long term trends of increasing car ownership (Figure 12). In 22 Louisiana parishes, more than 10% of households have access to zero vehicles, potentially limiting employment opportunities in places where few alternatives exist. Topping this list are Orleans parish, with an average of 18.4% zero-vehicle households in the 2006-2010 period, and East Carroll Parish with 16.5%.

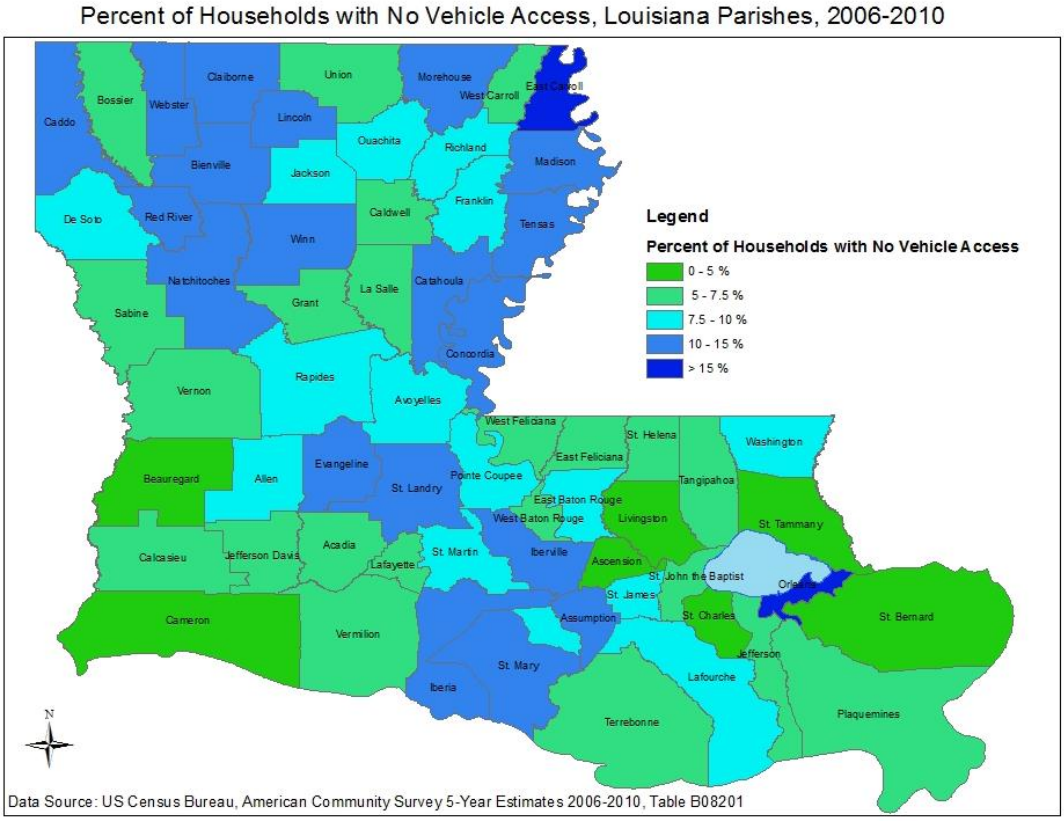

Figure 12
Percent of households with no vehicle access, Louisiana parishes, 2006-2010

Conclusions

The data indicate how households are changing, with greater overall racial and ethnic diversity, a trend toward smaller families and more single person households, and many older adults in the coming decades. Income, poverty, education, employment and unemployment, homeownership rates, and vacancy rates, as well as cost of living as benchmarked by the percentage of income spent on housing costs were also evaluated, with the data suggesting that many communities may be facing challenges to provide and maintain new and existing infrastructure in the coming years.

Statewide Polls

From October to November 2013, the Merritt C. Becker Jr. Transportation Institute at the University of New Orleans conducted a public poll about transportation across Louisiana, as well as a poll targeted to stakeholders including planners, engineers, and other professionals with an interest in and knowledge of transportation issues. The second poll was directed principally to local and regional government agencies, though representatives of non-profit organizations, the private sector, and state

agencies were permitted to participate as well. The goal of the public poll was to reach a broad base of Louisiana residents representative of the state, especially residents of metro areas that are concerned with transportation. The goal of the stakeholder survey was to gain detailed insight into both statewide issues and topics or concerns of particular priority to certain regions, as a supplement to the stakeholder focus group series.

Public Poll Results

The poll captured responses from 557 individuals representing 35 Parishes. As described above under "Methodology," the results of the poll were weighted based on gender and racial composition of the state of Louisiana. Importantly, this poll was web-based, and a majority of responses (71%) were submitted by respondents in urbanized East Baton Rouge and Orleans parish, where the poll received media attention. After weighting the results, the majority held by responses in these two parishes increased to 82%, representing a significant geographic bias as only 18% of Louisiana's population resides in these two parishes. The weighted sample was used to evaluate and report poll results (see "Methodology" for a discussion on poll weighting). Overall, 72% of respondents feel a "need to improve public transportation, including trains or buses, and make it easier to walk and bike to help reduce traffic congestion" compared to 28% that feel "we need to build more roads and expand existing roadways to help reduce traffic congestion." Meanwhile, 86% agree that their "community would benefit from an expanded and improved public transportation system, such as rail and buses" (Table 6).

Table 6 Public poll responses—general transportation priorities

Poll Question	Response Choices	Result
Which of the following statements do you agree with more:		
	We need to improve public transportation, including trains or buses, and make it easier to walk and bike to help reduce traffic congestion	72%
	We need to build more roads and expand existing roadways to help reduce traffic congestion	28%
Please state whether you agree or disagree with the following statement:-My community would benefit from an expanded and improved public transportation system, such as rail and buses		
	Agree	86%
	Disagree	14%
Please state whether you agree or disagree with the following statement:-The United States would benefit from an expanded and improved public transportation system, such as rail and buses		
	Agree	91%
	Disagree	9%

With regards to the respondents Top Priority for federal investment in transportation infrastructure (Table 7):

- 17% of respondents' top priority was expanding and improving roads, highways, freeways, and bridges

- 35% of respondents' top priority was maintaining and repairing roads, highways, freeways, and bridges
- 47% of respondents indicated that the nation's top priority was expanding and improving bus, rail, and other public transportation

Table 7
Public poll responses—federal priorities

Question: As the FEDERAL government makes its plans for transportation funding in the future, which of the following should be the top priority			
	Top Priority	Medium Priority	Least Priority
Expanding and improving roads, highways, freeways, and bridges	17%	25%	58%
Maintaining and repairing roads, highways, freeways, and bridges	36%	52%	12%
Expanding and improving bus, rail, and other public transportation	47%	23%	29%

When asked where the state of Louisiana should focus existing transportation funding, the respondents' top priorities were as follows (Table 8):

- 6% of respondents' top priority was improving transportation safety
- 25% of respondents' top priority was to maintain what is already there
- 26% of respondents' top priority was transportation projects that would strengthen the economy and create or sustain jobs
- 10% of respondents' top priority was to reduce commute times
- 9% of respondents' top priority was providing essential public transportation services for elderly, disabled, and low income citizens
- 24% of respondents' top priority was to provide additional transportation choices, such as walking, biking, and transit

Table 8
Public poll responses—state priorities

Question: On what do you believe the STATE should focus existing transportation funding?						
	Top Priority	2nd Priority	3rd Priority	4th Priority	5th Priority	Least Priority
Maintaining what we already have	25%	21%	18%	12%	15%	9%
Strengthening the economy and creating/sustaining jobs	26%	13%	15%	15%	17%	14%
Improving transportation safety	6%	12%	22%	24%	24%	12%
Reducing commute times	10%	10%	13%	13%	17%	37%
Providing essential public transportation services for elderly, disabled, and low-income citizens	9%	20%	19%	22%	17%	13%
Providing additional transportation choices such as walking, biking, and transit	24%	24%	13%	13%	10%	16%

A related question asked respondents about the **most important** goal for transportation and infrastructure projects right now for Louisiana (Table 9).

- 26% of respondents feel that the state should repair deteriorating bridges and roadways
- 23% of respondents want more transportation choices in the communities where they live
- 22% of respondents what to promote long-term economic growth, not just short-term economic growth

Table 9
Public poll responses—top state transportation goal

Question: Of the following goals for transportation and infrastructure projects, please rank which one you consider to be the most important right now for Louisiana:	
Promote long-term economic growth, not just short-term job creation	22%
Reduce our consumption of imported oil	3%
Create as many new jobs as possible, as soon as possible, on construction projects	3%
Repair deteriorating bridges and roadways	26%
Protect the environment and reduce the emission of greenhouse gases that lead to climate change	10%
Provide people with more transportation choices in the communities where they live	23%
Reduce traffic and congestion in the communities where we live	11%
Other (Please specify)	3%

In addition, the following findings reflect respondents' opinions about planning, regulation, and transportation choice:

- 94% of respondents agree that local governments should be required to develop transportation plans or comprehensive plans that address transportation (Table 10).
- 81% agree that local governments should regulate land uses to manage growth, so as to avoid overloading roadways and other infrastructure (Table 10).
- 81% agree that real estate developers should be required to mitigate any traffic congestion or pressure on infrastructure (Table 10).
- 64% agree that businesses and homes should be built in closer proximity to each other (Table10).
- 86% agree that local governments should build streets and roadways that accommodate all potential users, including cars and trucks (Table 10).
- 74% agree that "I have no choice but to drive as much as I do" (Table 11).
- 76% of respondents would like to spend less time in their car (Table 11).
- 78% would like more transportation options to have the freedom to choose how to get where they need to go (Table 11).
- 69% would like to use public transportation more often but they feel that it is not convenient or available from their home or work (Table 11).
- 69% would support paying a small increase in taxes or fees for funding to expand public transportation in their community (Table 12).
- 62% would support paying a small increase in taxes or fees to expand transportation facilities for pedestrian and bicyclists in their community (Table 12).
- 58% would support paying a small increase in taxes for fees to expand highways or repair roads in their community (Table 12).

Table 10
Public poll responses—the role of local government

Please state whether you agree or disagree with the following statements regarding the role of local government in regulating growth and development:			
	Agree	Disagree	Unsure
Local governments should be required to develop transportation plans, or comprehensive plans that address issues in that community	94%	2%	3%
Local governments should regulate land uses to manage growth, so as to avoid overloading roadways and other infrastructure	81%	11%	8%
Local government should discourage residential (or other sensitive) development next to major highways	43%	35%	22%
Real estate developers should be required to mitigate any traffic congestion or pressure on infrastructure that area	81%	8%	11%
New home construction should be limited in outlying areas and encouraged in already developed areas	42%	42%	15%
Businesses and homes should be built in closer proximity to each other, so that stores and restaurants are within walking distance and do not require the use of an automobile	64%	25%	11%
Local governments should build streets and roadways that accommodate all potential users, including cars, trucks, bicycles, pedestrians, and transit	86%	8%	6%

Table 11
Public poll responses—transportation options

Please state whether you agree or disagree with each of the following statements about the transportation options available to you			
	Agree	Disagree	Unsure
I have no choice but to drive as much as I do	74%	23%	3%
I would like to spend less time in my car	76%	17%	8%
I would like more transportation options so I have the freedom to choose how to get where I need to go	78%	17%	5%
I would like to use public transportation more often but it is not convenient or available from my home or work	69%	26%	5%
I have a driver's license and access to a vehicle for most of my trips	92%	8%	0%

Table 12
Public poll responses—transportation funding

In general, would you support or oppose increasing funding for the following, if it required a small increase in taxes or fees?			
	Support	Oppose	Unsure
To expand and improve public transportation in your community	69%	25%	6%
To expand and improve transportation facilities for pedestrians and bicycles in your community	62%	30%	8%
To expand highways or repair roads in your community	58%	28%	14%

Public Poll Conclusions

By a large margin, Louisianans would prefer investment in multimodal transportation, rather than expanding or building new roads as a means to reduce traffic congestion. Maintenance of existing infrastructure and a focus on transportation projects that will strengthen the state's economy are also very important to Louisiana residents. These findings are in line with national trends and suggest that future investments should focus principally on repairing and retrofitting existing infrastructure to more efficiently accommodate communities' needs, rather than building new roads and expanding rights-of-way, where possible.

Interestingly, the vast majority of respondents agree that local governments should be required to develop transportation plans, and that local land use regulation to manage growth is a good thing for communities. There is strong support for placing the burden of mitigating development impacts on developers, and for creating Complete Streets that accommodate all potential users. Relatedly, the majority of respondents would prefer to drive less, and to have more options for transportation. They would also like to see homes and businesses located closer to one another, which would make it easier to get around by non-automobile modes.

Notably, the majority of respondents would also support a slight increase in taxes in order to fund roadway projects in their community. An even greater proportion of respondents support paying additional taxes to create opportunities for alternative modes of travel to the automobile, including walking, bicycling, and transit use. It is important to note again that this poll was web-based, and a majority of responses (71%) were submitted by respondents in urbanized East Baton Rouge and Orleans parish. After weighting the results, the share of responses represented by these two parishes increased to 82%, though only 18% of Louisiana's population resides in these two parishes. Thus, the opinions of urban residents are overrepresented in this analysis, an inherent limitation of the poll methodology and results, as media coverage of the poll was unevenly distributed.

This limitation aside, however, the overall survey findings support the idea that transportation is important to Louisianans, and citizens are willing to consider new sources of revenue to ensure that the state's transportation networks can effectively meet the needs of all users.

Stakeholder Survey Results

These stakeholder surveys were completed by representatives of a variety of jurisdiction types (e.g. municipal government, parish government, regional government, and state agencies) representing various types of communities, including rural, small town, suburban, and urban. Questions focused on assessing general attitudes toward growth management practices, understanding the extent to which growth management practices are already in place, and determining the obstacles they might face. A total of 67 respondents responded to the survey.

Respondents indicating affiliation with "Parish Government" and "MPO/Regional Authority" accounted for the majority with 30% each. Respondents affiliated with "Municipal Government," "State," and "Other" accounted for 19%, 8%, and 12% respectively. In terms of land development patterns, the majority of respondents (33%) represented "Mostly Suburban." The remaining categories, "Mostly Urban," "Mostly Small Towns," "Mostly Rural Areas," and "Other/Mixed" each accounted for 15-20% of respondents. Geographically, respondents represented the following regions in descending order: southeast Louisiana at 44%, southwest Louisiana at 31%, central Louisiana at 31%, and North Louisiana at 11%. In terms of professional role, those involved in planning represented the majority of respondents at 67%. Engineers were 22%, and public administrators were 11% of respondents. For full data tables detailing survey respondent composition and responses to all questions, see Appendix D.

Among all respondents, 48% affirmed their agency has specific policies designed to manage and direct growth and development, with 37% responding that their agency does not manage growth and 15% were unsure (Table 13). Among those responding affirmatively, the most cited examples for existing policy were "Master Plan/Comprehensive Plan," "Zoning Ordinance," "Subdivision Regulations," and "Transportation Plan." While only 48% of respondents were aware of their agency having specific growth management policies, 78% affirmed to having a transportation plan or a

comprehensive plan that addresses transportation, and 67% affirmed to having access management and/or corridor preservation programs (Table 14).

Table 13
Stakeholder survey responses—presence of growth management in Louisiana

Presence of Growth Management Tools in Use in Louisiana			
	No	Yes	Not Sure
Specific policies or a formal program designed to manage and direct growth and development	37%	48%	15%
Transportation plan, or a comprehensive plan that specifically addresses transportation issues	78%	20%	2%
Policies and/or programs to encourage better access management and/or corridor preservation for future growth	67%	28%	6%

Table 14
Stakeholder survey responses—growth management tools employed

If present, description of policy and/or programs in place to manage or direct growth in your region:	
	Responses
Master Plan/Comprehensive Plan	11
Zoning Ordinance	9
Subdivision Regulations	3
Transportation plan	3
Access Management Policy	2
Development Review	2
Enhanced Setbacks	1
Smart Growth Program	1
Coastal Use Permits	1
Coastal Forest Conservation Initiative	1
Coastal Master Plan	1
Performance Land Use Ordinance	1
Growth Management Agreement	1
Traffic Impact Policy	1
Unified Development Code	1
Urban Growth Area	1
Large Lot Zoning	1

This survey found that representatives of municipal governments were most likely to report the presence of formal policies or programs that are intended to manage growth (62%), with parish-level governments just below at 60%. MPO representatives were least likely to report specific growth management policies (29%).

In assessing the potential goals for developing Minimum Requirements for Growth Management, all but one of the goals scored "Very Important" as the most frequent response. It is interesting to note that the three goals that garnered most support involved coordination of transportation planning with

the state: “Better coordinate state transportation planning with local land use planning,” “Implement access management along state highways,” and “Implement corridor preservation along state highways” scored 79%, 72%, and 67% respectively. The only goal to not garner a majority of “Very Important” responses was “Preserve rural land in Louisiana,” with 53% of respondents ranking it as “Somewhat Important” (Table 15).

Table 15
Stakeholder survey responses—support for growth management principles

Importance of potential goals of statewide minimum requirements for growth management			
	Very Important	Somewhat Important	Not Important
Goal to better coordinate state transportation planning with local land use planning	79%	19%	2%
Goal to implement access management along state highways	72%	26%	2%
Goal to implement corridor preservation along state highways	67%	28%	5%
Goal to expand the movement of freight on modes other than trucks, including rail and maritime	60%	35%	5%
Goal to direct future growth to existing suburban and/or urban areas in Louisiana	58%	33%	9%
Goal to implement complete streets along state highways	53%	37%	9%
Goal to expand travel choice, including transit, more walking, and bicycling in Louisiana	47%	40%	14%
Goal to preserve rural land in Louisiana	35%	53%	12%

Priorities also differ among community types, which is important to consider in the development of potential growth management policies. As a general trend, most growth management goals ranked the highest as priorities among urban communities, followed by suburban communities, and lastly among small town and rural communities. For respondents in urban areas, corridor preservation and improvements in how local land use and state transportation planning are coordinated were identified as very important by 100% of respondents. Access management, complete streets, and freight movement were also identified by most respondents as very important. In suburban communities, improved state transportation/local land use coordination was identified as the top “very important” growth management goal (87%), followed by access management along state highways (73%) and directing new growth to existing urban or suburban areas (67%). For respondents primarily serving small towns, access management and corridor preservation were identified as key goals, while in mostly rural areas, directing growth to urban or suburban areas and supporting freight movement were identified as the most important.

Notably, preservation of rural land was not identified as a top priority for growth management in any community type, although rural stakeholders demonstrated the strongest preference for both rural land

preservation and encouraging development in already-developed communities. As anticipated, implementation of the state's complete streets policy and the expansion of travel mode choice were shown to be of greater importance to urban stakeholders.

In assessing potential programs related to growth management, eleven out of fifteen scored "Very Important" as the most frequent response, with the remaining four scoring highest in "Somewhat Important." Among the most highly supported potential programs (scoring 60% or above in "Very Important) were: "access management programs," "local implementation grants," "context-sensitive transportation planning," "safe walking and bicycling routes," and "preserving sensitive wetlands and rural areas." Among potential projects with the least amount of support (scoring 20% or above in "Not Important) were: "ridesharing programs," "scenic byways programs," and "multimodal transportation districts" (Table 16).

Table 16
Stakeholder survey responses—growth management priorities

Importance of potential programs related to growth management for Louisiana			
	Very Important	Somewhat Important	Not Important
Local implementation grants	72%	19%	9%
Access management programs	70%	28%	2%
Preserving sensitive wetlands and rural areas	70%	16%	14%
Context-sensitive transportation planning	65%	33%	2%
Safe walking and bicycling routes	60%	28%	12%
Technical assistance	58%	35%	7%
Public participation in the planning process	56%	33%	12%
Transit or pedestrian-friendly development	53%	37%	9%
Transportation enhancement programs	49%	44%	7%
Local planning grants	47%	44%	9%
Modified design standards	47%	44%	9%
Special transportation treatments in designated areas	44%	51%	5%
Multimodal transportation districts	36%	43%	21%
Scenic byways programs	17%	61%	22%
Ridesharing programs	5%	74%	21%

While the previous questions indicate that there are strong levels of approval for potential goals and programs related to Growth Management, it is evident that among different agencies and jurisdictions, there are varying levels of support for implementing different growth management strategies as a current practice. Among the fourteen strategies, only four ranked with a majority responding "Strong Support," including: "Encourage community and stakeholder cooperation," "Make development decisions predictable, fair, and cost effective," "Strengthen and direct development toward existing communities," and "Require developers to mitigate traffic or infrastructure impacts resulting from new developments." Three strategies had equal parts "Strong Support" and "Some Support" ("Create walkable neighborhoods," "Build roadways that

accommodate all potential users," and "Create a range of housing opportunities and choices") while the remaining eight scored highest under "Some Support." Although no strategy had a majority of responses in "No Support," the two ranking highest in this category were "Create a range of housing opportunities and choices" and "Take advantage of compact development design strategies" (Table 17).

Table 17
Stakeholder survey responses—agency support

Level of agency/jurisdiction support for each of the following growth management strategies			
	Strong Support	Some Support	No Support
Require developers to mitigate traffic or infrastructure impacts resulting from new development	58%	33%	10%
Make development decisions predictable, fair, and cost effective	55%	38%	8%
Encourage community and stakeholder cooperation	53%	40%	8%
Strengthen and direct development toward existing communities	50%	43%	8%
Create walkable neighborhoods	44%	44%	13%
Build roadways that accommodate all potential users (cars, trucks, bicycles, pedestrians, transit)	43%	45%	13%
Provide a variety of transportation choices	40%	48%	13%
Regulate land use and roadway access to manage growth and avoid congestion	38%	50%	13%
Create a range of housing opportunities and choices	35%	35%	30%
Mix land uses	28%	60%	13%
Foster distinctive, attractive communities with a strong sense of place	28%	55%	18%
Preserve open space, farmland, and critical environmental areas	23%	63%	15%
Discourage residential or other sensitive development adjacent to major highways	23%	60%	18%
Take advantage of compact development design strategies	20%	55%	25%

In terms of impediments to managing growth, "Lack of political support" was the only response to receive a majority percentage under "Major Impediment" with 59% of respondents. Also scoring high under "Major Impediment" were "Developer opposition" and "Inadequate alternative transportation facilities" with 44% and 42% respectively. Aside from the two questions requiring stakeholders to specify responses, all other impediments ranked highest under "Minor Impediment (Table 18).

Table 18
Stakeholder survey responses—impediments to growth management

Impediments to managing growth in respondents' jurisdiction or agency			
	Major Impediment	Minor Impediment	Not an Impediment
Lack of political support	59%	31%	10%
Developer opposition	44%	46%	10%
Inadequate alternative transportation facilities	42%	42%	16%
Lack of market demand	35%	48%	18%
Community opposition	35%	45%	20%

Lack of collaboration among government agencies	34%	45%	21%
Local zoning restrictions	21%	49%	31%
Lack of a comprehensive or transportation plan to guide policy	21%	45%	34%
Other	17%	8%	75%

Among the thirteen proposed scenarios to help jurisdictions or agencies better manage and guide future growth and development, ten had the majority of responses under the "Very Useful" category, with the following three scoring over 70%: "If the state enacted legislation that helped promote growth management" at 79%, "If local elected officials were better educated about growth management tools" at 77%, and "If there were greater demonstrated public support for managing future growth and development" at 77%. Three more scenarios scored above 60% under the "Very Useful" category, including: "If local governments encouraged developers to implement smart growth principles" at 69%, "If stricter regulations were imposed on developers to manage roadway access and require infrastructure impact mitigation" at 69%, and "If there were other types of developer incentives available, such as expedited approvals, Tax Increment Financing, etc" at 65% (Table 19).

Table 19
Stakeholder survey responses—improving agency effectiveness

Scenarios that would allow respondents' jurisdiction or agency to better manage and guide future growth and development			
	Very Useful	Somewhat Useful	Not Useful
If the state enacted legislation that helped promote growth management	79%	21%	0%
If local elected officials were better educated about growth management tools	77%	17%	6%
If there were greater demonstrated public support for managing future growth and development	77%	20%	3%
If local governments encouraged developers to implement smart growth principles	69%	29%	3%
If stricter regulations were imposed on developers to manage roadway access and require infrastructure impact mitigation	69%	29%	3%
If there were other types of developer incentives available, such as expedited approvals, Tax Increment Financing, etc. (Please Specify)	65%	26%	10%
If local governments joined in more regional land use and transportation planning	54%	37%	9%
If a greater share of transportation funding was used for biking, walking, and transit infrastructure	54%	26%	20%
If developers were better educated about growth management	46%	49%	6%
If there were density incentives for developers	46%	43%	11%
If planning and zoning professionals were better educated about growth management tools	43%	46%	11%
If a local transportation or comprehensive plan was adopted	43%	51%	6%
Other	18%	18%	64%

In rating their agency's attitude toward various planning tools that affect growth and development, two tools had a majority of responses under "Very Favorable," including "access management

programs" and "expedited development review." "Corridor preservation programs" scored equally under "Very Favorable" and "Somewhat Favorable," while the remaining twenty had the majority of responses under "Somewhat Favorable." Although none had a majority of unfavorable responses, the three tools with the highest combined responses of "Unfavorable" and "Very Unfavorable" were "urban growth boundaries," "road transfers," and "Transit-Oriented Development districts or incentives." Among those not familiar with specific tools, 30% were not familiar with "Transfer of Development Rights Programs," while 23% were not familiar with "road transfers" (Table 20).

Table 20
Stakeholder survey responses—agency support for growth management tools

Agency or organization's attitude toward planning tools for encouraging and guiding growth and development					
	Very Favorable	Somewhat Favorable	Unfavorable	Very Unfavorable	Not Familiar with Tool
Access management programs	50%	47%	0%	0%	3%
Expedited development review	45%	41%	3%	3%	7%
Corridor preservation programs	45%	45%	6%	0%	3%
Complete Streets policies	42%	52%	6%	0%	0%
Other (Please specify)	40%	0%	20%	0%	40%
Infrastructure concurrency requirements	37%	57%	3%	0%	3%
Overlay districts	35%	52%	3%	0%	10%
Development impact fees	33%	40%	20%	3%	3%
Smart growth design guidelines	30%	61%	6%	0%	3%
Maximum parking ratios	29%	43%	18%	4%	7%
Cluster development zoning	27%	47%	13%	0%	13%
Minimum building densities	23%	50%	19%	4%	4%
Urban growth boundaries/urban growth areas	23%	40%	20%	13%	3%
Preservation Easements	21%	52%	17%	0%	10%
Conservation Easements	20%	53%	13%	0%	13%
Density bonuses	18%	50%	14%	0%	18%
Land banking	17%	63%	3%	3%	13%
Road Transfers	16%	32%	23%	6%	23%
Transit-Oriented Development districts or incentives	14%	52%	24%	3%	7%
Rural land preservation programs	7%	59%	17%	0%	17%
Transfer of Development Rights Programs (TDR)	3%	50%	17%	0%	30%

The survey also asked stakeholders to indicate their levels of agreement with different statements pertaining to growth management principles and practices. Of those garnering the highest levels of agreement (60% or more under "Strongly Agree") were the following:

- There needs to be greater cooperation between state and local government in planning transportation infrastructure and use (71%)
- Local governments should regulate land uses to manage growth, so as to avoid overloading roadways and other infrastructure (71%)
- Real estate developers should be required to mitigate any traffic congestion or pressure on infrastructure that results from new development in an area (69%)
- There needs to be greater cooperation among adjacent local governments in planning transportation infrastructure and land use (66%)
- Local governments should be required to develop transportation plans, or comprehensive plans that address transportation issues (66%)
- The state should create policies that support smart growth ideas (63%)

Among those with the strongest levels of disagreement were the following statements (total percent Disagree and Strongly Disagree):

- Local government has no input into regional transportation decisions (63%)
- Local government should restrict development adjacent to major roadways (46%)
- We have specific policies in place to build Complete Streets (50%)

Stakeholder Survey Conclusions

The stakeholder survey confirmed that while most local and regional governments in Louisiana are engaged in planning activities and specifically transportation planning, the majority do not have specific growth management policies in place. However, many communities are actively working on access management or corridor preservation, even if it is not reported as being intended to manage growth. Most of the agencies that report growth management activity state that it is done through comprehensive planning, zoning, and subdivision regulations.

Many respondents suggested additional policies and programs that they believe constitute a "growth management" approach, reflecting that the term is often interpreted differently by different agencies and individuals. In terms of attitudes towards growth management practices, these results have important implications for this study. Comprehensive plans, transportation plans, access management and corridor preservation are all integral components to effective growth management. The majority of respondents represented agencies that are already practicing said components, yet many of them were unaware that such practices relate directly to growth management. Development of resources that better link specific policies or regulatory tools with their possible growth management benefits could improve stakeholders' understanding of what options are available to them, and how existing policies and programs can help achieve local land use and transportation goals.

Meanwhile, key growth management concepts including improved coordination between transportation and local land use planning, corridor preservation, access management, and complete streets were identified as very important goals across the state. Other priorities differed by community type, highlighting the divergent needs of urban, suburban, and rural communities.

The survey also indicates that MPOs—identified in the literature as a key locus of policy dissemination and leadership—have not explicitly embraced growth management techniques or integrated them into planning and funding processes. In fact, among all levels of government surveyed, MPO representatives were least likely to report specific growth management policies, indicating a potential opportunity to focus on MPOs as the locus of dissemination for existing or future state policies. This strategy could be effective in creating both vertical and horizontal policy consistency.

Programs identified as very important by a majority of respondents include access management programs, local implementation grants, context sensitive transportation planning, walking and bicycling programs, and preservation of wetland and rural areas. These indicate areas where local and regional governments have identified a clear need and would be receptive to related policy efforts. Importantly, the survey also indicated support for planning mandates to require local governments to develop transportation plans.

Despite staff appreciation of various growth management goals and potential programs, respondents indicated that agency or jurisdictional support for many of the strategies commonly used to achieve these goals is lacking. A lack of political support, and relatedly, developer opposition, were cited as the key impediments to advancing Growth Management policy. The solutions most commonly identified to overcome such impediments included state legislative action, education and outreach to local officials, and demonstrated public support. This suggests that while a state leadership role may be necessary to compel local governments to coordinate growth and transportation planning – including outreach efforts to educate local jurisdictions to the benefits of Growth Management tools – there is also a clear need for grassroots action and advocacy to demonstrate citizens' support for the goals and strategies identified in this survey.

Stakeholder Meetings

This section represents the findings of a series of six meetings held between March and October of 2013 in each major metropolitan region of the state. The findings from these meetings highlight both statewide concerns and regionally or locally-specific issues that impact how and where growth is currently occurring and transportation issues related to that growth, as well as regional disparities in inter-jurisdictional coordination, growth management policy implementation, and overall current and anticipated transportation needs and priorities.

The series of six focus groups revealed significant insight into regionally-specific issues, policy concerns, and possible impediments to growth management, as well as overarching themes that are applicable statewide and should be considered in the development of minimum state requirements for local growth management. Participants made clear that the nature of local needs and attitudes differs sharply between urbanized and rural areas, and that to varying degrees, the current regulatory environment is not up to the task of managing growth, particularly at communities' urban or suburban fringe. Broadly applicable findings from stakeholders across the state are organized below by general theme. Additional findings specific to each focus group region can be found in Appendix E.

Current Growth Management Efforts

Though growth management as a conceptual framework is "on the radar" in all regions of the state, it has not previously been a priority issue in all areas, and the implementation of related policies or programs is uneven. DOTD-led initiatives, including complete streets and access management policies and the Road Transfer Program, have been unevenly implemented in various regions according to local political will, staff capacity, and community demand.

Implementation of the state's complete streets policy is seen as an important example of how DOTD has led local policy. Many communities are looking for ways to incorporate complete streets principals into projects on both state and local roads, and some jurisdictions have adopted local and regional policies that align well with the state's policy. However, implementation of the DOTD policy has been piecemeal, and participants suggest that more direction is needed from the state for how local jurisdictions can follow the state's lead. In many areas, communities' main roads are state routes; this presents an important opportunity for the state to lead the way by ensuring consistency with DOTD policy.

The Road Transfer Program has been embraced in some areas—mostly those with rapidly growing populations and less constrained budgets—but is seen as a burden in other areas where local governments fear an inability to maintain additional facilities in the future. In many communities, the program is simply underutilized; local governments may know about it, but have not taken the time to evaluate possible opportunities. Some participants suggested that road swaps allowing state and local agencies to transfer corridors to achieve mobility and community objectives may be more palatable to many local jurisdictions.

Access management is a priority in all regions and local jurisdictions are eager to receive guidance on how to more effectively implement engineering and intelligent transportation solutions (ITS). In most areas, mitigating congestion and improving traffic flow is the impetus for access management, though some communities have identified creating more walkable, livable neighborhoods as a secondary motivating factor. Some regions have already developed rigorous regulatory standards that align with growth management strategies to preserve corridor right-of-way and encourage the development of a pedestrian-friendly environment. However, friction occurs at the fringes of local jurisdictions with a

proactive regulatory environment, where rapid growth is occurring just outside those boundaries in communities with fewer development constraints.

For all of these existing policies, and for any new policy or unfamiliar engineering improvement (e.g., J-Turns, Roundabouts), participants observed that the development of successful local examples or pilot projects is a valuable tool to demonstrate the viability and potential benefit of the change. Building local agency and public support is particularly crucial in rural and exurban communities, where land use regulation tends to be minimal or non-existent in Louisiana. In many areas, subdivision regulations are the only available land use tools. Attempts to implement new regulations or policies of any kind are often controversial, even in fast-growing areas and communities just outside the boundaries of urbanized areas, where growth management is needed most. Some areas (e.g. Tangipahoa Parish) have learned to modify proposed tools to better suit the needs of rural communities, an important lesson for this project. Moreover, growth management may be more difficult to achieve in slow-growth areas, where quality of life is not presently being threatened by the impacts of unregulated development. Such conditions, however, may lead to "sprawl without growth," inhibiting communities' ability to attract newcomers and burdening budgets with excessive infrastructure.

Critically, many participants observed that a cultural shift appears to be beginning at DOTD and in many communities, where transportation planning is becoming more multi-modal and more "people-oriented" than in the past. However, policies or plans that lack any sort of enforcement mechanism to ensure compliance are an oft-cited problem that stakeholders hope this research will begin to address.

Inter-jurisdictional Coordination

Effective communication and cooperation among state, regional, and local authorities—as well as between neighboring parishes—is a crucial part of managing growth and coordinating transportation investments. Inter-jurisdictional coordination can help resolve funding problems and maximize the value of everyone's dollar for a given corridor, and can help avoid unintended negative impacts on one jurisdiction caused by projects occurring in another.

However, effective coordination requires extensive communication, and the identification of clear, specific goals for all parties involved. Moreover, issues that occur on local streets are often related to actions on state routes (and vice versa), making communication essential for identifying possible solutions. This can be a challenge, as local and state priorities sometimes differ. For example, participants observed that the state's focus may be on mobility, while a local government desires increased accessibility.

Resistance across parish lines is a common challenge. This can be resolved by ensuring (in advance of any project) that each jurisdiction's comprehensive plan (if available) aligns with that of its neighbors. Some participants suggested that it could be helpful for the state to facilitate such coordination, particularly where it will help to achieve their own goals (e.g., corridor preservation).

Successful examples of state engagement with local planning include having a DOTD representative on the local development review committee, as Shreveport has done.

State-level policies provide an important opportunity to implement growth management ideas on corridors. In order to maximize their impacts, local agencies must follow the state's example. However, in many communities, some assistance or incentives are likely essential in order to achieve that goal.

Even when successful corridor or policy coordination occurs, there are additional challenges. For example, different jurisdictions have different tax bases and levels of funding, potentially leading to disparate outcomes. In addition, without formal agreements to ensure policy consistency (both vertical and horizontal), disconnects are bound to occur. Once they do (e.g., if a local government allows development in what was intended as reserved DOTD ROW), there is little that can be done to correct them. The development of formal agreements to align state and local policies and actions is an essential step to implementing a growth management approach.

Transportation Priorities

Transportation priorities vary significantly by region, though maintenance, preservation, and economic competitiveness were identified as key priorities statewide. In New Orleans, regional connections, freight mobility, and non-motorized transportation were highlighted as key concerns. In the coastal region, dealing with water and its impacts on the local transportation network was paramount.

Across south Louisiana, the impacts of an anticipated $70 billion in oil and shipping industry investments dominate the current discussion: how to deal with the development spurred by that investment, and how to address the transportation impacts, particularly along the I-10 corridor? In North and Central Louisiana, as well as Baton Rouge, congestion and highways are still a primary focus. Local governments want loop roads and interstate expansions, though they recognize that such projects are costly and alternative solutions to increasing capacity are beginning to be considered, including how to decrease demand by encouraging infill growth in urban centers (though in most of the state, demand for downtown living is not yet a driving force in development).

In Southwest Louisiana, adapting to change is the overarching priority: changes in agency structure, increased demand for alternative transportation options, and rapid expansion of portions of the urbanized area. Resolving disputes among involved parties and encouraging better alignment of investments to meet regional needs is a key concern. Identifying solutions to declining state gas-tax revenues is also recognized as a key concern for the future of transportation, statewide.

Obstacles

The most oft-identified obstacle to the implementation of a growth management framework in Louisiana is the state's general resistance to any degree of state-level planning, and a strong

resistance to regulation in rural areas. Lack of public education about how transportation investment happens, who is responsible for what, and why any proposed change is justified tend to result in push-back.

Developer resistance was seen as an important barrier. Developers are politically powerful in many communities, and tend to see any new regulation or requirements as a burden, although this is beginning to change, especially among large developers who work in other states and have become accustomed to higher expectations. However, in many cases developer opposition is rooted in a lack of understanding about how requested improvements benefit the project or community, or in a sense of persecution when policies are applied unevenly. Inconsistent enforcement hinders developer compliance. There must be consistency between DOTD headquarters and all district offices, and local policy needs to be consistent and predictable. Outreach and increased transparency are both key ingredients to normalizing policy change and facilitating developer compliance.

As noted above, funding is a ubiquitous constraint. Not only are funds constrained overall (and tax revenues decreasing), but a lack of flexibility of certain funding sources was noted as an obstacle to addressing unique local needs (such as public outreach). The way various funding sources are "siloed" was identified as a constraint that can make it difficult to systematically implement policy system-wide, rather than project by project. In addition, it was noted that rural areas may not have access to certain types of funding, discouraging them from developing plans for which there is no funding available for implementation.

Acquiring additional ROW—whether for corridor preservation, complete streets elements, or anything else—is a tremendous obstacle. In urban areas, costs are prohibitive. In rural areas, acquisition may be politically infeasible. In many areas, moreover, the initial costs of a project are not the only obstacle: anticipated ongoing maintenance or operational costs are often enough to derail a proposed project or policy, even if it is popular and sufficient capital exists for construction. Legal barriers to corridor preservation were also mentioned, including a state limit on how long land can be held in reserve without building before it must be returned or sold.

Lack of local staff capacity—particularly in smaller communities—was a frequently identified obstacle, inhibiting coordination with state policies and sometimes undermining efforts to achieve concurrency. A lack of capacity can slow down funded projects and limit agencies' ability to seek additional funding. In addition, staff and officials at all levels of government—as well as government contractors—need more training about how to implement growth management ideas in order to avoid conflicts and prevent oversights that could lead to costly retrofits or ineffective compromises. Relatedly, bureaucratic hurdles were observed as general, if unavoidable disincentives: if implementing a complete street, taking local control of a state roadway, or adding setback requirements to preserve right of way result in additional paperwork compared to a status-quo alternative, they are unlikely to be embraced.

Above all, the state's current political climate was seen as an overarching obstacle to growth management, though not an insurmountable one. Locally, too, politicians tend to be project-oriented and focused on short-term results, whereas growth management policies—and planning in general—are more of a "long game" where the full returns of a decision may not be realized until decades later.

Moving Forward

The series of focus groups generated broadly applicable ideas for how the state can serve as a policy leader while empowering local jurisdictions to implement growth management tools that are relevant to and beneficial their specific context and conditions. At all levels, participants observed, policymakers need to be more proactive, rather than reactive, in order to save money and achieve community goals in the long run.

Moreover, there is a new focus on making new policies more performance-driven, in alignment with the new federal transportation funding bill (MAP 21) which is currently driving state policy and will require quantifiable results. On the other hand, establishing performance measures by which to measure new policy strategies must be developed carefully. For example, there may be cases where innovative projects or policies may result in negative changes in key metrics (e.g., crash totals), reflecting a short-term period of adjustment, even though the change will improve safety or performance in the long run. This may be of particular relevance in the rapidly growing number of cities and towns across the state that are encouraging more biking, walking, and transit use while both available infrastructure for such users and cultural attitudes lag somewhat behind.

Participants across the state reiterated the clear need to develop new strategies to fund transportation infrastructure, both at the state level in response to declining gas tax revenues, and at the local level in order to build consistent, dedicated revenue streams in support of local road projects and implementation of complete streets ideas, without relying solely on periodic competitive grant opportunities. Some participants suggest that tolls may be a valid source of revenue, but they must be applied selectively, and only where users can see direct benefits from toll collection. Relatedly, evaluation and elimination of unnecessary procedural or bureaucratic hurdles associated with was recommended as a means to reduce costs for both state and local agencies (e.g., requiring unnecessary external peer review for light fixtures on bridges). New intergovernmental entities, such as the Super Regional Rail Authority, also have the potential to create new finance opportunities that will relieve highway pressure and increase regional connectivity in ways that neither the state nor any individual jurisdiction can achieve alone. In addition, many participants cited the need—at both state and regional/local levels—to more fully institutionalize new policies (especially complete streets) within the project development process, so that elements in service to policy compliance are seen as integral project components, rather than expensive add-ons.

It is important to understand that different strategies may be more appropriate in different contexts. For example, complete streets was cited as a key policy framework by most participants from

urbanized areas, but seen as cost-prohibitive and potentially irrelevant in very rural communities. In suburban areas surrounding cities, on the other hand, land banking to preserve possible future rights-of-way (e.g., for beltways) was cited as a priority strategy to consider.

Similarly, where zoning regulation exists or is politically feasible, codes may be updated to support fulfillment of objectives outlined in local comprehensive plans or policies. Where zoning is not present or likely to occur, subdivision regulations are an important avenue to ensure basic principles of growth management are considered, such as setbacks on arterial routes. Increased coordination between adjacent jurisdictions to ensure that land use regulation in one area does not result in detrimental development outcomes just outside of regulatory boundaries is essential to state and local growth management goals, particularly corridor preservation. Some suggested that state legislation may be needed in order to ensure consistent application of setback regulation for all state routes. Consistent application of policy within a jurisdiction, as well as improved horizontal and vertical alignment of policy across regions, is seen as a crucial component to decreasing developer resistance. Developers need to know what to expect, that decisions are not being made politically, and that unjustified waivers to avoid a particular regulation will not be granted. DOTD district offices are important allies in this process, especially for enhancing communication between MPOs and parishes just outside MPO boundaries. Overlay districts, which have been a popular tool in several regions of the state to guide growth around key corridors, are now thought to make the local regulatory environment overly complicated and unwieldy for both government agencies and developers: more comprehensive design and development standards for all major corridors within and intersecting regions would improve transparency and reduce hassle for all involved.

As various examples have illustrated, implementation of new engineering ideas should be led with the careful development of pilot projects in order to demonstrate successful application of the concept and build local support for change. In addition, more effective and proactive communication of data is needed in order to explain and justify the application of new tools, and to ensure that local officials and citizens feel adequately involved in the decision-making process. In addition, it is important to more effectively frame proposed policies in terms of the costs of not implementing them over time, as well as immediate impacts.

Participants universally cited the need to ensure that policies have "teeth," and are fully enforceable. For example, many participants cited a need for expanded technical and/or financial assistance opportunities for smaller communities to achieve state policy goals, including planning grants and support implementing plans once developed. Some suggested that DOTD could require all jurisdictions to adopt basic transportation plans in order to be eligible for state funding, but if such a requirement were instituted it would need to have funding support attached. Alternately, most participants agreed that incentives for transportation plan updates that incorporate growth management tools and align with state policy objectives would be the most feasible, high-impact approach to achieving desired local outcomes. Linking growth management goals to opportunities to get state matching funds for local projects was recommended. Competition encourages innovation:

many stakeholders suggest linking a certain portion of state funding opportunities to compliance with existing or future DOTD policies, though it is important to ensure that equity is maintained for communities with less local capacity by providing technical assistance or retaining a percentage of funds to be distributed by formula.

Public outreach around any new policy initiatives is a universal need. More tools are needed—in the form of publications, internet resources, demonstration projects, and media outreach—for local governments to educate their communities and prevent reactionary resistance to change. In some cases, local jurisdictions (as well as DOTD district offices) may need more autonomous control over their own public outreach efforts for projects in their community. Participants complained that filtering all state projects through the public information office at DOTD headquarters is not the most effective way to get information to the people who care about a project. Opportunities for flexible funding in support of outreach and education could produce innovative new resources and strategies that would have a statewide benefit.

Preliminary Growth Management Policy Inventory

Evaluation of the findings of the previous study components resulted in development of the following draft list of recommended growth management policies, strategies, and ideas that may guide the state's approach to encouraging more effective coordination of transportation and land use at all levels of government, in accordance with national best practices as well as locally-identified priorities and concerns. These recommendations (refined and discussed in greater detail in Appendix J) were further developed and discussed with stakeholders in subsequent tasks.

- Improve inter-jurisdictional policy consistency
- Implement concurrency requirement for development impacting state roadways
- Incentivize and facilitate adoption of DOTD policies by local and regional government agencies
- Encourage and expand participation in Road Transfer program
- Include alignment with DOTD Growth Management policies as essential criteria in development review process
- Develop model subdivision regulations to encourage context-sensitive growth management in rural areas
- Promote application of existing tools and resources for local governments
- Develop planning/implementation grant program to encourage development of comprehensive plans and zoning codes
- Prioritize technical assistance and growth management policy in fast-growing communities
- Promote cost-efficient land use and transportation planning for shrinking or slow-growth communities

- Develop guide to growth management as an educational tool for local and regional governments
- Focus on MPOs as leaders for local policy dissemination and consistency with DOTD objectives
- Develop formal mechanisms to improve inter-jurisdictional coordination
- Reduce developer/community resistance to regulatory change through outreach and education
- Initiate transportation funding reform
- Develop evaluation processes and performance measures that recognize value of growth management policy approach
- Consider opportunities for state level transportation planning leadership, e.g. Coastal Master Plan
- Facilitate communication between MPOs and "fringe" communities as growth management hot spots
- Incentivize/enforce local policy change through competitive and formula funding processes
- Develop and publicize new-policy demonstration projects
- Review and eliminate non-essential bureaucratic processes
- Consider state legislative action where appropriate.
- Empower local agencies to build community support for innovative projects and policies

Growth Management Policy Modeling Exercise

The growth management policy model described above (evaluating the relationships between built environment and transportation variables with vehicle miles travelled (VMT), the crash rate, injury rate and fatality rate at the metropolitan level) was applied to data for the New Orleans and Baton Rouge metro regions. This exercise resulted in a worksheet for each region that transportation planners and officials can use to test various scenarios. This approach builds upon a number of efforts in regional transportation and land use planning during the post-Katrina environment that have sought to promote growth management and smart growth efforts.

Findings: Sensitivity Testing Using a Pivot Point Model - Baton Rouge

The Baseline for 2010 and the outcomes of the low growth, base case, and high growth pivot point models for Baton Rouge in 2030 are presented in Table 21 and Figures 13 - 16. The model predicts that from 2010 to 2030 VMTs would grow by 4% under a low growth scenario, 9% based on the base case scenario and 18% based on a high growth scenario. The crash rate would increase from 3% - 14%, the injury rate would increase from 3% - 12% and the fatality rate would increase by 1%, 3% and 6%, based on low, base and high growth rates, respectively.

Table 21
Projections for Baton Rouge in 2030 based on pivot point model

	Baseline	Low Growth	Base Case	High Growth
VMT per capita (annual)	9,319	9,712	10,153	10,987
Percentage Change in VMT Compared to Baseline	-	4%	9%	18%
Crash Rate (per 100,000 population)	2,613	2,703	2,801	2,989
Percentage Change in Crash Rate Compared to Baseline	-	3%	7%	14%
Injury Rate	668	686	707	747
Percentage Change in Injury Rates Compared to Baseline	-	3%	6%	12%
Fatality Rates	5.89	5.96	6.05	6.21
Percentage Change in Fatal Crash Rate compared to Baseline	-	1%	3%	6%

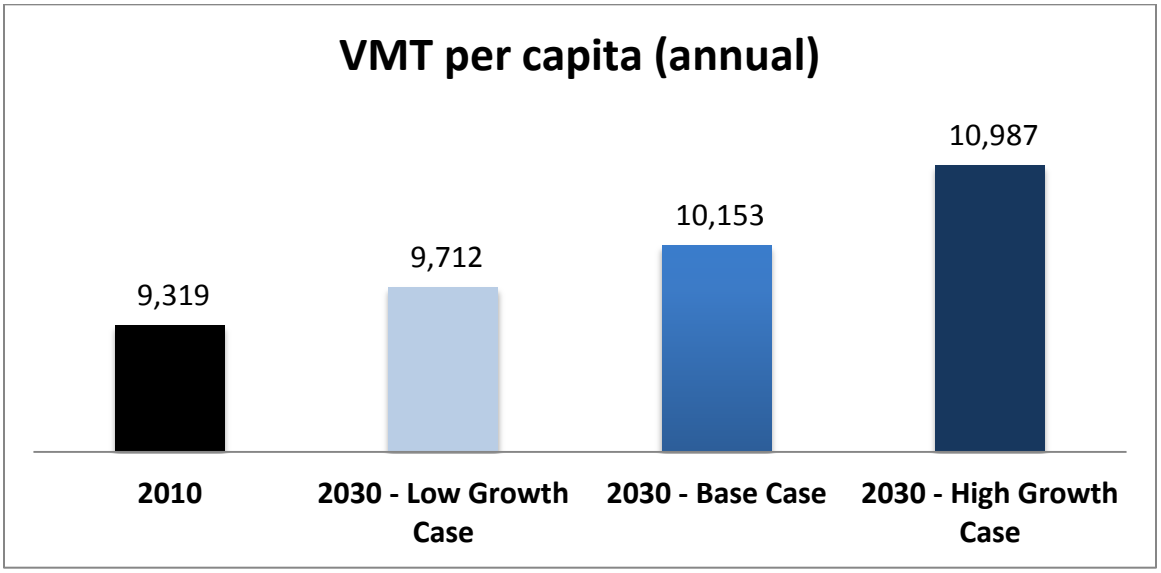

Figure 13
VMT projected change for Baton Rouge by 2030 based on level of growth

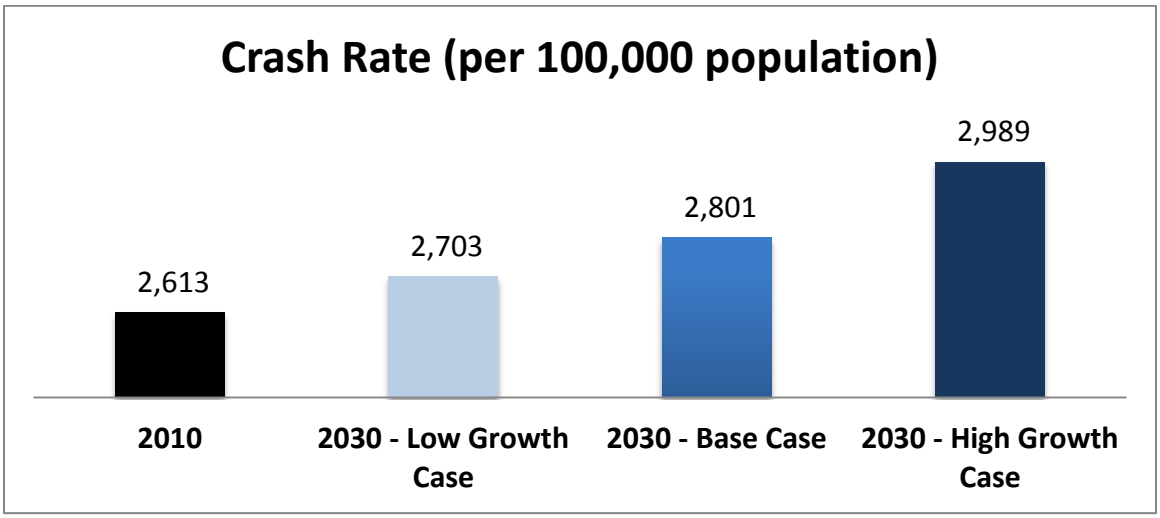

Figure 14
Crash rate projected change for Baton Rouge by 2030 based on level of growth

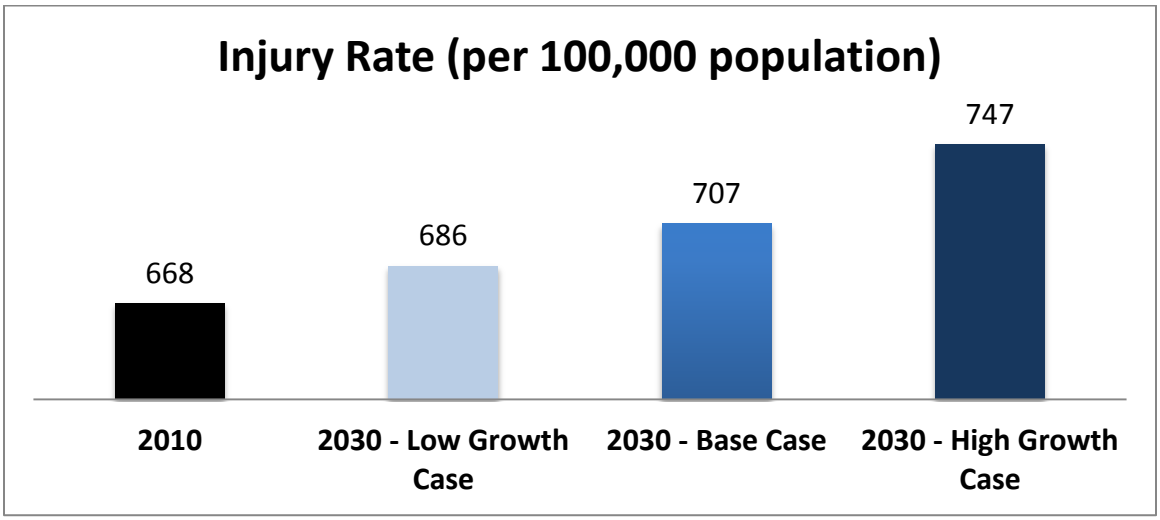

Figure 15
Injury rate projected change for Baton Rouge by 2030 based on level of growth

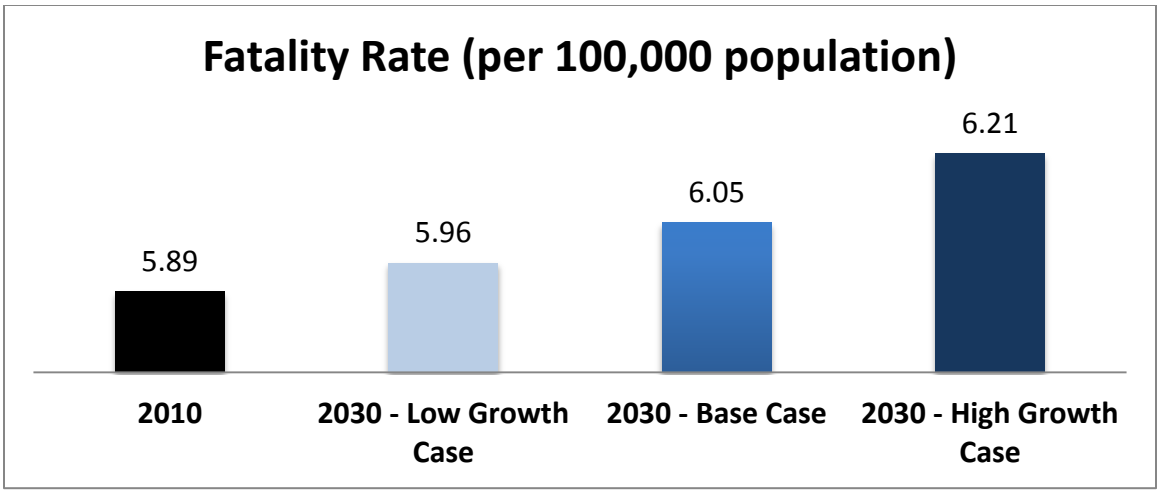

Figure 16
Fatality rate projected change for Baton Rouge by 2030 based on level of growth

Findings: Sensitivity Testing Using a Pivot Point Model - New Orleans

The baseline for 2010 and the outcomes of the low growth, base case, and high growth pivot point models for New Orleans in 2030 are presented in Table 22 and Figures 17 - 20. The model predicts that from 2010 to 2030 VMTs would grow by 5% under a low growth scenario, 10% based on the base case scenario and 21% based on a high growth scenario. The crash rate would increase from 4% - 17%, the injury rate would increase from 3% - 14% and the fatality rate would increase by 2%, 3% and 6%, based on low, base and high growth rates, respectively.

Table 22
Projections for New Orleans in 2030 based on pivot point model

	Baseline	Low Growth	Base Case	High Growth
VMT per capita (annual)	5,984	6,297	6,610	7,235
Percentage Change in VMT Compared to Baseline	-	5%	10%	21%
Crash Rate (per 100,000 population)	2,047	2135	2222	2397
Percentage Change in Crash Rate Compared to Baseline	-	4%	9%	17%
Injury Rate	579	599	619	659
Percentage Change in Injury Rates Compared to Baseline	-	3%	7%	14%
Fatality Rates	2.82	2.87	2.91	3.00
Percentage Change in Fatal Crash Rate compared to Baseline	-	2%	3%	6%

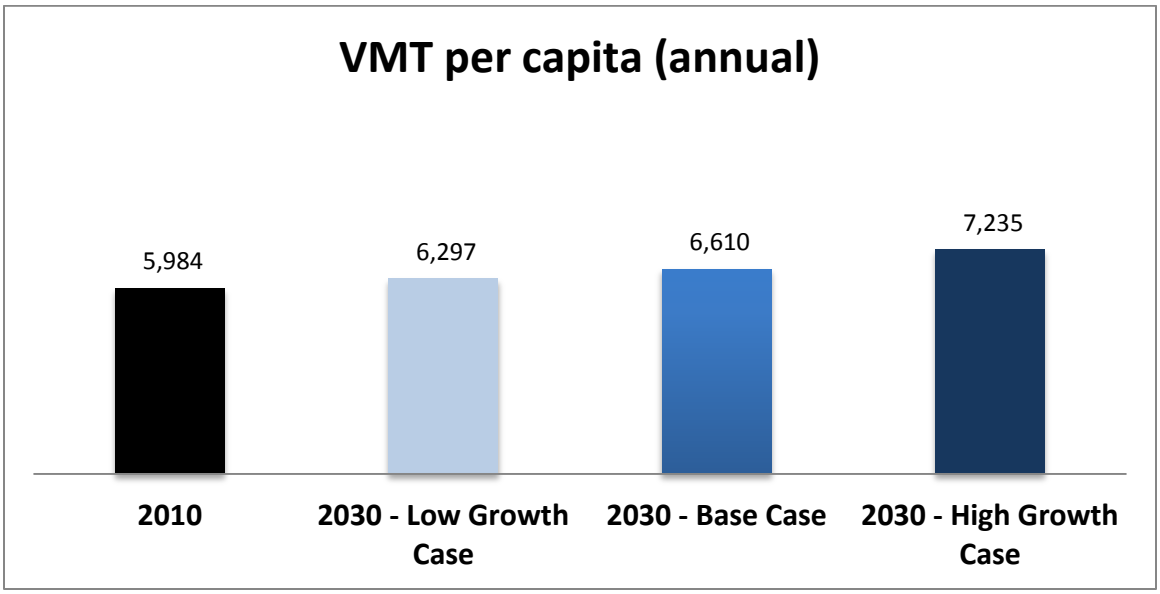

Figure 17
VMT projected change for New Orleans by 2030 based on level of growth

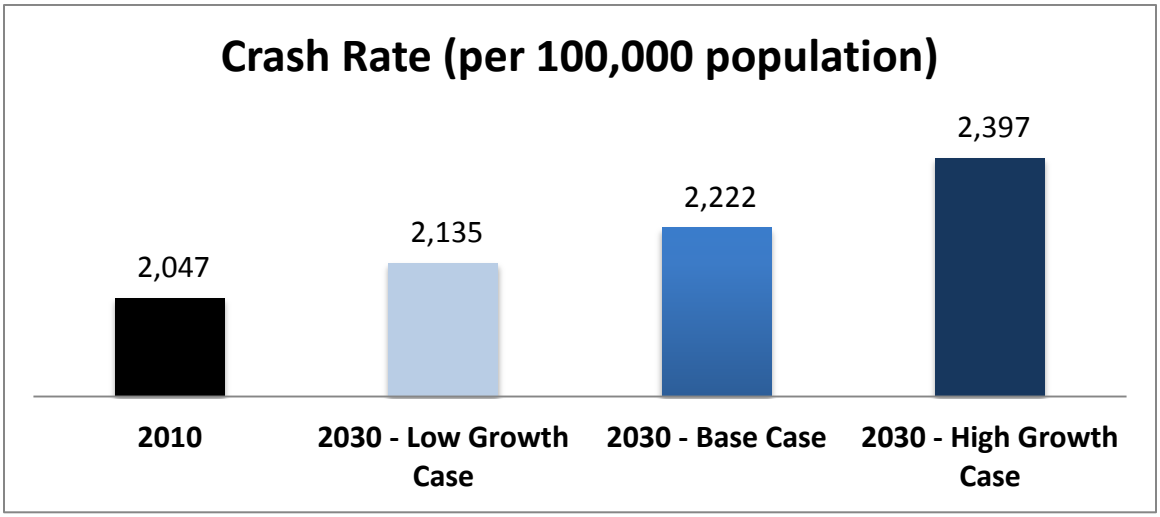

Figure 18
Crash rate projected change for New Orleans by 2030 based on level of growth

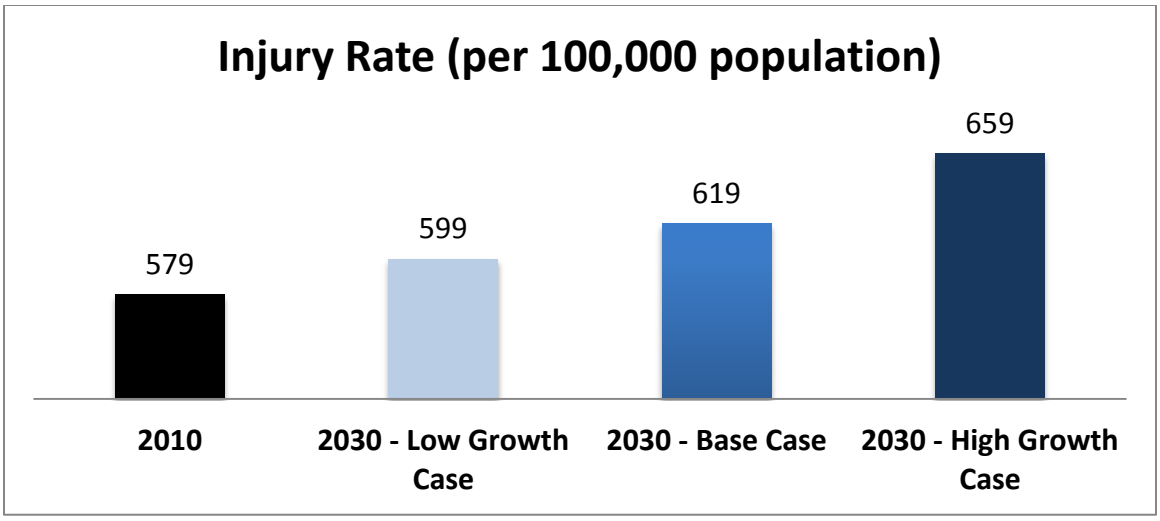

Figure 19
Injury rate projected change for New Orleans by 2030 based on level of growth

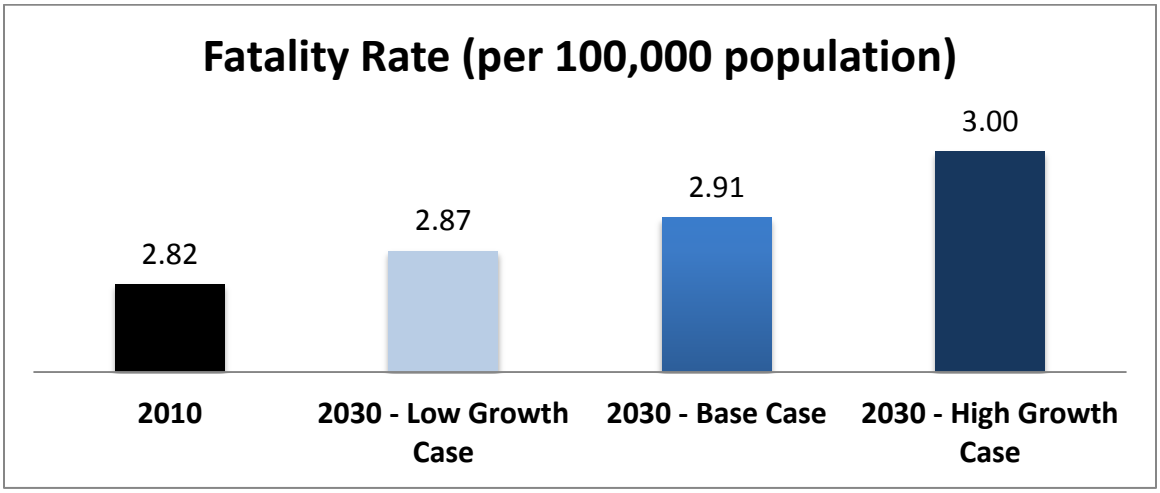

Figure 20
Fatality rate projected change for New Orleans by 2030 based on level of growth

Backcasting Model Results – Baton Rouge

The backcasting model results for Baton Rouge in Table 23 reveals that in order to achieve a future scenario of capping VMTs and improving safety while allowing population growth (POP), fuel price (FUEL), population density (POPDEN) and annual transit passenger miles per capita (TPM) must increase significantly. In the low growth scenario of 11% POP growth, FUEL, POPDEN, and TPM must each increase by 26%. The base case scenario reveals that for POP to grow by 22%, FUEL, POPDEN, and TPM must increase by 50%. The high growth scenario of 44% POP growth necessitates 92% growth in FUEL, POPDEN and TPM in order to cap VMT and improve safety.

Table 24 shows that in order to achieve low growth, base case or high growth population scenarios by 2030 FUEL (in present year dollars) would need to increase to $3.54, $4.16 or $5.40, respectively, to cap VMT growth. POPDEN would need to reach 2,042, 2,430 or 3,111, respectively and TPM would need to grow to 33.44, 39.81 or 50.96, respectively in order to cap VMTs and improve safety.

Table 23
Backcasting results for Baton Rouge to cap VMT and improve safety

	Baseline	Low Growth	Base Case	High Growth
Population (POP)	602,000	11.0%	22.0%	44.0%
Income per capita (INC)	26,446	2.5%	5.0%	10.0%
Average metropolitan fuel price (FUEL)	2.81	26.0%	48.0%	92.0%
Freeway lane miles per 1000 pop (FLM)	10.1	1.5%	3.0%	6.0%
Other lane miles per 1000 pop (OLM)	428	1.5%	3.0%	6.0%
Population density (POPDEN)	1,620	26.0%	50.0%	92.0%
Annual transit passenger miles per capita (TPM)	26.54	26.0%	50.0%	92.0%
Gross Employment Density (EMPDEN)	335	11.0%	22.0%	44.0%
Intersection Density (INTDEN)	6.5	1.5%	8.0%	6.0%
Percentage of 4-way Intersections (INT4WAY)	19.22	1.5%	5.0%	6.0%

Table 24
Backcasting targets for Baton Rouge to cap VMT and improve safety

	Low Growth	Base Case	High Growth
Population in thousands (POP)	668	734	867
Average metropolitan fuel price (FUEL)	3.54	4.16	5.40
Gross population density (POPDEN)	2,042	2,430	3,111
Annual transit passenger miles per capita (TPM)	33.44	39.81	50.96

Tables 25 shows the backcasting results for New Orleans. In order to achieve a future scenario of capping VMTs and improving safety while allowing POP, FUEL, POPDEN, and annual TPM per capita must increase significantly. In the low growth scenario of 11% POP growth, FUEL, POPDEN, and TPM must each increase by 26%. The base case scenario reveals that for POP to grow by 25%, FUEL, POPDEN, and TPM must increase by 56%. The high growth scenario of 50% POP growth necessitates 102% growth in FUEL, POPDEN, and TPM in order to cap VMT and improve safety.

Table 26 shows that in order to achieve low growth, base case or high growth population scenarios by 2030 FUEL (in present year dollars) would need to increase to $3.65, $4.38, or $5.68, respectively, to cap VMT growth. POPDEN would need to reach 4,653, 5,583, or 7,229, respectively, and TPM would need to grow to 103.90, 124.68, or 161.44, respectively in order to cap VMTs and improve safety.

Table 25
Backcasting results for New Orleans to cap VMT and improve safety

	Baseline	Low Growth	Base Case	High Growth
Population (POP)	933,000	11.0%	25.0%	50.0%
Income per capita (INC)	25,051	2.5%	5.0%	10.0%
Average metropolitan fuel price (FUEL)	2.81	26.0%	56.0%	102.0%
Freeway lane miles per 1000 pop (FLM)	5.6	1.5%	3.0%	6.0%
Other lane miles per 1000 pop (OLM)	393	1.5%	3.0%	6.0%
Population density (POPDEN)	3,579	26.0%	56.0%	102.0%
Annual transit passenger miles per capita (TPM)	79.92	26.0%	56.0%	102.0%
Gross Employment Density (EMPDEN)	460	11.0%	25.0%	50.0%
Intersection Density (INTDEN)	13.7	1.5%	3.0%	6.0%
Percentage of 4-way Intersections (INT4WAY)	40.31	1.5%	3.0%	6.0%

Table 26 Backcasting targets for New Orleans to cap VMT and improve safety

	Low Growth	Base Case	High Growth
Population in thousands (POP)	1,049	1,166	1,399
Average metropolitan fuel price (FUEL)	3.65	4.38	5.68
Gross population density (POPDEN)	4,653	5,583	7,229
Annual transit passenger miles per capita (TPM)	103.90	124.68	161.44

Discussion and Conclusions

In examining Baton Rouge to New Orleans, the backcasting results show that it is possible for Baton Rouge and New Orleans to continue to grow in population while enacting a set of growth management policies that result in the capping of total VMT and improving transportation safety between 2010 and 2030. The key question is whether or not the public would be supportive of such policies.

The leverage variables in this study are FUEL, POPDEN, and TPM. In examining the Base Case population growth scenario, FUEL prices would need to average $4.16 per gallon in Baton Rouge and $4.38 per gallon in New Orleans to achieve this goal, which are prices that are not unrealistic given price fluctuations over the past decade. With respect to POPDEN, Baton Rouge would need to achieve a gross POPDEN of 2,430 people per square mile by 2030, which is significantly lower than the 2010 POPDEN of the New Orleans region, which was 3,579 people per square mile. In fact, even the high POP growth scenario for Baton Rouge would necessitate an increase in POPDEN to 3,111 by 2030, which is lower than the current POPDEN of the New Orleans region. With respect to annual transit passenger miles per capita, Baton Rouge would need to increase to 50.96 by 2030 to compensate for the high population growth scenario. Again, the TPM in 2010 in the New Orleans region is 79.92, which is significantly higher than the highest target for Baton Rouge.

Aside from increasing FUEL, as mentioned above, New Orleans would need to boost POPDEN to 4,653 – 7,229 and TPM to 103 – 161 by 2030 in order to cap VMT growth and improve safety. Such a goal is not unrealistic when comparing New Orleans to other more compact, transit-friendly cities.

In conclusion, this study provides state and regional planners and policy makers with explicit policy targets for fuel prices, population density and transit for the Baton Rouge and New Orleans regions in order to set forth a goal to cap total VMTs and improve transportation safety by 2030.

Growth Management Policy Return-on-Investment Analysis

This study task aimed to identify and quantify some of the potential benefits of one key growth management strategy currently being employed in the state of Louisiana: access management. Access management is a concept which includes a variety of programs, policies, and engineering strategies designed to reduce congestion and provide an optimal balance between access and mobility on road networks by minimizing potential conflicts and is a key transportation tool that supports a growth management approach. Network-wide implementation of access management solutions can reduce congestion and costs associated with delay, improve safety outcomes, and support a safe, effective, multimodal transportation network by increasing roadway capacity and flow *[10]*.

DOTD has adopted an internal policy outlining the use and importance of this strategy, which "establishes uniform criteria regulating the location, design, and operation of new access connections, while balancing the needs and rights of property owners and roadway users" *[11]*. This section outlines findings from a theoretical evaluation of the potential annual costs and benefits of expanding access management interventions to 100% of arterial roadways in the Baton Rouge and New Orleans metro areas.

Findings

For the Baton Rouge region, where Texas Transportation Institute has identified that currently 25% of the existing arterial network includes access management features, the authors calculate that a retroactive expansion of the access management approach to cover all arterial roadways in the region would have prevented over 5.7 million hours of delay over a five year period (Table 28), resulting in over $141 million in cost savings resulting from personal and commercial congestion delay (Table 27).

The New Orleans region maintains a greater percentage of access management features along arterials in comparison to the Baton Rouge region. In 2011, 53% of New Orleans' arterial streets were considered as having access management features. Therefore, the foregone benefits over the five year period are smaller: 2.7 million hours of delay (Table 29), at a total cost of $60.6 million (Table 30).

Table 27
Annual delay reduction from access management on arterial streets relative to existing conditions, Baton Rouge region

Year	Existing conditions*						With additional Access Management Coverage on Arterials								
							50% Coverage			75% Coverage			100% Coverage		
	Arterial Lane Miles (1000s)	Annual Delay (1000s of person hours)	Existing % of arterials with AM	AM lane miles (1000s)	Annual Delay reduction, existing % of AM (1000s of hours)	Annual Delay reduction per lane mile of AM (in 1000 hours per mile)	Hours of Delay (1000s)	Additional Delay reduction from AM (1000s of person hours)	% decrease in delay, relative to existing conditions	Hours of Delay (1000s)	Additional Delay reduction from AM (1000s of person hours)	% decrease in delay, relative to existing conditions	Hours of Delay (1000s)	Additional Delay reduction from AM (1000s of person hours)	% decrease in delay, relative to existing conditions
2007	1440	14533	27%	388.8	299	0.769	14278	255	1.75%	14001	532	3.66%	13725	808	5.56%
2008	1450	16049	25%	362.5	419	1.156	15630	419	2.61%	15211	838	5.22%	14792	1257	7.83%
2009	1450	16383	25%	362.5	451	1.156	15996	387	2.36%	15577	806	4.92%	15158	1225	7.48%
2010	1457	17038	25%	364.25	469	1.156	16665	373	2.19%	16244	794	4.66%	15823	1215	7.13%
2011	1457	17122	25%	364.25	472	1.156	16752	370	2.16%	16331	791	4.62%	15910	1212	7.08%
Cumulative 5-Year Savings (in 1000s of hours):					***2,110***				***1,804***			***3,761***			***5,718***

*Source: http://d2dtl5nnlpfr0r.cloudfront.net/tti.tamu.edu/documents/ums/congestion-data/baton.pdf

Table 28
Total costs avoided resulting from delay reduction due to implementation of access management on arterial streets, Baton Rouge region

Year	Existing Conditions					With additional Access Management Coverage on Arterials					
						50% Coverage		75% Coverage		100% Coverage	
	Total Cost, in millions*	Total Delay (1000s of hours)*	Cost of delay per hour	Annual Delay reduction, existing % of AM (1000s of hours)*	Total costs avoided	Additional hours of Delay reduction (1000s of hours)	Total Additional Benefit	Additional hours of Delay reduction (1000s of hours)	Total Additional Benefit	Additional hours of Delay reduction (1000s of hours)	Total Additional Benefit
2007	260	14,533	$ 23.67	299	$7,406,592	255	$6,309,319	532	$13,167,274	808	$20,025,230
2008	399	16,049	$ 22.43	419	$10,416,911	419	$10,416,911	838	$20,833,821	1257	$31,250,732
2009	408	16,383	$ 24.35	451	$11,231,643	387	$9,637,795	806	$20,072,514	1225	$30,507,233
2010	422	17,038	$ 23.95	469	$11,616,270	373	$9,239,653	794	$19,667,614	1215	$30,095,576
2011	424	17,122	$ 24.65	472	$11,688,354	370	$9,163,608	791	$19,589,589	1212	$30,015,571
Cumulative 5-Year Savings (In dollars):					**$52,359,769**	**$44,767,286**		**$93,330,814**		**$141,894,341**	

*Source: http://d2dtl5nnlpfr0r.cloudfront.net/tti.tamu.edu/documents/ums/congestion-data/baton.pdf

Table 29
Annual delay reduction from access management on arterial streets relative to existing conditions, New Orleans region

Year	Existing conditions*						75% Coverage			100% Coverage		
	Arterial Lane Miles (1000s)	Annual Delay (1000s of person hours)	Existing % of arterials with AM	AM lane miles (1000s)	Annual Delay reduction, existing % of AM (1000s of hours)	Annual Delay reduction per lane mile of AM (in 1000 hours per mile)	Hours of Delay (1000s)	Additional Delay reduction from AM (1000s of person hours)	% decrease in delay, relative to existing conditions	Hours of Delay (1000s)	Additional Delay reduction from AM (1000s of person hours)	% decrease in delay, relative to existing conditions
2007	1790	16128	52%	930.8	490	0.526	15911	217	1.34%	15676	452	2.80%
2008	1790	15818	52%	930.8	512	0.550	15592	226	1.43%	15345	473	2.99%
2009	1790	18216	52%	930.8	616	0.662	17944	272	1.50%	17647	569	3.12%
2010	1774	18856	52%	922.48	638	0.692	18574	282	1.50%	18267	589	3.12%
2011	1774	19125	53%	940.22	647	0.688	18856	269	1.40%	18551	574	3.00%
Cumulative 5-Year Savings (in 1000s of hours):					***2,903***				***1,266***			***2,656***

*Source: http://d2dtl5nnlpfr0r.cloudfront.net/tti.tamu.edu/documents/ums/congestion-data/newor.pdf

Table 30
Total costs avoided resulting from delay reduction due to implementation of access management on arterial streets (New Orleans region)

Year	Existing Conditions					75% Coverage		100% Coverage	
	Total Cost, in millions*	Total Delay (1000s of hours)*	Cost of delay per hour	Annual Delay reduction, existing % of AM (1000s of hours)*	Total costs avoided	Additional hours of Delay reduction (1000s of hours)	Total Additional Benefit	Additional hours of Delay reduction (1000s of hours)	Total Additional Benefit
2007	358	16128	$ 22.20	490	$ 10,876,736	217	$ 4,810,864	452	$ 10,040,064
2008	360	15818	$ 22.76	512	$ 11,652,548	226	$ 5,154,011	473	$ 10,756,198
2009	417	18216	$ 22.89	616	$ 14,101,449	272	$ 6,237,179	569	$ 13,016,722
2010	435	18856	$ 23.07	638	$ 14,718,392	282	$ 6,510,058	589	$ 13,586,208
2011	441	19125	$ 23.06	647	$ 14,919,059	269	$ 6,192,817	574	$ 13,230,109
Cumulative 5-Year Savings (In dollars):					**$ 66,268,184**	**$**	**28,904,930**	**$**	**60,629,301**

*Source: http://d2dtl5nnlpfr0r.cloudfront.net/tti.tamu.edu/documents/ums/congestion-data/newor.pdf

The costs of implementing access management vary considerably, due to the wide range of possible interventions which can be appropriate to manage access on a given corridor. Table 31 illustrates estimated costs (provided by a DOTD State Traffic Engineer) for a selection of typical access management treatments of varying levels of complexity on a per-mile or per-intersection basis.

Table 31
Estimated costs of typical access management interventions

Intervention	Level of Complexity	Estimated Cost	
Intersection Treatments			
Add narrow median on all approaches	Moderate	$100,000	per intersection
Add turn lanes on all approaches within existing ROW	Intermediate	$800,000	per intersection
Convert unsignalizezd intersection to unsignalized j-turn	Intermediate	$500,000	per intersection
Construct one-lane roundabout	Advanced	$1,000,000	per intersection
Convert signalized intersection to signalized J-turn	Advanced	$1,500,000	per intersection
Construct multilane roundabout	Advanced	$2,000,000	per intersection
Convert signalized intersection to grade-separated interchange	Advanced	$15,000,000	per intersection
Undivided Roadway Segments			
Reduce Number of driveways and improve those remaining	Moderate	$100,000	per mile
Connect commercial parking lots	Intermediate	$200,000	per mile
Add raised median	Advanced	$400,000	per mile
Divided Roadway Segments			
Reduce number of driveways and improve those remaining	Moderate	$200,000	per mile
Reduce number of median openings, and improve those remaining (add turn lanes and restrict movements through openings)	Intermediate	$300,000	per mile
Develop frontage (and backage) road network	Advanced	$500,000	per mile, per direction

Note: Estimated costs do not include right of way
Source: Peter Allain, PE PTOE, State Traffic Engineer, LDOTD.

To estimate the potential cost on a per-mile basis of implementing basic access management principles, the authors selected two typical arterial corridors in the New Orleans and Baton Rouge regions, to calculate a range of how many major and minor intersections occur per mile. The four street segments used to approximate typical intersection densities in these regions were:

Elysian Fields Avenue (New Orleans region) from St. Claude Avenue to Filmore Avenue (3.02 miles).

- Divided Arterial
- Total Intersections: 45 (approximately 15 per mile)
- Major arterial intersections: 4 (1-2 per mile)

West Esplanade Avenue (New Orleans region) from Lake Avenue to Cleary Avenue (3.01 miles)

- Divided arterial
- Total Intersections: 35 (approximately 12 per mile)
- Major arterial intersections: 5 (1-2 per mile)

Government Street (Baton Rouge region) from S. Foster Drive to S. River Road (3.05 miles)

- Undivided arterial
- Total Intersections: 47 (approximately 16 per mile)
- Major arterial intersections: 2 (1 per mile)

Bluebonnet Blvd (Baton Rouge reigon) from Burbank Dr to I-10 (3.2 miles)

- Divided arterial
- Total Intersections: 20 (Approximately 6 per mile)
- Major arterial intersections: 3 (1 per mile)

Based on these examples, we calculated the costs of implementing access management features based on a range of 12-15 intersections per mile, 1-2 of which are major arterial intersections, for the New Orleans region, and 6-16 intersections per mile in Baton Rouge, also with 1-2 major arterial intersections.

In order to estimate likely costs of implementing access management on a corridor, we assume that a "moderate" intervention (i.e., adding a narrow median on all approaches, about $100,000 per intersection) would be implemented at all intersections, and an "intermediate" or "advanced" intervention would be applied at major intersections (e.g., adding turn lanes on all approaches or converting a signalized intersection to a signalized J-turn, $800,000 to $1,500,000 per intersection). In addition, for simplicity, the authors assume that for undivided roadways, both "moderate" and "intermediate" access management treatments will be applied, while on divided roadways, only "intermediate" treatments will be applied, resulting in a typical cost of $300,000 per arterial mile.

For the New Orleans region, this results in a typical potential cost range of **$2.3M per mile to $4.8M per mile** (*100,000 x all intersections (12-15 per mile) + 800,000 to 1,500,000 per major intersection (1-2 per mile) + 300,000 per mile for segment improvements = $2.3M per mile to $4.8M per mile).*

For the Baton Rouge region, the typical potential cost range of enhancing arterials with access management features ranges from **$1.7M to $4.9M per mile** (*100,000 x all intersections (6-16 per mile) + 800,000 to 1,500,000 per major intersection (1-2 per mile) + 300,000 per mile for segment improvements = $1.7M per mile to $4.9M per mile).*

In total, given these assumptions and estimates, full implementation of moderate to intermediate access management features across the arterial network would cost between approximately $1.9B and $5.3B in the Baton Rouge region and between $1.9B and $4B in New Orleans (Table 32).

Table 32
Estimated total cost of implementing access management throughout Baton Rouge and New Orleans metro regions

	Existing Conditions, 2011			Estimated Costs			
	Arterial Lane Miles (1000s)	Existing % of arterials with AM	Miles without AM	Estimated Cost per mile--Low	Estimated Cost per mile--High	Total Cost to implement 100% AM--Low	Total Cost to implement 100% AM--High
Baton Rouge	1457	25%	1093	$ 1,700,000	$ 4,900,000	$ 1,857,675,000	$ 5,354,475,000
New Orleans	1774	53%	834	$ 2,300,000	$ 4,800,000	$ 1,917,694,000	$ 4,002,144,000

Clearly, though the congestion-avoidance benefits linked to access management treatments are significant (greater than $11M per year in Baton Rouge and $14M per year in New Orleans), and substantial additional benefits (in terms of congestion costs and other less tangible benefits) would be realized with expansions of these features to a greater percentage of each region's arterial networks, the costs of retrofitting all roads to include these features is high. Therefore, effective long-range planning that incorporates access management principles strategically along corridors where they will most benefit users and surrounding communities.

Limitations and Future Research Needs

In addition to these findings, the team investigated other possible benefits of implementing access management, including impacts on crash incidence and environmental impacts. The Urban Mobility Report outlines the total CO2 emissions added to the atmosphere as a result of congestion, however, due to the many variables which impact emissions (e.g., speed, seasonality, vehicle type mix, facility type, etc), it is not possible with the data available to directly link the congestion reduction attributable to access management treatments to changes in CO2 emissions levels. In order to effectively evaluate these environmental impacts at the metropolitan level, research on local

conditions, as well as data on speeds before and after typical access management interventions, would need to be collected. Such an evaluation is outside the scope of this research.

The typical safety impacts of access management, on the other hand, are well established. The Federal Highway Administration, using evidence from the American Association of State Highway and Transportation Officials (AASHTO) and the Highway Safety Manual, estimates that effective corridor access management has been implemented has resulted in a 5-23% reduction in all crashes along two-lane rural highways, as well as a 25-31% reduction in fatal and severe injury crashes on urban and suburban arterials (the only geographic areas for which applicable data were readily available) *[11]*. Using the latter figure, the authors attempted to evaluate how many serious crashes may have been avoided over the 2007-2011 period in the New Orleans and Baton Rouge metro areas, using crash data from the Louisiana Crash Data Reports website *[12]*. However, this publicly available crash data cannot be disaggregated to differentiate between arterial and non-arterial roadways. Without this differentiation, it is not possible to estimate from the available data the safety impact and benefits of lives saved and costs avoided as a result of enhanced access management on Louisiana roadways.

Though outside the scope of this research, it may be possible to perform a more geographically-specific analysis of safety impacts of access management at the metropolitan level using geocoded crash data from DOTD, which could be re-coded as arterial or non-arterial to perform a rough calculation of potential benefits. A more precise analysis would also require a spatial data file showing the roadway network, including any information on median treatments, signalization, and other features that are key indicators of access management treatment, in order to measure local differences between access management and non-access management corridors, and/or to estimate the potential crash reductions possible from future access management interventions. However, the Highway Performance Monitoring System (HPMS) GIS data used by TTI is unsuitable for this purpose as it is based on sample data of roadway links, rather than a comprehensive database. Additional research is needed to identify appropriate datasets for such analysis, which would be most useful in evaluating proposed interventions on specific corridors.

Additional considerations related to the impact of access management include economic impacts to property owners along affected arterials. Generally speaking, studies have shown that access management projects do not appear to significantly impact business failure rates, and property values do not decrease following interventions, and in fact often increase following design changes on a corridor. However, more research is needed to evaluate the local economic impact of specific types of access management treatments before such data can be useful to this analysis.

Conclusions

In summary, the widespread use of access management as a tool to reduce congestion, improve safety, and mitigate the impacts of development on roadway networks could yield millions of dollars

in benefits per year in urban and suburban communities throughout the state. Louisiana's existing access management policy guidelines have already resulted in the realization of some of these benefits, and will continue to ensure that access management tools are considered during future projects impacting state roads. Expansion of the use of these tools to facilitate their application on local arterials could significantly improve the overall functionality of Louisiana's road networks, reducing the need for new road construction and enabling more intensive development of land within the existing urban footprint.

As with any proposed change to status quo roadway design, there is potential for political opposition to designing or retrofitting roadways with access management interventions. Local governments, engineers, and community members may be reluctant to embrace new and unfamiliar infrastructure types (such as J-turns), resist any proposal that is perceived to decrease the total roadway capacity even if overall traffic flow will improve (e.g., by creating a center left-turn lane or adding a median), or restricts property owners' ability to connect directly to the roadway. However, it has been demonstrated that these objections can be overcome through education, outreach, and by developing high-quality pilot/demonstration projects that illustrate the effectiveness of the new approach and increase communities' comfort with the new facility types.

In addition, though most access management improvements can be achieved within the existing right of way and with few legal impediments, in some cases there may be conflicts between property owners and government entities in order to complete adjustments to the roadway that impact private property. For example, consolidation of access points and linking multiple commercial parking lots in order to reduce driveway conflicts may require the development of a model legal framework to facilitate the development of agreements among stakeholders involved.

Finally, the costs of retrofitting existing corridors are considerable, and a universal, programmatic application of access management techniques to the state's roadways is not likely to be economically or politically feasible. However, implementation of access management is well suited to incremental application, as opportunities arise and/or in response to safety or congestion challenges identified at particular segments or intersections, according to priority.

Ultimately, however, transportation infrastructure is a public good, and the impact investment in its development and improvement cannot be measured in monetary benefits alone. Impacts to safety, environmental quality, and accessibility are challenging to quantify, but are integral quality of life. Implementation of effective access management policy statewide is one of the many tools that can and should be utilized where possible to promote the development of livable, economically vibrant communities.

Stakeholder Policy Workshops

This section summarizes the second series of stakeholder meetings, conducted during the spring of 2014. These meetings were designed as workshops to allow participants to provide feedback on the findings of this research to date and to develop consensus about which of the draft growth management guidelines are the state's top priorities. In addition, these workshops sought to identify the key stakeholders who should or must be involved in the development of priority policies, as well as the resources and actions needed to implement such policies, and the relative level of overall difficulty in achieving policy implementation. Building consensus in each region visited about statewide priorities allows the project team to refine the draft list of guidelines developed in previous phases of the research to ensure recommendations resulting from this project are relevant and practicable.

Guideline Priority Level and Implementation Feasibility

Table 33 provides an overview of the top priorities identified among stakeholder groups across Louisiana during the consensus-building discussion. In addition, individual worksheets were collected and the overall priority level assigned to each guideline by each individual participant was documented (see Appendix J for detailed participant response tables). Overall, the top priorities identified for the state by either the majority of individuals statewide or the majority of groups include:

- Review and eliminate non-essential bureaucratic processes
- Initiate transportation funding reform
- Reduce developer/community resistance to regulatory change through outreach and education
- Prioritize technical assistance and growth management policy in fast-growing communities
- Develop planning/implementation grant program to encourage development of comprehensive plans and zoning codes
- Incentivize and facilitate adoption of DOTD policies by local and regional government agencies
- Focus on MPOs as leaders for local policy dissemination and consistency with DOTD objectives
- Implement concurrency requirement for development impacting state roadways
- Include alignment with DOTD Growth Management policies as essential criteria in development review process

Table 33
Top stakeholder growth management policy priorities, by regional group consensus

Growth Management Guideline	Regions Citing Guideline as Top Priority
Prioritize technical assistance and growth management policy in fast-growing communities	5
Review and eliminate non-essential bureaucratic processes	5
Reduce developer/community resistance to regulatory change through outreach and education	4
Initiate transportation funding reform	4
Implement concurrency requirement for development impacting state roadways	3
Incentivize and facilitate adoption of DOTD policies by local and regional government agencies	3
Include alignment with DOTD Growth Management policies as essential criteria in development review process	3
Develop planning/implementation grant program to encourage development of comprehensive plans and zoning codes	3
Focus on MPOs as leaders for local policy dissemination and consistency with DOTD objectives	3
Develop and publicize new-policy demonstration projects	2
Consider state legislative action where appropriate	2
Empower local agencies to build community support for innovative projects and policies	2
Improve inter-jurisdictional policy consistency	1
Promote application of existing tools and resources for local governments	1
Develop formal mechanisms to improve inter-jurisdictional coordination	1
Consider opportunities for state level transportation planning leadership	1

Workshop participants were also asked to identify the governmental agencies or other stakeholder groups who would be likely to be involved in the implementation of each guideline, and to what degree. For a majority of guidelines, more than one agency was identified as being a potential lead for change, and in many cases the involvement of all levels of government (state, MPO, and local) is needed. In a few cases, transit agencies, non-profit organizations, or citizen groups/advocates were identified as playing a key role in instigating change. See Appendix J for detailed findings on which agency or agencies would likely be involved in each of the guidelines.

Next, participants were asked to rank how difficult the overall implementation of each guideline would be (including cost, political feasibility, etc.) as easy, medium, or difficult. These rankings were re-coded from 1 to 3 (where 1 is relatively easy and 3 is most difficult) and averaged to provide a general ranking of the relative feasibility or challenge of guideline implementation, according to workshop participants. Table 34 summarizes these scores, displayed from least difficult to most difficult.

Table 34
Degree of difficulty for policy implementation

Priority Rank	Guideline	Average Difficulty Score
15	Promote application of existing tools and resources for local governments	1.50
6	Empower local agencies to build community support for innovative projects and policies	1.70
8	Develop and publicize new-policy demonstration projects	1.70
17	Develop guide to growth management as an educational tool for local and regional governments	1.81
9	Focus on MPOs as leaders for local policy dissemination and consistency with DOTD objectives	1.81
19	Develop evaluation processes and performance measures that recognize value of growth management policy approach	1.90
4	Prioritize technical assistance and growth management policy in fast-growing communities	1.91
16	Consider opportunities for state level transportation planning leadership	1.91
11	Include alignment with DOTD Growth Management policies as essential criteria in development review process	1.92
7	Incentivize and facilitate adoption of DOTD policies by local and regional government agencies	1.94
21	Develop model subdivision regulations to encourage context-sensitive growth management in rural areas	1.95
20	Facilitate communication between MPOs and "fringe" communities as growth management hot spots	2.00
22	Encourage and expand participation in Road Transfer program	2.06
12	Improve inter-jurisdictional policy consistency	2.13
23	Promote cost-efficient land use and transportation planning for shrinking or slow-growth communities	2.26
13	Develop formal mechanisms to improve inter-jurisdictional coordination	2.30
10	Implement concurrency requirement for development impacting state roadways	2.36
5	Develop planning/implementation grant program to encourage development of comprehensive plans and zoning codes	2.37
1	Review and eliminate non-essential bureaucratic processes	2.41
18	Incentivize/enforce local policy change through competitive and formula funding processes	2.42
14	Consider state legislative action where appropriate	2.48
3	Reduce developer/community resistance to regulatory change through outreach and education	2.55
2	Initiate transportation funding reform	2.88

In addition, the authors evaluated the relationship between the stated priority level of each guideline (high, medium, or low) and the relative difficulty of implementation (easy, medium, or hard). This analysis suggests that while several of the top priorities workshop participants would like to see addressed will require considerable stakeholder effort, several are seen as relatively feasible. Those guidelines which were ranked highly for priority, but deemed relatively easy to achieve include:

- Prioritize technical assistance and growth management policy in fast-growing communities
- Empower local agencies to build community support for innovative projects and policies
- Develop and publicize new-policy demonstration projects
- Focus on MPOs as leaders for local policy dissemination and consistency with DOTD objectives

Implementation Resource Needs and Action Steps

Finally, participants were given the opportunity to suggest any resources that would be needed to implement specific guidelines, or actions that should be taken to advance a proposed program, policy, or strategy. Participants' responses are summarized below, by guideline. Additional feedback on each guideline by region is available in Appendix J.

Review and eliminate non-essential bureaucratic processes

- Bureaucratic processes can be reduced by streamlining and standardizing the review process to ensure that decisions are consistent. Engineering design standards should be evaluated, updated, and enforced consistently at all stages of review.
- Stakeholders suggest allowing MPOs to fund and approve final design drawings, prior to bidding, as this has been identified as a phase where projects often stall due to lack of local capacity and funds.
- Communication of DOTD policy, processes, and changes thereof could be clearer and made more accessible (e.g., via online tools) to local planners and engineers.
- Fund dedicated DOTD staff time to identifying and prioritizing problems and developing solutions.
- Eliminate non-essential review items from standard review processes, e.g., historic preservation on pavement markings projects.
- MPOs can lead by identifying specific changes that would enable them to collaborate more effectively with the state and with local governments.
- Improve interagency/intergovernmental communication.
- Improve public/consumer information, including creating a user-friendly DOTD checklist that developers can use.
- Existing opportunities available at DOTD to train local public agencies on review processes and to enhance the role of MPOs as conduits of this information should be more effectively promoted and expanded

Initiate transportation funding reform

- Research state legislative reform of transportation revenue streams
- Pursue outside expertise from national groups
- Establish political consensus in MPO areas or larger regions first
- Remit a share of locally-generated state tax revenue to local/regional governments to support innovation in transportation
- Develop public outreach campaign around funding reform options, including VMT tax, sales tax, and transit investment
- Work on establishing legislative and administrative support for change from the top
- Empower local communities to generate revenue creatively, such as by allowing parking fees on state routes.
- Focus on multimodal transportation to reduce freight impacts on roadways, and/or address disproportionate impacts of freight transportation on local roads monetarily

Reduce developer/community resistance to regulatory change through outreach and education/ Develop guide to growth management as an educational tool for local and regional governments (consolidated)

- Develop a public outreach campaign targeting consultants and engineers. Create educational and information tools and materials using real world examples.
- Reduce the availability/likelihood of waivers from established state policy for individual projects to improve policy application consistency and build developer trust
- Inform public and elected officials about policy and the impacts of their decisions
- Dedicate time, staff, and materials to public outreach efforts (all levels of government)

Prioritize technical assistance and growth management policy in fast-growing communities

- Identify fast growing communities where growth management intervention is needed
- Create a growth management-oriented evaluation and selection matrix that is defensible, then allocate money to implement a competitive program
- Establish a professional certified planner on DOTD Staff.
- Dedicate resources to ensuring that communities are aware of contemporary planning best practices
- Generate the political will to allocate existing funds, or to identify and pursue federal or private funding options.
- Coordinate with Louisiana Economic Development (LED) to advance local and state GIS expertise and support local scenario modeling efforts
- Ensure technical assistance includes an effective evaluation component

Develop planning/implementation grant program to encourage development of comprehensive plans and zoning codes

- Comprehensive plans/zoning codes are imperative to proper development to occur. Identify funding sources to support developing such plans
- Identify development sample plans and model codes to select from and refine to address local needs
- Local MPOs could assist local governments with grant application preparation.
- Involve state APA chapter and sections for assistance
- Develop a grant program to fund development of local ordinances, as well as public education on land use regulation and host LPA training
- Provide support for local government grant writing.
- Establish a professional certified planner and/or grant program administrator on DOTD Staff.
- Educate public officials on benefits of adhering to plans to promote enforcement of regulation; generate buy-in from state/parish government to ensure plans actually get implemented
- Create statewide guidelines, and provide incentives if locals develop comprehensive plans and zoning codes that adhere to those guidelines (may require legislative action to require adherence)
- Provide grants for pilot projects

Empower local agencies to build community support for innovative projects and policies

- Provide access to clear data and recommendations for technical review and approval, including training for local community staff
- Identify funding for web developers, public relations, and marketing expertise via staff and/or consultants
- Address constraints on use of right-of-way acquired for projects that align with DOTD policy: Establish state tax abatements or other processes (such as an evaluation process to determine the suitability of locally desired changes to state routes) to support local projects addressing state goals and delegate greater control to local jurisdictions
- Increase local or district control of communication and outreach efforts, such as permitting the establishment of project websites and social media presence to promote more timely, transparent public engagement

Incentivize and facilitate adoption of DOTD policies by local and regional government agencies

- Incentives are needed for buy-in from authorities on local and regional levels to adhere to state policies and ensure policy consistency across the transportation network
- Effective growth management requires state leadership: state should provide education to local governments about how policies address local goals

- Involve AARP Inc. (formerly known as the American Association of Retired Persons) and other non-profit organizations in the promotion of Complete Streets and other growth management concepts statewide
- Establish a professional certified planner on DOTD Staff
- Focus first on full and consistent state implementation of policy before actively encouraging local adoption
- Show successful implementation case studies from other states with similar policies
- Actively solicit neighborhood input through inclusive public participation programs
- Develop and fund incentives that make it easy for local politicians to "sell" adoption of policies
- Establish clear state priorities and identify ways local governments can help achieve them
- May require state legislation, if not strictly incentive-based

Develop and publicize new-policy demonstration projects

- Dedicate seed funding for pilot/demonstration projects
- Create an inventory of successful projects and reach out to those that implemented them for best practices
- Create materials showing demonstration project lessons learned, benefits, how-to, etc
- Conduct outreach to show benefit of these projects so as to generate buy-in from all agencies involved as to demonstration project potential.
- Regional governments/MPOs should lead citizen and business community involvement and engage their input on pilot project design

Focus on MPOs as leaders for local policy dissemination and consistency with DOTD objectives

- Facilitate greater MPO/DOTD coordination on statewide planning throughout the year, not just for long range MPO plans
- Dedicate MPO staff time (or support for outside consultants) to engage local officials
- Provide training for elected officials.
- Make MPOs responsible for public outreach and responding to local needs (via funded mandate)
- MPOs could represent DOTD in subdivision review process
- Promote or provide access to AASHTO design manuals for dissemination among local jurisdictions

Implement concurrency requirement for development impacting state roadways

- Identify all possible alternatives for requiring or incentivizing infrastructure concurrency
- Define statewide standards, based on input from local governments
- Review legislative actions other states have taken to achieve concurrency, and develop model policies.

- Focus on high-growth areas to inform local leaders about the potential infrastructure costs of growth
- Support expansion of zoning codes to more jurisdictions
- Enhance capacity of state planning office and increase coordination with DOTD, MPOs, and local governments.
- Create a checklist to evaluate development concurrency
- Establish guidelines for impact fees local governments should adopt
- Establish DOTD review of land use plans/site development plans
- Provide and/or require traffic analysis/studies to evaluate impacts of planned development.
- Provide more training for planning commissions and local government about long term impacts of major developments on state routes

Include alignment with DOTD Growth Management policies as essential criteria in development review process

- Establish greater DOTD review in subdivision/permit process.
- Create a checklist to identify whether a local development project will impact a state road
- Provide education to local governments on current DOTD policy and the benefits of these policies
- Site plan evaluation criteria should be revised to include growth management principles, and staff capacity/expertise increased to ensure compliance
- Participation on all levels must be mandatory in order to ensure that issues from local to regional to state, etc. are addressed: include policy alignment requirement/recognition in feasibility studies
- Provide incentives for compliance beyond what can be legally mandated
- Adapt access management guidelines to be applicable at smaller scales and on local roads
- Create a DOTD/state grant program to assist local governments with development review.
- Develop corridor plans with intergovernmental agreements among DOTD, the DOTD district office, and the MPO

Improve inter-jurisdictional policy consistency/Develop formal mechanisms to improve inter-jurisdictional coordination (consolidated)

- Identify direct point persons at each agency and establish guidelines/mandates outlining development/communication hierarchy and boundaries, and a regular meeting schedule
- Encourage more meetings with inter-agency personnel on individual projects.
- Establish models for intergovernmental agreements for various situations
- Support local jurisdictions' comprehensive planning efforts with legal guidance.
- Require stakeholder meetings at initial project development milestones.
- Meetings and ongoing communication between staff, leaders, and politicians could possibly be facilitated by a nonprofit.

- Conduct thorough analysis of where disconnects and communication breakdowns occur and develop solutions and an implementation/transition plan.
- Smaller local governments may need greater assistance to empower limited staff to address coordination needs.
- Establish an inventory of examples of functional models, and successful projects resulting.

Consider state legislative action where appropriate

- A prerequisite to any legislative action: provide education to legislators about the purpose and challenges of growth management policies
- Legislature needs to be made aware of looming infrastructure concerns, and possible solutions to address these
- Any legislation should be tied directly to resources for implementation
- Specific regulations (e.g. mandatory setbacks) may be easier to build support for than generalized rules or overall state planning reform

Promote application of existing tools and resources for local governments

- Coordinate with area MPOs and parishes to share resources.
- Compile a toolset that is easier for local government to implement and allows incremental change
- Develop a website guide to growth management on DOTD's website
- Demonstrate direct benefits of tool implementation
- Establish a professional certified planner on DOTD Staff.
- Increase social media interaction.
- Facilitate non-profit outreach through MPOs, and interaction with APA to support policy campaigns and local coordination
- Provide training on use of the tools available for local governments who do not have this expertise.
- Develop a workshop that local elected officials and planning commissions attend.
- Develop a public information campaign and involve residents of all types of communities.
- Identify experts in growth management who can communicate to all levels of government and departments.
- Educational materials should defines policies differently based on the size of the jurisdiction.

Consider opportunities for state level transportation planning leadership

- DOTD and regional planning district staff should meet to identify state planning needs and discuss opportunities
- Dedicate money and time to enhance cross-agency coordination on specific topics of statewide or super-regional interest

Incentivize/enforce local policy change through competitive and formula funding processes

- Establish clear state priorities and identify ways local governments can help achieve them.
- Create new/dedicated funding sources in addition to current programs and allocations
- May require state legislation, if not strictly incentive-based

Develop evaluation processes and performance measures that recognize value of growth management policy approach

- Improve communication about growth management policies and goals.
- DOTD and MPOs should work together to develop realistic performance measures.
- A professional certified planner on DOTD Staff would be valuable here.
- Host regularly scheduled charrettes to generate public support.
- Use federal, DOTD, and academic resources to clarify policies and evaluation measures

Facilitate communication between MPOs and "fringe" communities as growth management hot spots

- Identify funding for parish and state government to implement improvements in these communities.
- Overcome conflicts among parties by developing intergovernmental agreements among DOTD/MPO/Regional Districts and local governments to bind parties to planning efforts in advance.

Develop model subdivision regulations to encourage context-sensitive growth management in rural areas

- Support access to model subdivision regulations, including engineering specifications for corridor preservation and access management. DOTD already has a context sensitive program - this would be an expansion of that.
- Establish and/or revise baseline requirements for engineering standards such as width sidewalks, concrete depths.
- Regulations should address corridor plans, access points, connectivity, and intergovernmental coordination.
- The Center for Planning Excellence (CPEX) Land use toolkit has this; but training is needed to adopt it. True model regulations (like LA Land Use Toolkit) already exist, but to implement mandatory subdivision regulations would take political will, education and public input.
- A top down planning approach supported by the state can improve subdivision regulation consistency across jurisdictions
- Require a more detailed review process if public improvements are required for development.
- Create incentives for adoption of more rigorous subdivision regulations (possibly through state legislation)
- Create a menu of options for subdivision regulations, such as planning standards and zoning guidelines specifically for small towns.

- Outreach to property owners is essential: more education/resources to local jurisdictions are needed.

Encourage and expand participation in Road Transfer program

- Provide outreach to local governments: utilization of the program requires full understanding of long term costs to locals, including legal and financial expertise
- Increase access to maintenance funds: e.g. bond authority from electors, loans with favorable terms from the state, and state grants for extraordinary costs.
- Support local governments in developing a long term plan to have sufficient dedicated funds to assume maintenance, policing, and liability
- Streamline the transfer process and accelerate design and construction process for participating corridors
- Need up-to-date corridor studies to re-analyze need for highway and identify type of use (arterial, collector, etc.), including multimodal.
- Identify routes that are good candidates for the transfer program and initiate discussions about opportunities, costs, and benefits with local governments about those corridors

Promote cost-efficient land use and transportation planning for shrinking or slow-growth communities

- Develop an evaluation and selection matrix to identify shrinking communities in need, then allocate money to support planning efforts
- Develop need evaluations, and identify best practices for communities facing these issues

CONCLUSIONS

The key findings of this study include:

- The literature review revealed that most states have had decades of experience in working towards managing development with transportation infrastructure. Louisiana is "late to the game" but can benefit of 30+ years of experiences in other states. State-level leadership is necessary for local government to seriously engage in growth management planning and implementation.

- A legal analysis conducted for all parishes in Louisiana revealed that 23 of 64 have combinations of policies in place that would support growth management goals. Most of these parishes are located in the urbanized portions of the state, including the I-10 corridor and near Shreveport.

- A demographic analysis revealed that in the coming decades, households across the state are becoming more racially and ethnically diverse, consisting of smaller families and more single-person households with a growth in older adults.

- A statewide poll conducted revealed that 72% of the respondents feel a " need to improve public transportation, including trains or buses, and make it easier to walk and bike to reduce traffic congestion" compared to 28% that feel a "need to build more roads and expand existing roadways to help reduce traffic congestion."

- 85% agree that their "community would benefit from an expanded public transportation system, such as rail and buses."

- 94% agree that local governments should be required to develop transportation plans or comprehensive plans that address transportation.

- 81% agree that local governments should regulate land uses to manage growth, so as to avoid overloading roadways and other infrastructure.

- 86% agree that local governments should build streets and roadways that accommodate all potential users, including cars and trucks.

- 78% would like more transportation options to have the freedom to choose how to get where they need to go.

- 69% would support paying a small increase in taxes or fees for funding to expand public transportation in their community.

- 48% of stakeholder survey respondents affirmed their respective agency to already have specific policies designed to manage and direct growth and development, with 37% responding theirs does not and the last 15% responding as unsure.

- While only 48% of stakeholder survey respondents were aware of their agency having specific growth management policies, 78% affirmed to having a transportation plan or a comprehensive plan that addresses transportation, and 67% affirmed to having access management and/or corridor preservation programs.

- Representatives of municipal governments were most likely to report the presence of formal policies or programs that are intended to manage growth (62%), with parish-level governments just below at 60%. MPO representatives were least likely to report specific growth management policies (29%).

- The three goals for growth management that garnered most stakeholder survey support involved coordination of transportation planning with the state: "Better coordinate state transportation planning with local land use planning," "Implement access management along state highways" and "Implement corridor preservation along state highways," scored 79, 72, and 67% respectively.

- Among urbanized areas, corridor preservation and improvements in how local land use and state transportation planning coordinate were identified as very important by 100% of stakeholder survey respondents. Access management, complete streets, and freight movement were also identified by most respondents as very important. In suburban communities, improved state transportation/local land use coordination was identified as the top "very important" growth management goal (87%), followed by access management along state highways (73%) and directing new growth to existing urban or suburban areas (67%). For respondents primarily serving small towns, access management and corridor preservation were identified as key goals, while in mostly rural areas, directing growth to urban or suburban areas and supporting freight movement were identified as the most important.

- Among the most highly supported potential programs identified in the stakeholder survey (scoring 60% or above in "Very Important) were: "access management programs," "local implementation grants," "context-sensitive transportation planning," "safe walking and bicycling routes," and "preserving sensitive wetlands and rural areas." Among potential projects with the least amount of support (scoring 20% or above in "Not Important) were: "ridesharing programs," "scenic byways programs" and "multimodal transportation districts."

- In terms of impediments to managing growth, “Lack of political support” was the only stakeholder survey response to score its highest percentage under “Major Impediment” with 59% of respondents. Also scoring high under “Major Impediment” were “Developer opposition” and “Inadequate alternative transportation facilities” with 44% and 42%, respectively.

- Among the thirteen proposed scenarios to help jurisdictions or agencies better manage and guide future growth and development, ten had the majority of responses under the “Very Useful” category, with the following three scoring over 70%: “If the state enacted legislation that helped promote growth management” at 79%, “If local elected officials were better educated about growth management tools” at 77%, and “If there were greater demonstrated public support for managing future growth and development” at 77%.

- Stakeholder focus groups across the state revealed that although growth management is “on the radar” throughout the state, it is not a priority issue in many communities and implementation of related policies has been highly uneven.

- There is a significant opportunity for DOTD policies (e.g., Access Management, Complete Streets) to “trickle down” to local agencies, but local communities require additional guidance and encouragement from state entities.

- Many corridors involve multiple jurisdictions. Improving coordination and communication across jurisdictions to align corridor-wide development regulations and mitigate negative inter-jurisdictional impacts is essential.

- Communities at the fringe of urbanized areas, just outside of MPO boundaries and/or municipal regulatory authority, are critical hot spots for targeting growth management efforts, such as through subdivision regulations and corridor plans.

- Local transportation priorities differ significantly between fast and slow-growth areas, but finding revenue for building, maintaining, or retrofitting roadways to meet changing demand is a universal concern.

- Policy change must be incentivized. Competitive funding processes that reward local policy that aligns with state growth management objectives should be developed in order to stimulate innovation and change.

- Local policy must be enforceable, consistent, and not subject to political whim; communities need greater support for not only development of plans, but implementation of codes and ordinances that support those plans.

- Robust education and outreach efforts, as well as increased transparency and consistency in policy development and implementation, are essential to building public, official, and developer support for growth management concepts.

- A growth management policy modeling exercise found that it is possible for Baton Rouge and New Orleans metropolitan regions to grow in population while enacting a set of policies that result in capping of total VMTs and improving transportation safety between 2010 and 2030. For example, if Baton Rouge adopted, by 2030, development densities and transit usage levels found in the New Orleans region today, coupled with average fuel prices of $4.16 per gallon (in 2010 dollars), the total VMT would not increase and transportation safety would improve despite population growth. New Orleans could also achieve the same results by following the example of other, more compact and transit-friendly cities.

- A study of Return-on-Investment looked at access management and found that for the Baton Rouge region, where Texas Transportation Institute has identified that currently 25% of the existing arterial network includes access management features, the authors calculate that a retroactive expansion of the access management approach to cover all arterial roadways in the region would have prevented over 5.7 million hours of delay over a five year period resulting in over $141 million in cost savings resulting from personal and commercial congestion delay. However, the estimated cost to build-out all arterials with access management features was found to be $1.9 billion - $5.3 billion, thus not the most efficient use of limited infrastructure dollars.

- The New Orleans region maintains a greater percentage of access management features along arterials in comparison to the Baton Rouge region. In 2011, 53% of New Orleans' arterial streets were considered as having access management features. Therefore, the foregone benefits over the five year period are smaller: 2.7 million hours of delay, at a total cost of $60.6 million. To save on such lost time and money, the authors found the cost to implement access management features on all arterials in the New Orleans region was $1.9 billion - $4 billion. Similar to Baton Rouge, this is not a cost effective strategy given the Return-on-Investment analysis conducted here.

- A second series of stakeholder workshops to discuss, refine, and prioritize the identified growth management guidelines revealed that the following strategies are top priorities in the state, as well as relatively straightforward to implement, essentially constituting "low hanging fruit" that should be potentially addressed first:

    - Prioritize technical assistance and growth management policy in fast-growing communities,
    - Empower local agencies to build community support for innovative projects and policies,
    - Develop and publicize new-policy demonstration projects, and
    - Focus on MPOs as leaders for local policy dissemination and consistency with DOTD objectives.

- For a majority of guidelines, more than one agency was identified as being a potential lead for change, and in many cases the involvement of all levels of government (state, MPO, and local) is needed. In a few cases, transit agencies, non-profit organizations, or citizen groups/advocates were identified as playing a key role in instigating change.

- For many of the proposed guidelines, the following interrelated actions were seen as essential to effective implementation:
    - Enhance the state's capacity for planning activities and technical assistance,
    - Streamline bureaucratic processes and increase transparency of processes for all stakeholders,
    - Develop dedicated funding stream to stimulate local growth management policy implementation through incentives, and
    - Expand outreach and education efforts to local jurisdictions.

RECOMMENDATIONS

The major finding of this project is that it will be impossible for Louisiana to build our way out of traffic congestion. The Return-on-Investment analysis found that while there are important benefits to converting arterial streets to include access management features to reduce traffic delay, the costs associated with such an investment does not yield significant cost savings as a result. This is not to say there are not other benefits, such as improved safety; however, the authors were not able to obtain the necessary data to assess the safety benefits of access management.

While access management is not a panacea for addressing growth management, the growth management policy modeling exercise found significant benefits for creating policy to use fuel prices, population density and transit usage as an effective way to manage VMTs and transportation safety, measured by crash rates, injury rates and fatal crash rates. The study found that manageable increases in fuel prices, population density and transit usage can help offset VMT growth associated with population growth, thus keeping total VMTs flat between 2010 – 2030 and help improve transportation safety.

The study also found public support for increasing transit and other multi-modal services, including willingness to pay new taxes to fund such infrastructure. This is not surprising, considering many other states have passed new dedicated taxes in recent years to fund transit infrastructure that connect people to jobs and services.

Stakeholders reported that the high priorities should include the need to review and eliminate non-essential bureaucratic processes, initiate transportation funding reform, reduce developer/community resistance to regulatory change, prioritize technical assistance and growth management in fast-growing communities, develop a planning/implementation grant program to encourage development of comprehensive plans and zoning codes, empower local agencies to build community support for innovative policies and projects, incentivize and facilitate adoption of DOTD policies by local and regional government agencies, to develop and publicize new-policy demonstration projects, and to focus on MPOs as leaders for local policy dissemination and consistency with DOTD objectives.

An overview description, findings and actions for implementation of these high priorities, along with the medium and low priority recommendations, can be found in **Appendix J, Louisiana Guide to Transportation and Growth Management Policies.** These constitute the "blueprint" or set of policies that state, regional and local policy-makers and planners should use to begin to move a growth management agenda forward in the State of Louisiana.

ACRONYMS, ABBREVIATIONS, AND SYMBOLS

AASHTO	American Association of State Highway and Transportation Officials
AARP	American Association of Retired Persons
ACS	American Community Survey
APA	American Planning Association
AM	Access Management
Blvd	Boulevard
CO2	Carbon Dioxide
CPEX	Center for Planning Excellence
CZO	Comprehensive Zoning Ordinance
DOT	Department of Transportation
DOTD	Department of Transportation and Development
Dr	Drive
FUEL	Fuel price
GIS	Geographic Information System
HPMS	Highway Performance Monitoring System
I-10	Interstate-10
ITS	Information Technology Services
FHWA	Federal Highway Administration
LA	Louisiana
LTRC	Louisiana Transportation Research Center
LED	Louisiana Economic Development
MPO	Metropolitan Planning Organization
MOU	Memorandum of Understanding
NGO	Non-Governmental Organization
PE	Professional Engineer
POP	Population Growth
POPDEN	Population Density
PTOE	Professional Traffic Operations Engineer
PUD	Planned Unit Development
ROW	Right-of-Way
S.	South
St.	Saint
SGA	Smart Growth America
SSTI	State Smart Transportation Initiative
TDR	Transfer of Development Rights Programs
TIP	Transportation Improvement Plan
TND	Traditional Neighborhood Development
TPM	Transit passenger miles per capita
TTI	Texas Transportation Institute

U.S.	United States
UMR	Urban Mobility Report
UNOTI	University of New Orleans Transportation Institute
USDOT	United States Department of Transportation
VMT	Vehicle Miles Traveled

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APPENDIX

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