

# LOUISIANA SPEAKS REGIONAL VISION



How can we all be  
safer from storms?

How can we have  
better jobs and  
housing?



The time to  
decide is  
now.

## TECHNICAL ADDENDUM PLANNING PROCESS AND COMMUNITY GROWTH AND TRANSPORTATION OPTIONS

[www.LouisianaSpeaks.org](http://www.LouisianaSpeaks.org)

Louisiana Speaks is a long-term planning initiative of the Louisiana Recovery Authority. Planning and publications for Louisiana Speaks are made possible with private funds through the LRA Support Foundation. We are committed to the recovery and future growth of South Louisiana that will make us safer, stronger and smarter than ever before.



**LOUISIANA SPEAKS**  
Our Voice. Our Plan. Our Future.

A LONG-TERM COMMUNITY PLANNING INITIATIVE OF THE LRA

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# LOUISIANA SPEAKS REGIONAL VISION

## TECHNICAL ADDENDUM

### PLANNING PROCESS AND COMMUNITY GROWTH AND TRANSPORTATION OPTIONS

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# Creating the Louisiana Speaks Options

## Introduction

During January and February 2007, Louisiana Speaks will conduct a large-scale outreach campaign allowing citizens to guide future regional policy and spending priorities in South Louisiana. Citizens will be provided with different options for the future, informed of the consequences of those options, and then prompted to answer questions on coastal restoration and storm protection; economic development; and community growth and transportation. Responses will be tabulated and integrated into the Louisiana Speaks Regional Vision, to be finalized in April 2007.

This addendum describes the basic technical processes and assumptions behind the community growth and transportation options developed by Louisiana Speaks and presented in the Regional Vision Poll. It describes the Louisiana Speaks planning process, scenario planning, the Louisiana Speaks options, and many of the assumptions behind the options and technical modeling.

## Louisiana Speaks

Louisiana Speaks is a multifaceted planning process endorsed by the Louisiana Recovery Authority. In the wake of the destruction caused by Hurricanes Katrina and Rita, the Louisiana Speaks initiative works toward the development of a sustainable, long-term vision for South Louisiana. This work combines the efforts of local, state and federal partners along with many experts, stakeholders and citizens into a comprehensive approach.

The Louisiana Speaks process includes:

- Planning for homeowners, businesses, and communities through the development of a Pattern Book and Planning Toolkit for residential, commercial, and neighborhood urban design;
- Planning for neighborhoods through local design charrettes;
- Parish-level planning supported by Long-Term Community Recovery teams through FEMA and LRA, and a web-based Parish Recovery Planning Tool;
- South Louisiana regional planning.

For more information on Louisiana Speaks, go to <http://www.louisianaspeaks.org>.

## What is Scenario Planning?

The development of the options for the Louisiana Speaks Regional Vision relies on scenario planning, which is widely used in business and military settings. Scenario planning was pioneered by Royal Dutch Shell in the 1970s and 1980s. Prior to that time, planners working for business and government spent much of their time trying to predict the future. Given the complexity of the business environment, the number of variables that deserve consideration, and the long time frame of many plans, it became apparent that getting the right prediction really wasn't possible or even necessary. What was needed was a way to put forth possible future options.

Scenarios illustrate what might be. They are not forecasts or predictions. Scenarios represent possible futures based on historic patterns and emerging trends. Louisiana Speaks uses scenarios to evaluate a series of variables related to community growth, transportation systems, storm protection, and coastal restoration.

Three alternative community growth and transportation options integrated input from extensive research, neighborhood planning charrettes, the FEMA ESF-14 parish planning process, and six regional planning workshops. The project team analyzed these future community growth and transportation options in concert with the Louisiana Coastal Protection and Restoration Authority's Preliminary Draft Master Plan for storm protection and coastal restoration. For more information on the CPRA plan, go to <http://www.louisianacoastalplanning.org>.

The planning team input scenarios into models resulting in detailed technical indicators. Indicators measured a series of possible outcomes ranging from the area of farmland developed to the estimated costs of building a transportation network. This technical information is presented as Louisiana citizens make decisions during the January/February 2007 Louisiana Speaks public outreach process.

## Creating Options for Future Growth

Several primary inputs form the basis for Louisiana Speaks community growth and transportation options:

- **Analysis of trends and existing conditions.** The first step in developing options involved gathering regional, state, and local land use, environmental, transportation, infrastructure, economic, and demographic data. The team utilized Geographic Information System (GIS) databases of existing conditions to identify key challenges and trends as well as serving as the foundation for the community growth options.
- **Demographic and econometric projections.** The planning team used an econometric model to estimate future population and economic growth throughout South Louisiana. The model provided estimated jobs by sector, and population by income and age cluster, for each of the Metropolitan Statistical Areas of South Louisiana. The projected jobs, households and population were utilized as control totals for creating scenarios.
- **Creation of building blocks for community growth.** The planning team conducted extensive research into the development patterns of South Louisiana. These development patterns or building blocks represent different land uses, and the team used them to accommodate new growth in the scenarios. Each building block includes all the elements of a district, including the number of homes and jobs, and the area devoted to streets, parks, and community facilities.
- **Consultation with policy makers and local experts.** The planning team discussed the location of recent and future growth with South Louisiana planners, public officials and academics. This review process refined the assumptions driving the scenarios.
- **Public Input.** The planning team conducted a series of stakeholder workshops during July and August 2006. Workshop results were directly integrated into the options. A more detailed description of public input process follows.



South Louisiana map showing land use data compiled for the Louisiana Speaks regional planning process.

# Building the Louisiana Speaks Options

## Public Input

Louisiana Speaks conducted six all-day regional workshops across South Louisiana in July and August 2006. These workshops generated critical and creative input from nearly one thousand participants. Informed by background presentations, maps, and analytical data, participants completed three exercises designed to address the following key issues: 1) Coastal Restoration and Storm Protection; 2) Community Growth and Transportation; and 3) Economic Development.

Each exercise allowed workshop participants to define an overall direction and then make specific comments regarding that direction. During the restoration and protection exercise, participants assessed various options to reduce coastal land loss as well two different levee protection configurations. For the community growth and transportation exercise, tables located new jobs and households expected over the next 50 years. The economic development exercise challenged participants to envision a more prosperous future for the region, to identify the barriers limiting positive change, and generate actions needed to achieve their visions. And finally, each workshop group compiled the most compelling ideas from the day's exercise into their "Big Ideas".

Key workshop findings included:

- Participants supported coastal wetland restoration, leaning towards a strategy that combines natural diversions and water resource management with pipeline conveyance of sediment to stimulate the creation of new coastal wetlands.
- Participants overwhelmingly favored a shift toward more clustered, transit-oriented development patterns across South Louisiana.
- Participants expressed several desired outcomes and actions to achieve a more prosperous and equitable region, including education reform, increased government transparency, greater regional cooperation, and promotion of knowledge-based and small businesses.

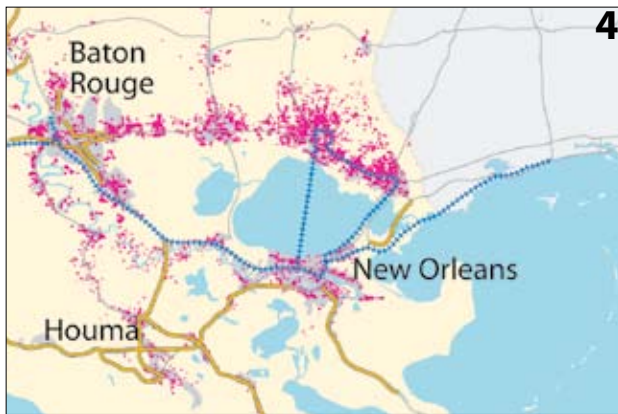
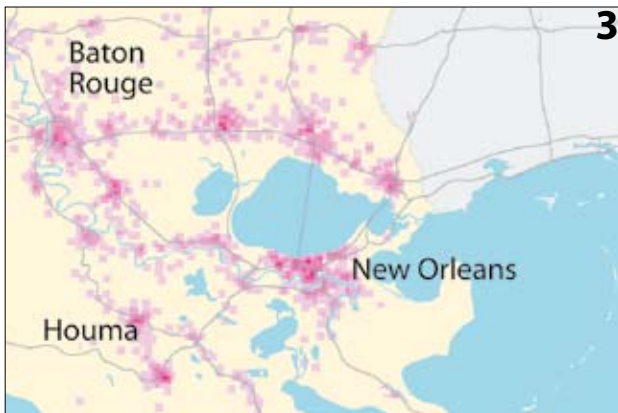
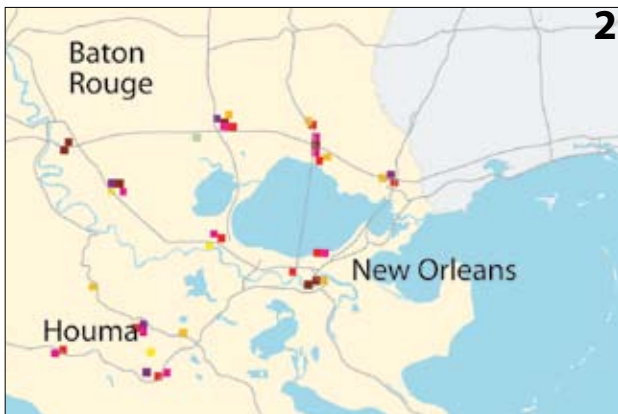
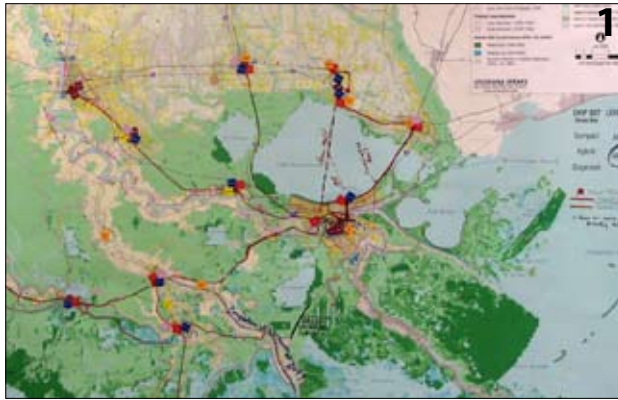
In addition to the workshops, Louisiana Speaks surveyed more than 2,500 randomly chosen residents—including evacuees in 27 states—to gauge

public sentiment and preferences on issues critical to recovery and long-term growth, such as housing, storm protection and restoration, and transportation investments. Interviews occurred between February and April 2006.

For more information on Louisiana Speaks public outreach, go to <http://www.louisianaspeaks.org>.



*Participants engage in planning exercises at the July 2006 Louisiana Speaks meeting in New Orleans.*



The workshops and public surveys resulted in direct map comments and general preferences for coastal restoration and levee protection, land use patterns, transportation investments, and economic development actions and outcomes. The planning team used GIS to digitize and tabulate comments, notes, and choices made by the workshop groups.

The careful study and synthesis of workshop results informed the Louisiana Speaks options. Coastal restoration and levee protection input was critically analyzed and provided to the Louisiana Coastal Protection and Restoration Authority (CPRA) for integration into the Preliminary Draft Master Plan.

Analysis of participants' placement of land use chips and transportation lines in the community growth and transportation exercise illustrated desired patterns of growth and guided the subsequent development of community growth and transportation scenarios. These scenarios are described on the following pages.

Results from the Economic Development exercise were compiled from hundreds of pages of written notes and comments describing desired outcomes, existing assets, potential barriers, and recommended actions. "Big Ideas" were compiled in a similar manner, and items of consensus were identified, along with compelling ideas for further exploration.

*Left: The map series (1-4) depicts the progression from workshop map to community growth scenario. Image 1 shows a workshop map from the July 2006 New Orleans workshop, table 17. Image 2 illustrates the digitization of land use chips for table 17. Image 3 shows the compilation of every workshop map into one population density gradient, and Image 4 depicts the Community Growth and Transportation Option B.*

# Community Growth and Transportation

## Growth and Transportation Options

The community growth and transportation options illustrate three ways to accommodate a projection of **1.4 million people** and **1.1 million jobs** between 2005 and 2050. Each growth option is based upon varying assumptions about the following:

- **Range of transportation options.** The transportation network in each scenario reflects the amount of investment in roadway and transit improvements, as well as the priority given to different travel modes.
- **Location, density and mix of uses.** The pattern of growth in each option reflects the extent to which different “place types”—each with a different density and mix of homes and jobs—were used to accommodate future growth.
- **Hazard and Regulation.** Each option assumes a different level of regulation of new development in floodplains, resulting in greater or fewer homes and jobs in floodplains.



Above: Historic streetcar operating in New Orleans.

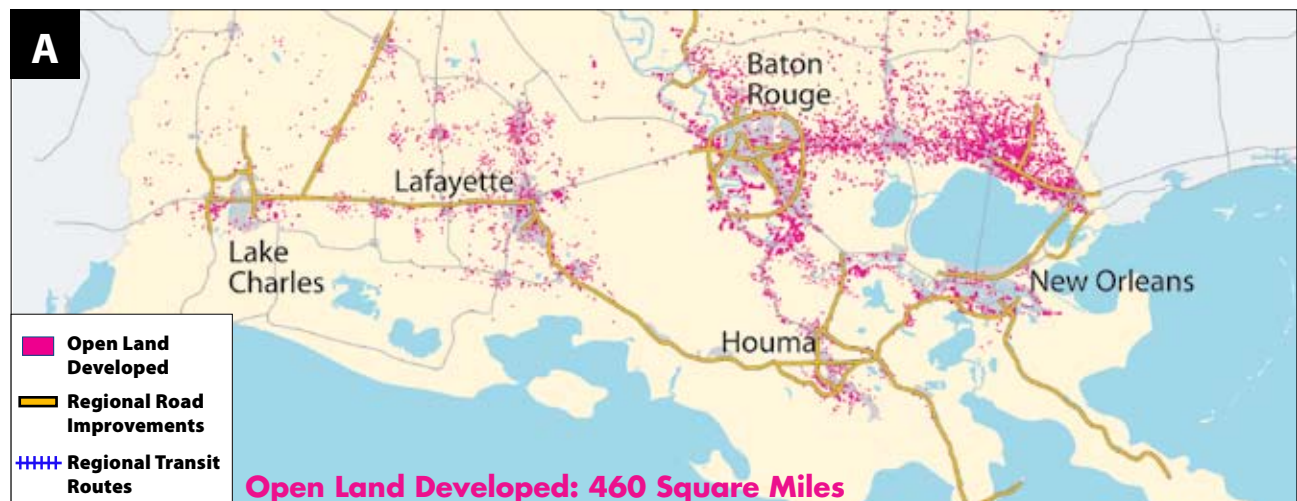
Below: A small-scale commercial business incorporated into a North Shore residential neighborhood.

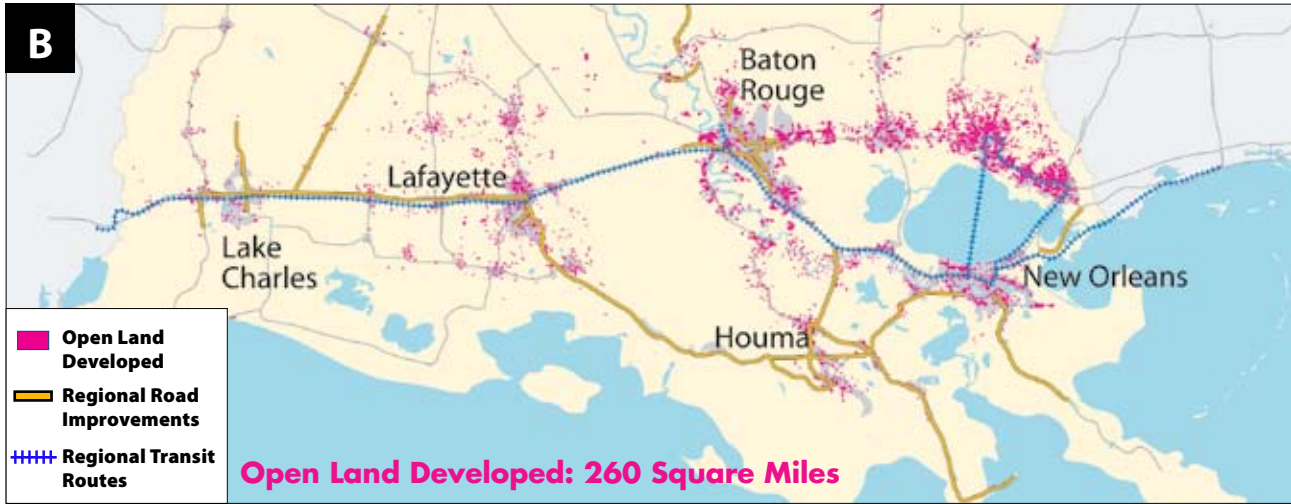


### Option A

Option A asks how South Louisiana might look if we continue to grow the way that we have over the past 50 to 60 years. Investment in roads and highways consistent with the state transportation improvement plan shapes growth. Homes, workplaces and shops are built in single-use districts accessed

primarily by automobile. More than ninety percent of new housing is medium and large lot single-family homes. This option is projected to lead to longer trip times. Development is permitted in floodplains, increasing vulnerability to storms. Due to the spread of development, infrastructure costs are highest.





**Option B**

In Option B, growth takes place in both the dispersed pattern projected in Option A and a more compact pattern focused around existing communities and new or enhanced transit routes. Modest investment in roadways and public transit creates a wider range of transportation options. New housing is a mix of large lot single family, small-lot single family, townhomes

and multifamily housing. Workplaces and shops are located both along roadways in single-use districts and in mixed-use centers close to communities and transit. Auto trip times are significantly reduced and some development is shifted away from floodplains. Regional transportation costs increase from Option A.



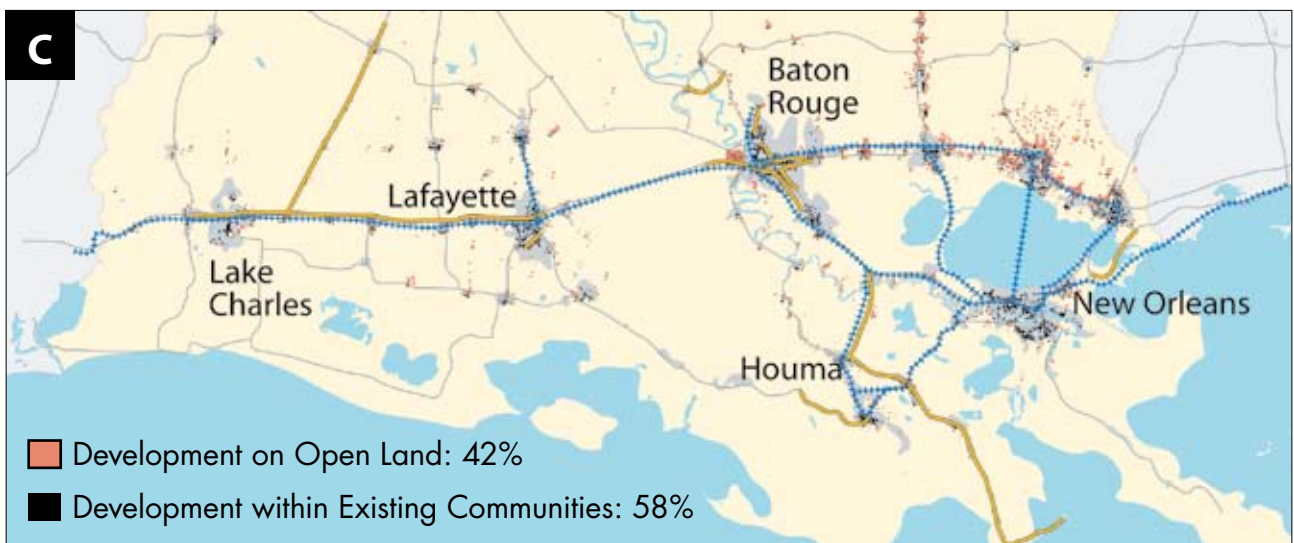
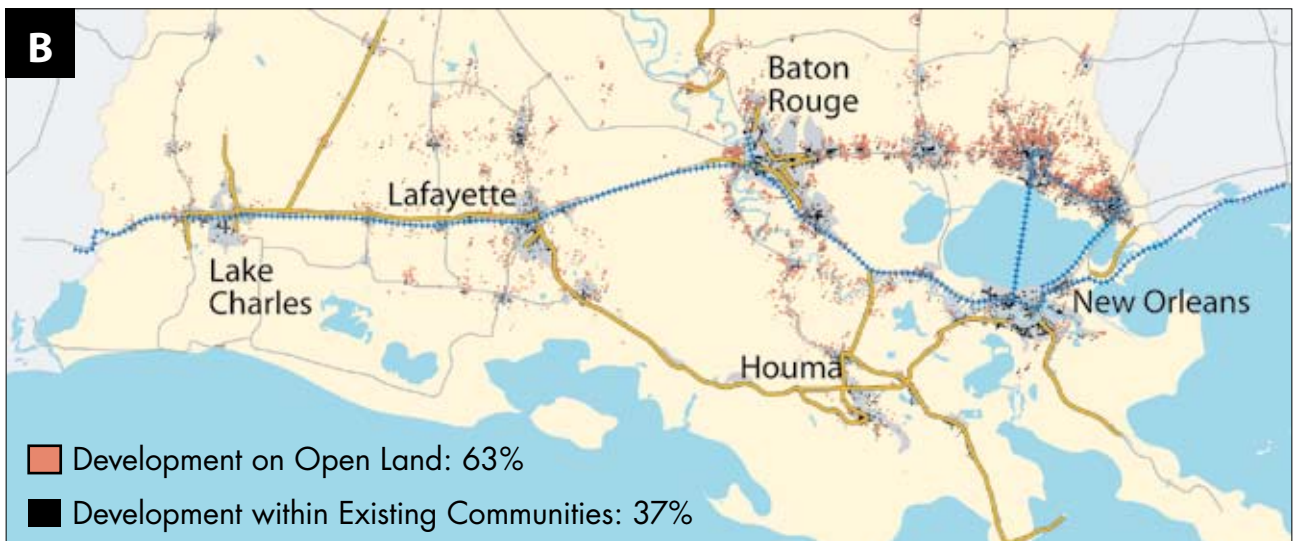
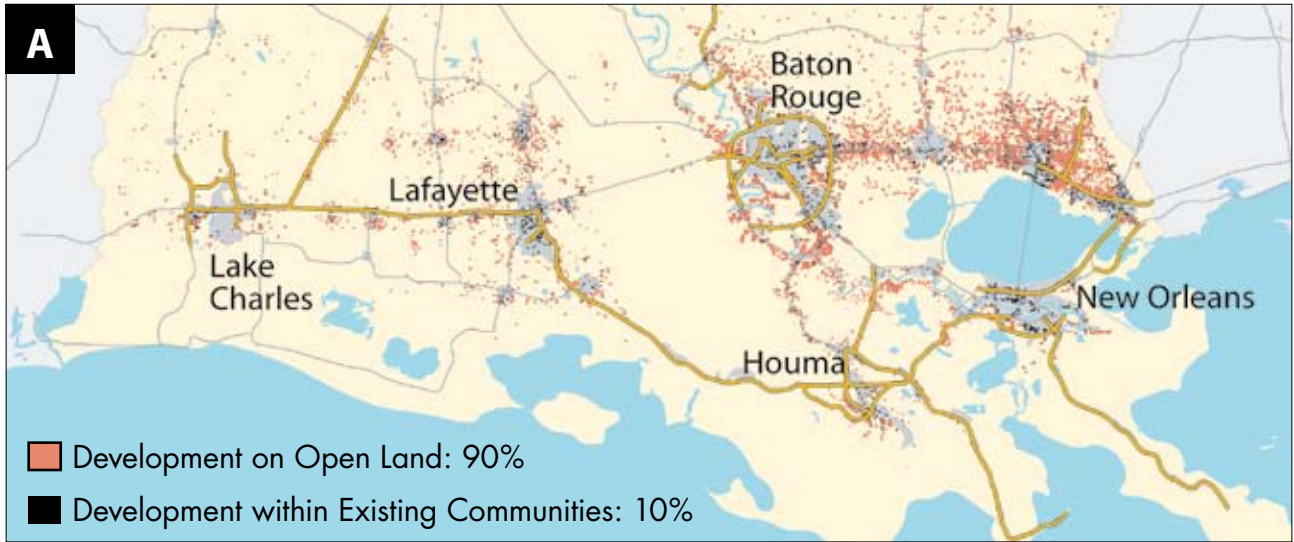
**Option C**

Option C focuses growth around new and enhanced transit routes. The majority of new housing, workplaces and shops are located in mixed-use districts within and around existing communities. Multifamily condominiums and apartments account for the majority of new housing, while small-lot single family

homes comprise more than a third of new units. Trip times decline dramatically from Option A and significantly from Option B. Regional transportation costs increase. Development in floodplains is further reduced. Infrastructure costs decrease from Options A and B.

# Community Growth and Transportation

## Development on Open Land and within Existing Communities



## Measuring Growth Impacts

Each option was assessed for its impact on outcomes such as land consumption, housing mix, and development in floodplains. These indicators were derived by intersecting the location and density of housing units in each option with existing spatial data (e.g. floodplain coverage) and new spatial data (e.g. the location of new transit lines).



Land Consumption	Acres/Sq. mi of Open Land Developed	297,000 / 464	168,000 / 263	81,000 / 127
	Acres/Sq. mi of Forest Land Developed	168,000 / 263	73,000 / 114	42,000 / 66
	Acres/Sq. mi of Agricultural Land Developed	124,000 / 194	93,000 / 145	39,000 / 61
	Percentage of Development on Open Land	90%	63%	42%
	Percentage of Development in Existing Communities	10%	37%	58%

Development in Floodplains	Acres of New Development in Floodplain	84,000	31,000	9,000
	New Homes in Floodplain	184,000	83,000	30,000
	New Population in Floodplain	447,000	201,000	72,000
	New Jobs in Floodplain	322,000	126,000	59,000

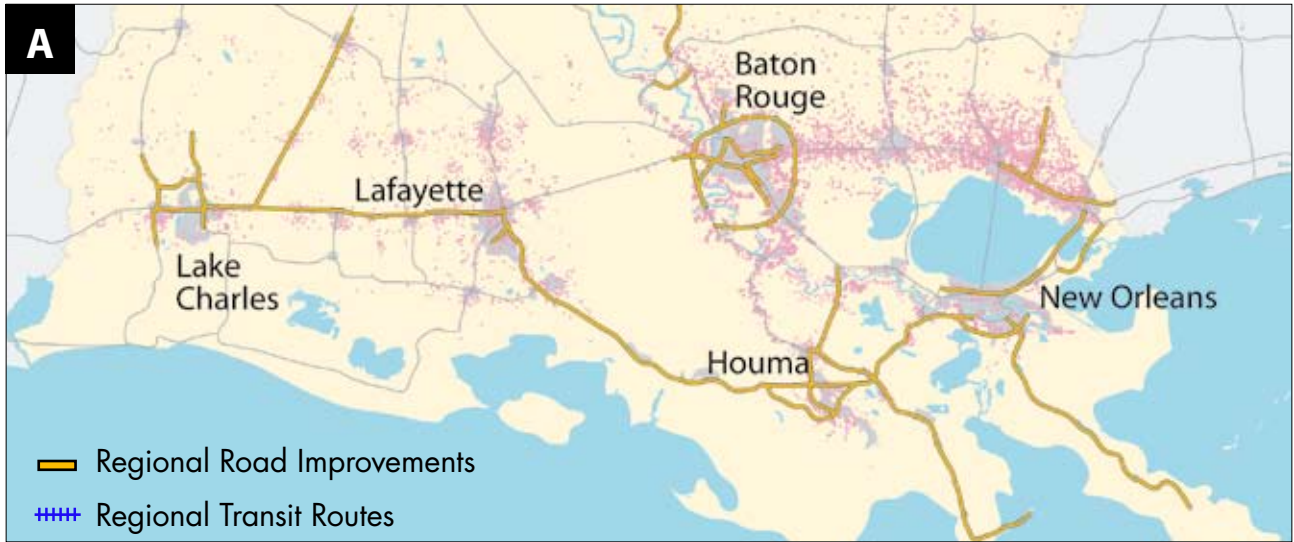
Density of Development	Average Dwelling Units/Acre for New Growth	2.2	3.9	8.0
	Total Dwelling Units/Acre in 2050	1.4	1.5	1.6

Housing	Percent Attached Housing for New Growth (Single Family, Mobile Home)	80%	63%	37%
	Percent Detached Housing for New Growth (Townhome, Multifamily)	20%	37%	63%
	Percent Attached Housing in 2050 (Single Family, Mobile Home)	77%	71%	63%
	Percent Detached Housing in 2050 (Townhome, Multifamily)	23%	29%	37%

Proximity to Regional Transit Infrastructure	Households within 1/4 mile of Regional Transit Routes	0	105,000	352,000
	Households within 1/2 mile of Regional Transit Routes	0	200,000	576,000

# Community Growth and Transportation

## Regional Transportation Investments



## Measuring Transportation Impacts

Each growth option is coupled with a different transportation network. The combined options were modeled using the Louisiana Statewide Transportation Model, which projects the number and length of auto and non-auto trips within South Louisiana. The state model was enhanced to reflect the varying levels of access to transit stations, shops, and jobs in each option.

Options		
A	B	C

Auto Travel	Total Annual Vehicle Miles Traveled	36.9 bil	26.9 bil	23.2 bil
	Daily Vehicle Miles Traveled per Household	69	50	43
	Daily Vehicle Miles Traveled per Person	28	20	18
	Daily Miles Traveled in Congestion per Household	39	14	12
	Daily Miles Traveled in Congestion per Person	16	6	5
	Average Miles per Auto Trip	17	13	12
	Daily Minutes Spent Driving per Person	94	56	40

Travel Mode	Total Daily Trips by Auto	12.6 mil	12.4 mil	12.1 mil
	Total Daily Trips by Transit	209,000	390,000	660,000
	Total Daily Trips by Foot/Bike	15,000	26,000	37,000

Auto Emissions	Annual Emissions - NOx, CO, VOC (in Tons)	385.6 mil	327.6 mil	280 mil
	Daily Emissions - NOx, CO, VOC (in Tons)	1.4 mil	1.2 mil	1 mil

Costs	Total Regional Highway / Roadway Costs	\$9.2 bil	\$4.9 bil	\$2.4 bil
	Total Regional Transit Costs	\$0.2 bil	\$6.5 bil	\$12.6 bil

# Community Growth and Transportation

## Measuring Infrastructure Impacts

Each growth pattern has a different requirement for local and regional infrastructure. Basic infrastructure costs were derived by multiplying estimated costs for services such as sewer and water lines by the linear feet of these services required to serve new growth.

### Options

**A**

**B**

**C**

Total Infrastructure Expenditures	Options		
	A	B	C
Wastewater System	\$3.8 bil	\$2.4 bil	\$1.5 bil
Water Distribution	\$4.1 bil	\$2.6 bil	\$1.6 bil
Storm Drainage	\$14.4 bil	\$9.2 bil	\$5.6 bil
Local Street	\$25.2 bil	\$16.0 bil	\$9.9 bil
Sidewalk	\$152 mil	\$97 mil	\$59 mil
Curb and Gutter	\$1.2 bil	\$773 mil	\$476 mil
Electricity Line Extension	\$209 mil	\$133 mil	\$8 mil
<b>Total Infrastructure Expenditures</b>	<b>\$49.1 billion</b>	<b>\$31.2 billion</b>	<b>\$19.2 billion</b>

Regional Transportation Investments	Options			
	A	B	C	
	Total Miles of New Local Roads	7,196	4,573	2,815
	Total Miles of New Regional Highways / Roadways	949	595	325
	Total Miles of New Regional Transit	0	390	595
Total Regional Highway / Roadway Costs	\$9.2 bil	\$4.9 bil	\$2.4 bil	
Total Regional Transit Costs	\$0.2 bil	\$6.5 bil	\$12.6 bil	

Annual Infrastructure and Transportation Costs per Household	Options			
	A	B	C	
	Residential Energy Expenditure	\$1,990	\$1,940	\$1,860
	Auto Fuel Costs (\$2.27 per gallon)	\$2,550	\$1,850	\$1,600
	Infrastructure Expenditure	\$730	\$460	\$280
Regional Highway / Roadway & Transit Costs	\$143	\$170	\$150	
<b>Total Annual Household Costs</b>	<b>\$5,413</b>	<b>\$4,420</b>	<b>\$3,970</b>	