LAFAYETTE NORTH/SOUTH CORRIDOR STUDY

"Path to Progress"

Lafayette North-South Corridor Study
"Path to Progress"

The Design Team
and
The Lafayette Areawide Planning Commission
September 1993

ACKNOWLEDGEMENTS

LAPC Transportation Policy Committee

J. Maxie Broussard, Chair, LAPC
Lee Jolley for Mayor of Carencro
Cathy Webre for Downtown Dev. Authority
Mike Bridges for University of Southwestern LA
Robert Benoit for Lafayette Parish President
Boyd Boudreaux, Lafayette Chamber of Commerce
Coan Bueche for LA-DOTD Secretary
Lynn Guidry for Chair of Lafayette Parish Council
Jim Leonard, Bayou Vermilion District
Bill Fontenot for LA-DOTD District 3
Bill Lowry for Lafayette Airport Commission
Gerald Dubroc for Mayor of Duson
Lucas Denais, Mayor of Youngsville
Mike Hefner, Lafayette Parish Sch. Bd.
Charles Langlinais, Mayor of Broussard
Curt Hoglan, Lafayette Eco. Dev. Authority
John Raines for Mayor of Lafayette
Gerald Trahan for Mayor of Scott
Virgil Page, Federal Hwy. Administration
Helen Bellamy, Lafayette City Council
Ken Johnstone, Acadiana Railroad Dev.Dist.

LAPC Transportation Technical Committee

Roger K. Hedrick, Chair, LAPC
Cathy Webre, Downtown Dev. Authority
Robert Barras, Lafayette Chamber of Commerce
Barbara Gary, SW LA Independence Living Center
Robert Benoit, Lafayette Parish Public Works
Joe Bourg, Lafayette Eco. Dev. Authority
Ken Johnstone, Acadiana Railroad Dev. District
Dr. Kam Movassaghi, Univ. of Southwestern LA.
Virgil Page, Federal Highway Administration
Lucas Denias, Mayor of Youngsville
Jim Leonard, Bayou Vermilion District
Bill Fontenot, LA-DOTD
Ken Villemarette, Lafayette Parish School Board
Gerald Dubroc, City of Duson
Lee Jolley, City of Carencro
S.W. Lam, LA-DOTD
Charles Langlinais, Mayor of Broussard
John Raines, Lafayette City Public Works
Bill Domingue, Lafayette Regional Airport
Bill Campbell, Lafayette Parish Public Works
Carol Cranshaw, LA-DOTD
Taylor Rock, Community Development
Dean Tekell, Lafayette City Public Works
Howard McCain, Lafayette City Public Works
Gerald Trahan, City of Scott

Infrastructure Committee (Chamber of Commerce)

Boyd Boudreaux, Chair
David Huval, Vice-Chair
Robert Barras, Vice-Chair

Arterial Task Force (Chamber of Commerce)

Joe Giglio, Chair
Ed Abell
Robert Barras
Boyd Boudreaux
Julie Hawkland
David Huval
Rob Guidry, Executive Vice President
Jeannie Kreamer
Dr. Kam Movassaghi
Kirby Pecot
Rae Robinson, President
David Strother
Ken Veron

ABSTRACT

TITLE: Lafayette North-South Corridor Study
Path To Progress

AUTHOR: The Design Team and the Lafayette Areawide Planning Commission

SUBJECT: An evaluation of four (4) alternative freeway corridors, a fifth (5th) or "no build" alternative and four (4) alternative grade/structure alignments running north to south through Lafayette Parish, Louisiana. Criteria used to evaluate the alternatives were: traditional highway cost benefit; public safety; environmental; and quality of life. One freeway alternative was selected for implementation by the Transportation Policy Committee

DATE: September, 1993

SOURCE OF COPIES: Office of the Executive Director
Lafayette Areawide Planning Commission
705 West University Avenue
P.O. Box 4017-C
Lafayette, Louisiana 70502
(318) 261-8000

NUMBER OF PAGES: Executive Summary - 41
Technical Study - 114
Project Selection - one (1) fold out map

ABSTRACT: This study was prepared as requested by the Transportation Policy Committee, the Transporation Technical Committee and the Greater Lafayette Chamber of Commerce through its Arterial Task Force. This study was conducted during the months of March to September, 1993 and served as the basis for placement of a north-south freeway corridor in the FY 94 Lafayette Transportation Improvement Plan and in the State of Louisiana's Transportation Improvement Plan.

The preparation of this document was financed in part through funds provided under P.L. 102-368, the Supplemental Transfers and Rescissions Act of 1992, as administered through the State of Louisiana by the Louisiana Department of Transportation and Development; the Parish of Lafayette; the City of Lafayette; and by in-kind, volunteer professional services from Lafayette citizens.

Design Team

David Huval, PE, Arterial Task Force
Robert Barras,AIA Arterial Task Force
Dean Tekell, PE, City of Lafayette
Calvin Courville, PE, Domingue, Szabo, & Assoc.
Kerry Blanchard, Enviro-Archaeo
Patrick Navratil, Fenstermaker & Assoc.
Blaise Carriere, PE, HNTB
S.W Lam, PE, LA-DOTD
Coen Bueche, PE, LA-DOTD
Roger K. Hedrick, AICP, ASLA, LAPC
Ed E. Elam, III, LAPC
Charles Mayard, LAPC
Bill Campbell, PE, Parish of Lafayette
Rae Robinson, Premier Bank
Gerald Dubroc, PE, Sellers, Dubroc & Assoc.
Kirby Pecot, AIA, Arterial Task Force
Kam Movassaghi, PhD, PE, Arterial TaskForce
Gerald Reaux, PE, City of Lafayette
Buz Reid, Enviro-Archaeo
Frank Servello, PhD, Enviro-Archaeo
Mitch Grant, ASLA, Fenstermaker & Assoc.
Robert Schmidt, PE, HNTB
Bill Fontenot, PE, LA-DOTD
Eric Kalivoda, PE, LA-DOTD
Loretta Gayle, LAPC
Phil Shafer, LAPC
Kelly Mouton, LAPC
Chris Button, Premier Bank
Judy Williams, Premier Bank

Lafayette Areawide Planning Commission

J. Maxie Broussard, Chair
Dennis Ehrhardt, PhD, AICP, Vice Chair
Harold P. Bernard
Janell LeBlanc
Elizabeth Dugal
Lucian Gastineau
Nelson Falcon
Harry Hebert
William Leece
Stanley Phillips
Nathan Roberts

Lafayette Areawide Planning Commission Staff

Roger K. Hedrick, AICP, ASLA, Executive Director
Ed. E. Elam, III, Planning Manager
Mike Hollier, Senior Planner
Loretta Gayle, Planner
Helen Phillips, Secretary
Sidney Fontenot, Development Manager
Charles Mayard, Planner
Rebekke Heider, Planner
Patsy Cogburn, Secretary

EXECUTIVE SUMMARY

LIST OF EXHIBITS

Exhibit Number

LIST OF TABLES

Table Number

I. DESCRIPTION OF PROJECT

In 1987, the U.S. Congress authorized and funded a demonstration study "to provide limited continuous access between an interstate route and a highway on the Federal-Aid primary system in Lafayette, Louisiana." In October 1990, the Louisiana Department of Transportation and Development (LaDOTD) began a comprehensive Environmental Impact Statement (EIS) study of potential transportation improvements in the U.S. Highway 90 - U.S. Highway 167 - Evangeline Thruway corridor in Lafayette.

In 1992, a "draft" EIS was completed. Entitled the I-49 Connector, the study evaluated six alternatives within the Evangeline Thruway corridor between Interstate 10 and just south of the Lafayette Regional Airport. However, at public hearings in 1992, substantial public opposition to the elevated portion of the freeway project resulted in the cancellation of the remaining portions of the study.

In 1993, the Greater Lafayette Chamber of Commerce convened an Arterial Task Force with the purpose of increasing interest in and to further study construction of a badly needed North-South Highway Corridor through Lafayette. As a result of the Task Force's request, staff of the Metropolitan Planning Organization (MPO), also known as the Lafayette Areawide Planning Commission (LAPC), coordinated the preparation of a study evaluating the feasibility of a variety of corridor alternatives.

The LAPC Transportation Policy Committee (TPC) approved the interaction of the Arterial Task Force and the Lafayette Areawide Planning Commission staff on April 12, 1993, through their acceptance of a scope of work for the Lafayette North-South Corridor Study. This report reflected the development of four different corridor alternatives, plus a "no-build" alternative, which served as a base for comparison. The four proposed corridor alternatives were:

1. Western Bypass - A corridor from Interstate 49 north of Carencro, to U.S. Highway 90 south of Broussard via Interstate 10 near Scott (26.8 total miles);
2. Eastern Alignment - A corridor from Interstate 49 south of Butcher Switch Road, to U.S. Highway 90 South of the Lafayette Regional Airport via Interstate 10 near Louisiana Avenue (10.35 total miles);
3. Evangeline Thruway - A corridor from Interstate 49 south of Butcher Switch Road, through the center of Lafayette along the alignment of the Evangeline Thruway (4.5 total miles);
4. Eastern Bypass - A corridor from north of Carencro, to U.S. Highway 90 in Broussard via Interstate 10 near Breaux Bridge (16.5 total miles).

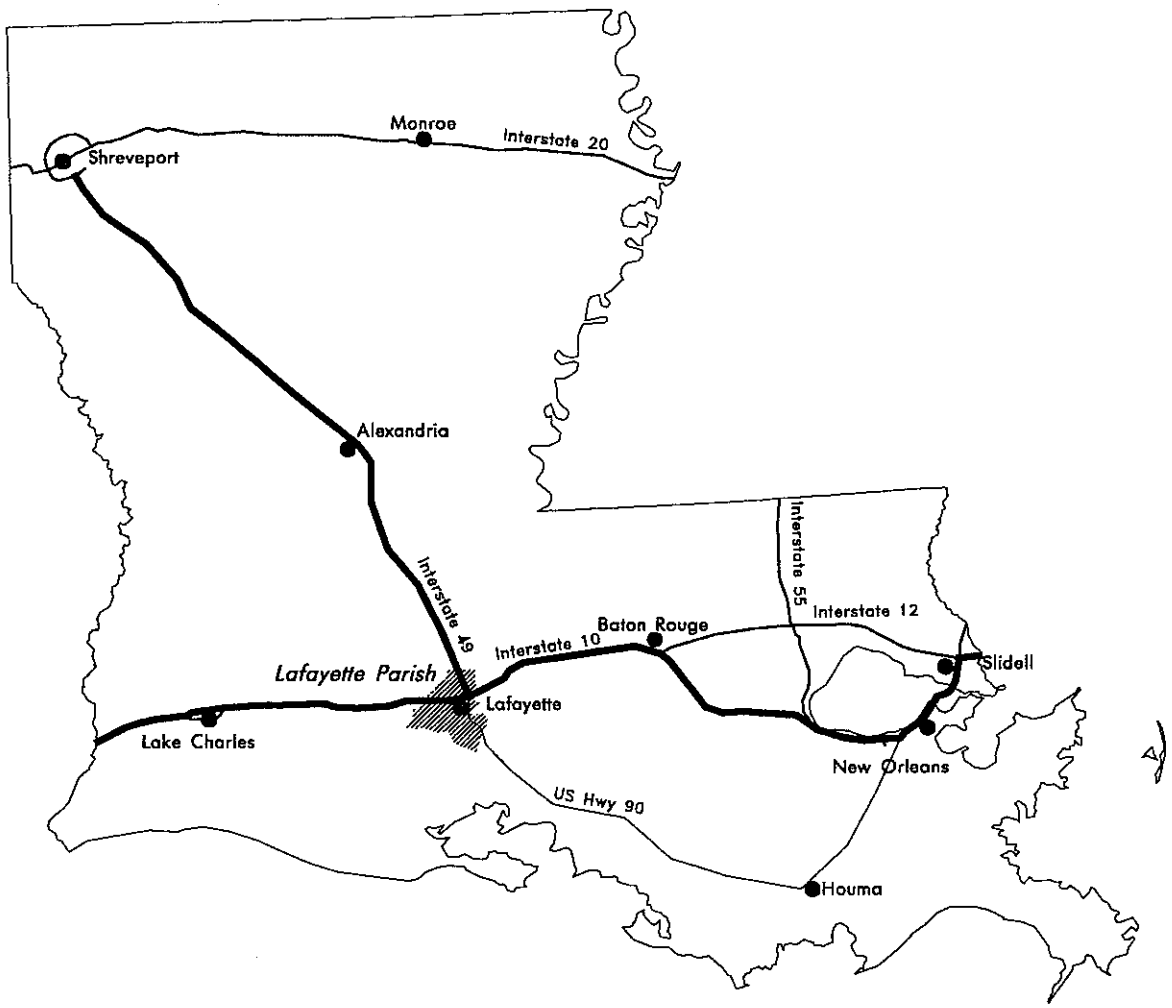
Work tasks for the Lafayette North-South Corridor Study came from a design team consisting of private and public sector volunteers: professional engineers, architects, landscape architects, archaeologists, writers, city planners and other government officials. This result was a quantitative and qualitative evaluation of the corridors alternatives.

Now that the evaluation is complete, it is anticipated that the LAPC Transportation Policy Committee (TPC) will select one corridor alternative for implementation. This process will start the process of placing the project in the local Transportation Improvement Plan (TIP). Once accepted by the State of Louisiana for placement in the State Transportation Improvement Plan (STIP), federal dollars become available to develop a final Environmental Impact Statement ($1 million needed for FY94), a corridor master plan, and corridor construction program. Construction cost estimates range from $232 million to $524 million.

The exhibit entitled "Project Location" geographically identifies the study area as Lafayette Parish, Louisiana.

PROJECT LOCATION MAP

Lafayette Parish, Louisiana



LEGEND:

- Lafayette Parish
- State of Louisiana
- Interstates
- State Highways
- Major Cities

Lafayette Areawide Planning Commission

August 1, 1993

NORTH:

SCALE: (miles)

0 10 20 30 40

II. OTHER MAJOR ACTIONS PROPOSED BY GOVERNMENT AGENCIES

Several other government sponsored projects, all in various stages of development, have influenced the proposed North-South Corridor, each with different time frames of implementation. Some of the influential government sponsored projects included:

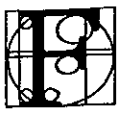
1. **U.S. Highway 90 South Freeway Upgrade**
   U.S. Highway 90 from Lafayette to New Orleans is a proposed freeway under LaDOTD's long range transportation plan. While construction to freeway standards is completed along a portion of the alignment, remaining segments await improvements. Any of the proposed North-South Corridors would link this upgraded roadway to Interstates 10 and 49.

2. **Evangeline Thruway Improvements**
   The Evangeline Thruway is scheduled for improvements from the existing four lane to six lanes in the 1994 Transportation Improvement Program. This project is to be completed using both federal and state funds.

3. **Interstate 10 Frontage Roads**
   Frontage roads along each side of Interstate 10 between Ambassador Caffery Parkway and the Vermilion River are scheduled for completion under the long-range transportation plan for Lafayette Parish. Planned improvements in the area of the Interstate 10 / Interstate 49 interchange would influence the final linkage provided to the corridor alternative which utilizes the existing Evangeline Thruway.

4. **Loop Freeway**
   A loop freeway around Metropolitan Lafayette is a component of several recognized transportation studies. The loop freeway is a possible connector between Interstate 49, the Evangeline Thruway, and Interstate 10. A recently completed comprehensive planning study for Lafayette recommends the reservation of adequate right-of-way to ultimately implement the loop freeway.

III. REASONABLE ALTERNATIVES CONSIDERED



ive (5) north-south corridor and four (4) grade/structure alignments examined as part of this study included:

1. **Alternative No. 1: Western Bypass**
The Western Bypass consists of 26.8 miles of freeway, connecting west Lafayette Parish from Interstate 49 north of Carencro to U.S. Highway 90 south of the Billeaud-LA Highway 96 overpass. This alternative, a proposed at-grade construction, includes 13 interchanges, 16 overpasses, and 23 bridges.

2. **Alternative No. 2: Eastern Alignment**
The Eastern Alignment consists of 10.35 miles of freeway, connecting Interstate 49 near Gloria Switch Road east to U.S. Highway 90 near the Lafayette Regional Airport through the Bayou Tortue Swamp. This alternative, a proposed mixed construction, includes 5.74 miles of at-grade and 4.61 miles of elevated roadway. The corridor includes 6 interchanges, 2 overpasses, and 5 bridges.

3. **Alternative No. 3: Evangeline Thruway**
The Evangeline Thruway corridor consists of 4.5 miles of freeway connecting Interstate 10 and US Highway 90 East at the Lafayette Regional Airport. The alternative, a proposed mixed construction, includes 1.2 miles of depressed roadway, approximately .4 miles of cut and cover roadway and 2.9 miles of at-grade roadway. The corridor's Willow Street and Interstate 10 interchanges are elevated. The corridor includes 6 interchanges, 1 overpass, 1 bridge and service roads along the existing Interstate 49 from Gloria Switch Road to Interstate 10.

4. **Alternative No. 4: Eastern Bypass**
The Eastern Bypass consists of a total of 16.5 miles of freeway, connecting Lafayette Parish and west St. Martin Parish, from Interstate 49 at the LA Highway 182 interchange, to the intersection of LA Highway 89, and U.S. Highway 90. This alternative, a proposed mixed construction, includes 10.1 miles of at-grade and 6.5 miles of elevated roadway. The corridor includes 6 interchanges, 1 overpass, and 10 bridges. This alternative would traverse the Bayou Tortue Swamp east of Lafayette Regional Airport.

5. **No-Build**
The no-build option would consist of existing arterial streets and interstates with limited capacity or operational improvements.

ALTERNATIVE NORTH-SOUTH CORRIDOR ALIGNMENTS

Lafayette Parish, Louisiana

LEGEND:

- Western Bypass
- Eastern Alignment
- Evangeline Thruway
- Eastern Bypass
- Airport
- Arterials
- Railroads
- Collectors
- Interstates
- Parish Boundary
- Vermilion Bayou

Lafayette Areawide Planning Commission

August 1, 1993

NORTH:

SCALE: (miles)

0 1 2

Four different highway structures are presented within these corridor alternatives. Combinations of highway structures determine not only the capacity of a roadway, but expected speed and traveling times. The structures used within the corridor alternatives include:

1. **At-Grade Construction**
   (See Exhibit "AT-GRADE: EVANGELINE THRUWAY 1993 AERIAL)
   This highway structure consists of ground level construction. In order to limit access to this type of roadway, all crossing roads must either be recessed under the freeway or elevated to cross over the freeway.

2. **Elevated Construction**
   (See Exhibit "TYPICAL ELEVATED STRUCTURE")
   This highway structure consists of raised freeway sections. These raised sections form a continuous bridge over cross streets.

3. **Depressed Construction**
   (See Exhibit "TYPICAL DEPRESSED STRUCTURE")
   This highway structure consists of partially buried or tunneled sections of roadway. This type of highway structure requires cross streets to pass above the segment.

4. **Cut and Cover Construction**
   (See Exhibit "CUT AND COVER: PUBLIC PLAZA 2012 PLAN)
   This highway structure consists of completely buried roadway. The top of the "buried roadway" remains usable for other development. The Evangeline Thruway alternative contains about a half mile long section of cut and cover construction, a view of which is shown on the cut and cover view, and on the rendering of the cut and cover aerial provided herein.

ALTERNATIVE GRADE/STRUCTURE ALIGNMENTS

Lafayette Parish, Louisiana

LEGEND:

- At Grade
- Cut & Cover
- Depressed
- Elevated
- Western Bypass
- Eastern Alignment
- Evangeline Thruway
- Eastern Bypass
- Railroads
- Airport
- Arterials
- Collectors
- Interstates
- Parish Boundary
- Vermilion Bayou

Lafayette Areawide Planning Commission

August 1, 1993

NORTH:

SCALE: (miles)

0 1 2

AT GRADE: EVANGELINE THRUWAY 1993 AERIAL

Lafayette Parish, Louisiana

LEGEND:

Lafayette Areawide Planning Commission

August 1, 1993

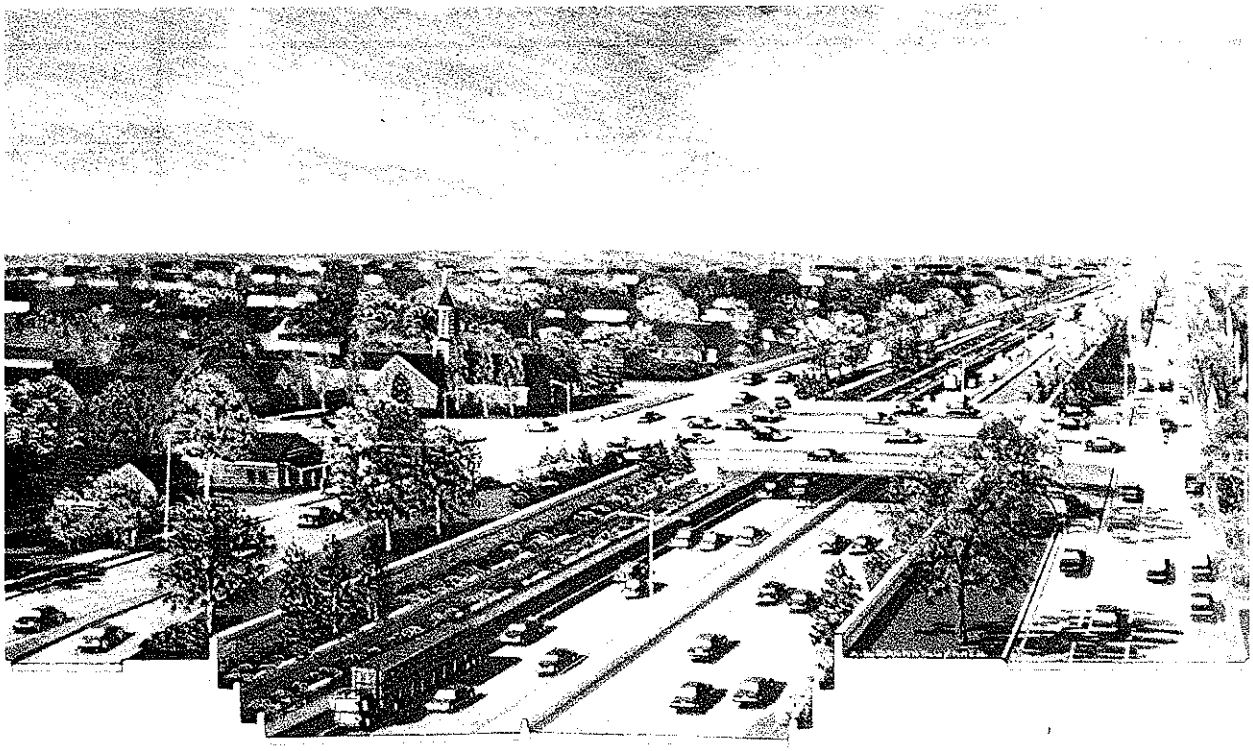
NORTH:

SCALE: (miles)

OFFICIAL ARCHIVAL COPY

TYPICAL DEPRESSED STRUCTURE

Lafayette Parish, Louisiana



LEGEND:

Lafayette Areawide Planning Commission

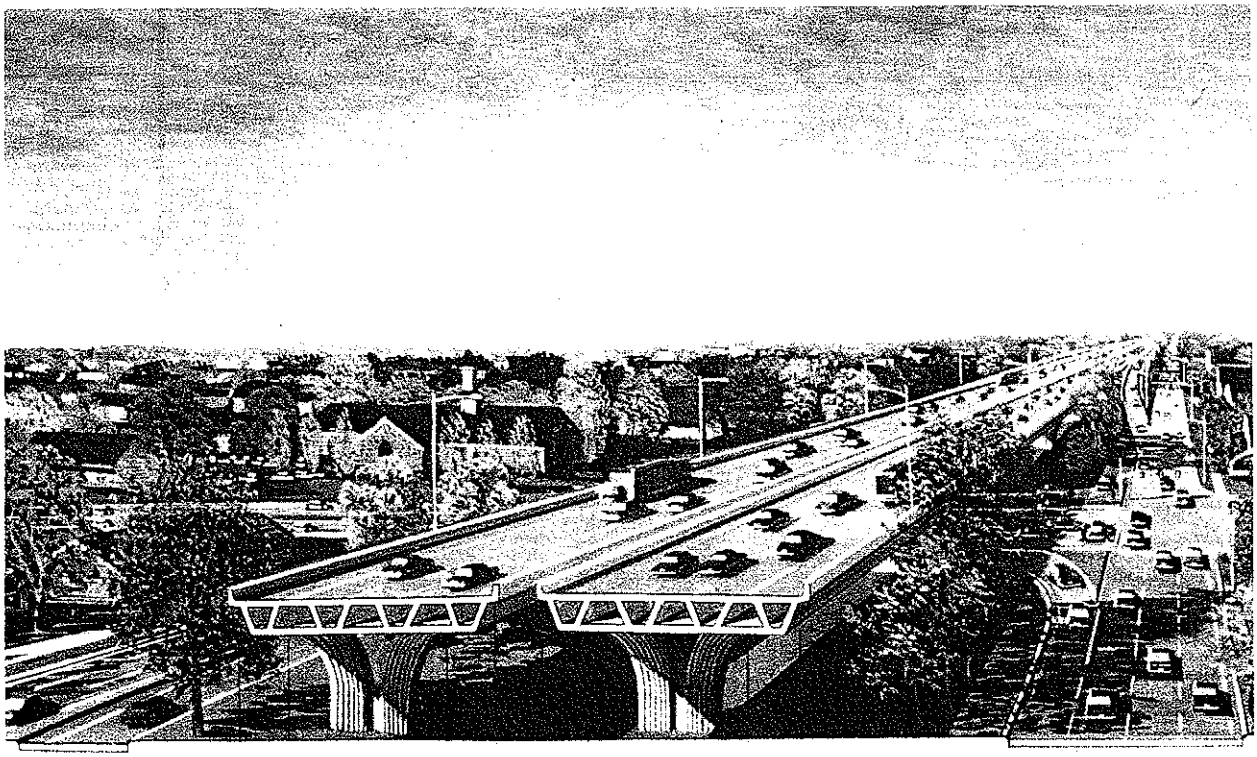
August 1, 1993

NORTH:

SCALE: (miles)

TYPICAL ELEVATED STRUCTURE

Lafayette Parish, Louisiana



LEGEND:

Lafayette Areawide Planning Commission

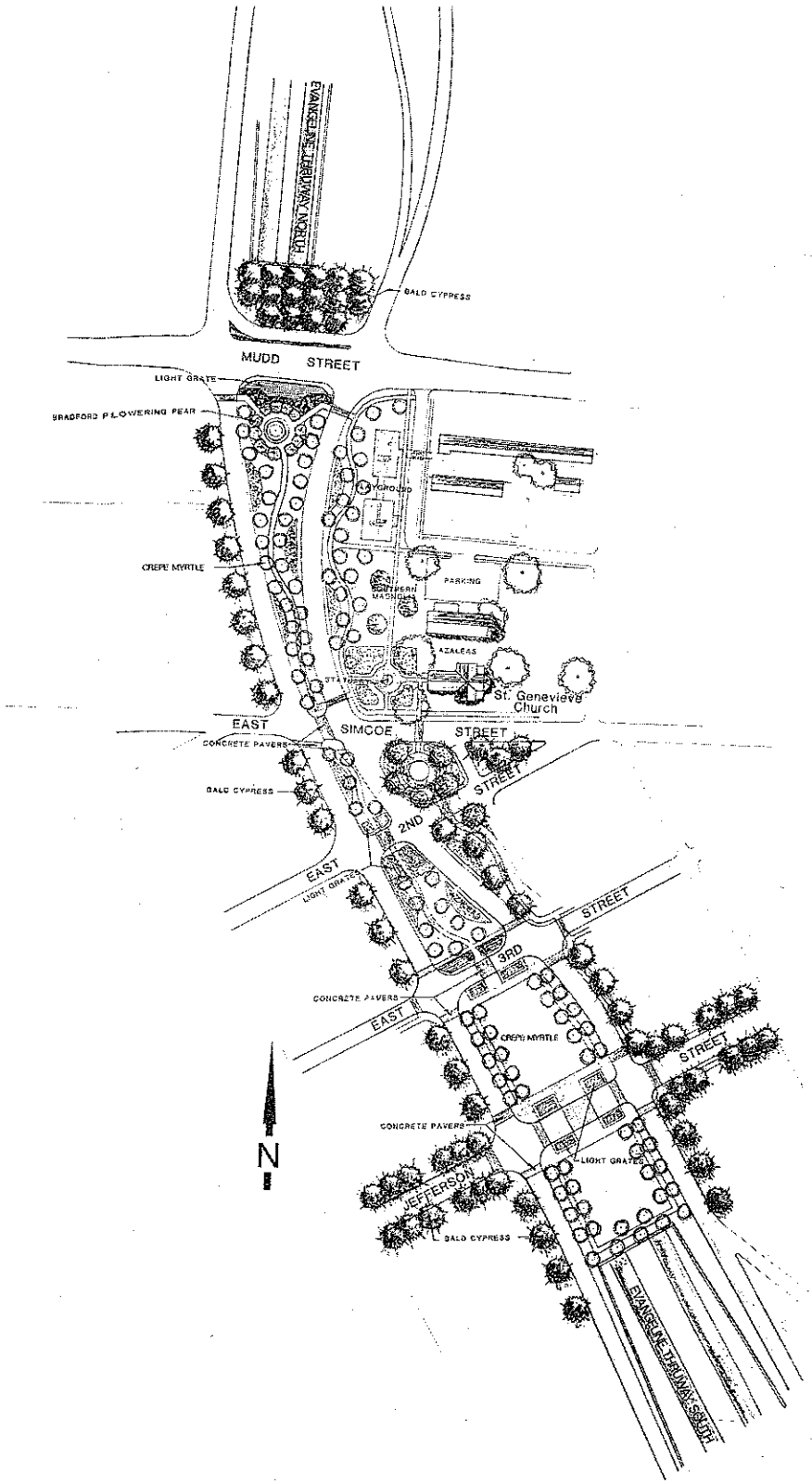
August 1, 1993

NORTH:

SCALE: (miles)

CUT & COVER: PUBLIC PLAZA 2012 PLAN

Lafayette Parish, Louisiana



LEGEND:

Lafayette Areawide Planning Commission

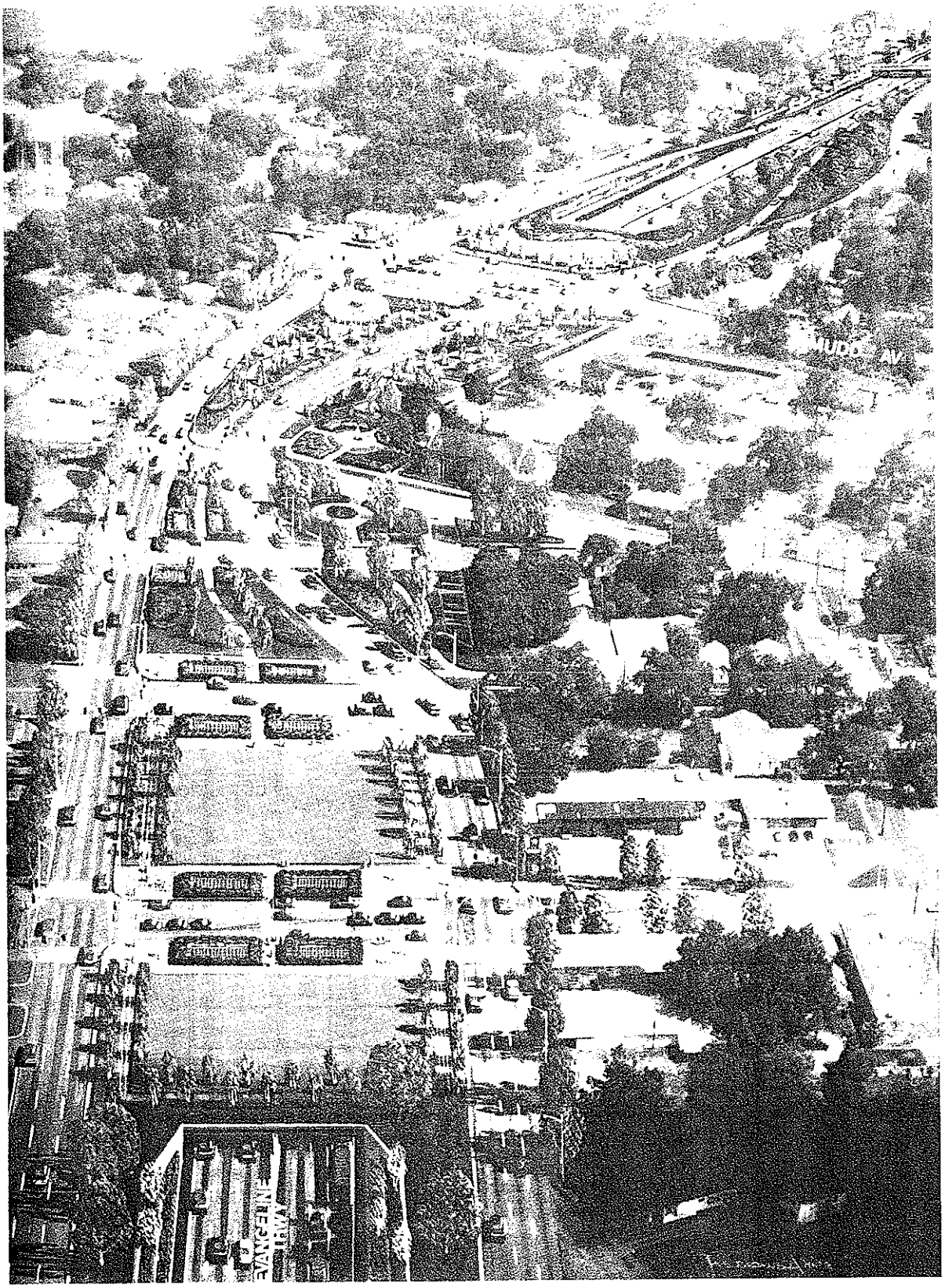
August 1, 1993

NORTH:

SCALE: (miles)

CUT & COVER: EVANGELINE THRUWAY 2012 AERIAL

Lafayette Parish, Louisiana



LEGEND:

Lafayette Areawide Planning Commission

August 1, 1993

NORTH:

SCALE: (miles)

IV. MAJOR IMPACTS OF PROJECT

Sensitive issues, and adverse impacts, and positive impacts identified include:

1. Potentially Sensitive Issues

Several issues and community concerns have been identified as worthy of consideration. The degree of consideration afforded these issues determines the mitigation measures which might be regarded. Some of the identified concerns include:

- The Gateway Lafayette Visitors Information Center, located in the median of Evangeline Thruway near Willow Street, will be impacted.
- Several churches will be impacted due to their proximity to the corridor alternatives.
- The Lafayette Downtown Development Authority (DDA), through its growth Management Program Study report, has expressed an interest in the provision of adequate access to the Central Business District (CBD) to stimulate redevelopment in the area.
- The Sterling Grove Historic District, while directly adjacent to the proposed Evangeline Thruway corridor, will not be impacted significantly by the roadway's construction.
- The corridors proposed under Alternatives 2 and 4 will traverse large stretches of sensitive wetlands east of the Lafayette Regional Airport.
- The corridors proposed under Alternatives 2, 3, and 4, will impact recreational- and tourist-oriented development around Vermilionville, Beaver Park, and the Jean Lafitte Center.

2. Adverse Impacts

a. Dislocations

Each of the corridor alignments will displace differing degrees of residences and businesses.

Table T-1
Summary of All Dislocations by Proposed Alternatives

	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Residential	260	31	176	46
Business	109	20	51	11
Mobile Homes	34	0	0	3

The figures include displacements as a result of construction of alignment as well as displacements as a result of arterial construction to support the alignment.

Source: Lafayette Areawide Planning Commission, 1993

b. Cultural and Archeological Resources

Cultural and Archeological Resources under all corridor alternatives, with the exception of Evangeline Thruway, would be impacted. Even though the Evangeline Thruway corridor would be within the proximity of the Sterling Grove Historic District, it has been determined that no building on or potentially eligible for the National Register of Historic Places would be dislocated.

c. Air Quality and Noise

Noise levels under all corridor alternatives, with the exception of Evangeline Thruway, would increase as a result of projected growth in traffic volumes. The depressed roadway segment offers built-in noise reduction due to side retaining walls. This will be most evident near the St. Genevieve Church and School, which are part of the Sterling Grove Historic District. Noise levels within the area would be reduced by the proposed cut and cover, thereby eliminating the negative impact within the district.

d. Wetlands

All four alternatives would impact some wetland areas. The Evangeline Thruway corridor could impact wetlands in the vicinity of the Gateway Visitor Center, while the Eastern Bypass and Eastern Alignment corridors would impact long stretches of jurisdictional wetlands in the Bayou Tortue Swamp area.

3. **Positive Impacts**

a. Cost to Benefit

The Evangeline Thruway corridor would be the only alternative that has a positive impact on the travel time costs, vehicle operating cost, network/volume capacity ratios and benefit costs. The other alternative corridors would have no positive impacts on cost to benefit.

b. Public Safety

The improvements offered by the Evangeline Thruway corridor would have an impact on Public Safety. While the other corridor alternatives would provide no apparent change, the benefits of the Evangeline Thruway corridor would include the reduction of accident potential on the area's most hazardous roadway, reduced travel times for both through and local traffic and improved access from outlying areas to the Central Business District (CBD).

c. Environmental

The improvements offered by the Evangeline Thruway corridor would have little or no adverse impact on the environment. Due to their structure, the Western Bypass, Eastern Bypass and Eastern Alignment present a host of negative impacts, including the intrusion of a roadway through sensitive wetland intrusion of noise into primary residential areas and displacement of delicate habitats.

d. Quality of Life

The improvements provided by the Evangeline Thruway corridor offer a potentially positive impact on the area's overall quality of life. For comparison, the Western Bypass presents no apparent impact or change, while the Eastern Alignment and Eastern Bypass and Eastern Alignment have potentially negative impacts on quality of life.

V. ADDITIONAL ACTION REQUIRED FOR IMPLEMENTATION OF PROJECT

Project implementation will require selecting and implementing the most appropriate project alternatives, mitigation measures, joint development opportunities and state/federal actions.

1. **Project Alternatives**

Several alternatives regarding the specifics of project implementation have been identified in this study. Major unresolved issues concerning the project alternatives, as described throughout this report, include:

a. Highway Type

No-Build or Full Freeway?

b. Corridor Alignment

Western Bypass, Eastern Alignment, Evangeline Thruway, or Eastern Bypass?

c. Freeway Grade/Structure

At Grade, Elevated, Depressed, or Cut and Cover?

2. **Summary of Potential Mitigation Measures**

a. Displacements

In addition to normal federal and LaDOTD payments for property acquisition and relocations, there may be a need for federal rental housing to supplement the local market supply.

b. Noise

Noise would increase for some residents not displaced by the freeway and in parts of more densely urbanized neighborhoods. Walls or earthen berms may be warranted to diminish the noise impacts of the project, although noise levels could be expected to be lower in the depressed and cut and cover segments of Evangeline Thruway.

c. Wetlands

Wetlands would be particularly impacted in the Eastern Bypass and the Eastern Alignment corridors. Moderate wetland impact would occur in the Western Alignment corridor while impact in the Evangeline Thruway corridor would be minimal. Mitigation options could include restoration, creation, and purchase of replacement wetlands.

d. Joint Development

Potential exists for integrating all or some of the existing "Gateway" into the freeway project, with further public and agency coordination required to determine the desirability of this action. Other joint development opportunities, including special emphasis on the appearance of the highway and surrounding terrain, exist in the Evangeline Thruway core area. The cut and cover alternative, in particular, offers a unique opportunity to physically bring the community together. Aesthetic design and recreational opportunities could include landscaping, fountains, sculpture, walkways, bridges, retaining walls and other functional structures.

3. Other State/Federal Actions Required

In addition to acceptance and approval of the draft EIS and this study, other actions required of state and federal agencies for project implementation may include:

a. Inclusion of a Lafayette north-south corridor freeway in the FY94 State Transportation Improvement Plan (Fund and Complete Final Environmental Impact Statement - EIS);
b. Final EIS with approvals from various federal agencies;
c. Funding;
d. Support for Lafayette Citizen Oversight Committee through the Lafayette Metropolitan Planning Organization (MPO);
e. Design and plan development;
f. Right-of-way and property acquisitions;
g. Section 404 and Section 10 permits from the U.S. Army Corps of Engineers involving wetlands and waters of the United States;
h. Land transfers involving federal agencies;
i. Approval by the Federal Aviation Administration for necessary alterations which may be required at the Lafayette Regional Airport;
j. Possible Section 4(f) and 6(f) Statements (depending on judgement of severity of noise impacts to Beaver Park and residential neighborhoods plus the magnitude of visual and proximity impacts to the Sterling Grove Historic District);
k. Section 106 Memoranda of Agreement concerning archaeological and/or historical properties.

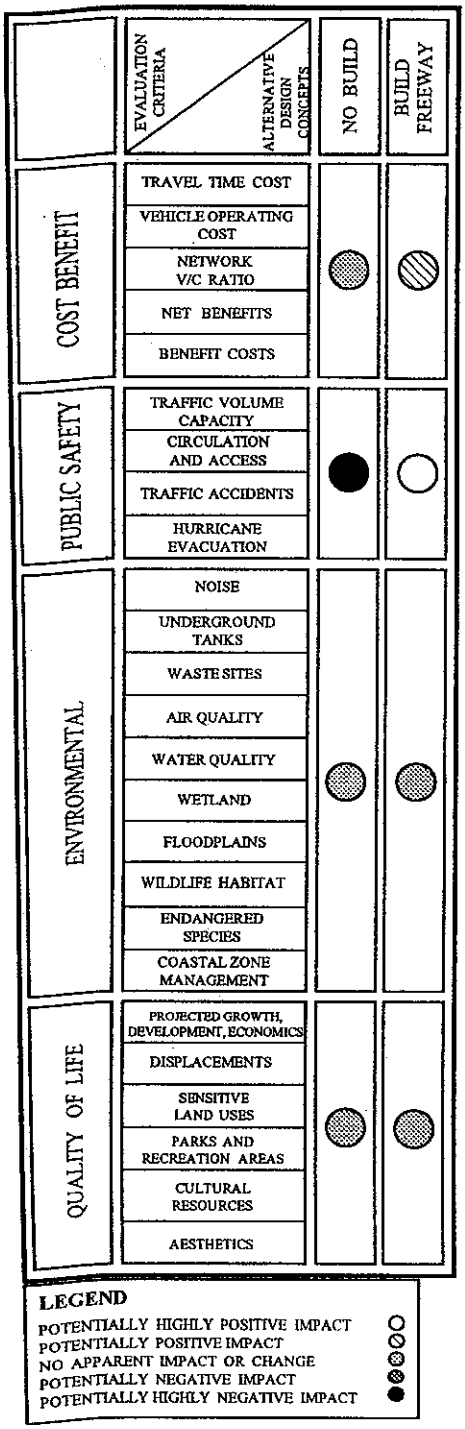
VI. SUMMARY ASSESSMENT OF ALTERNATIVES

Five (5) corridor alternatives and four (4) alternative grade/structures have been evaluated and presented in greater detail later in the complete Lafayette North-South Corridor Study. Four (4) criteria have been selected to evaluate or assess the various alternatives:

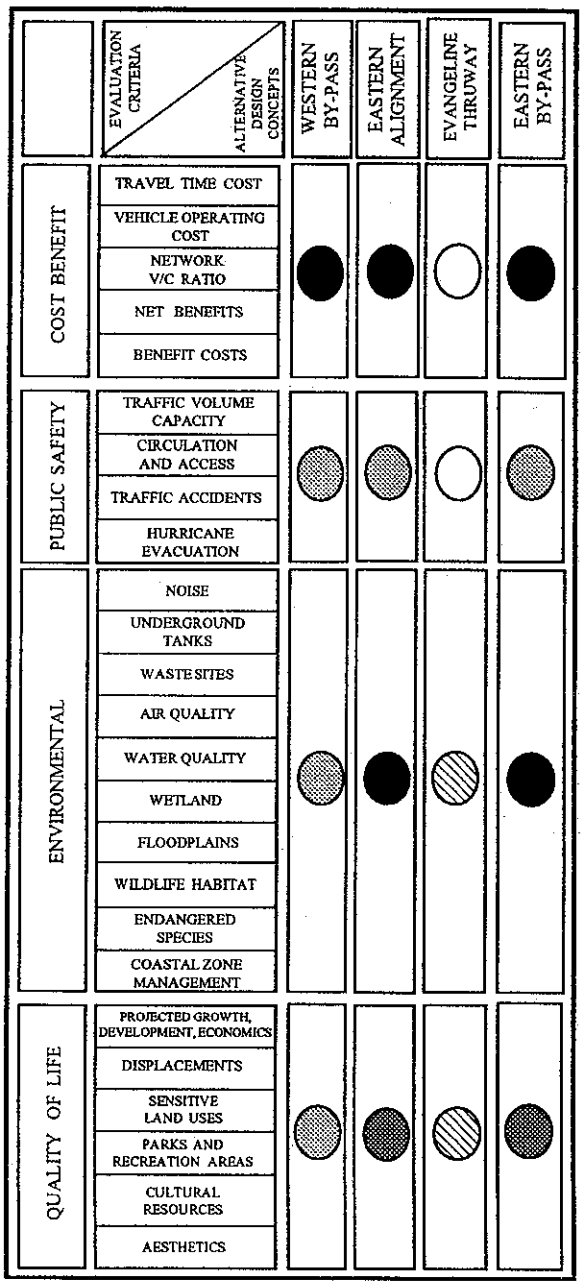
1) Traditional Highway Cost Benefit;
2) Public Safety;
3) Environmental; and
4) Quality of Life.

Using this information, two generalized impact analysis matrices have been prepared to condense and summarize the positive and adverse impacts of each alternative. The first matrix compares the no-build and build-freeway corridor alternatives. The second matrix compares and contrasts the various freeway corridors being considered for implementation. These matrices precede a summary evaluation, which identifies the impact of the above identified criteria within each corridor study area.

Highway Type Alternative Summary Matrix



Freeway Corridor Alternatives Summary Matrix



1. **Traditional Highway Cost Benefit**

Generalized cost estimates were prepared using construction unit prices from the draft Environmental Impact Statement (EIS) for the I-49 Connector for similar types of construction. Construction costs have been estimated for the following: roadways (at grade, depressed, elevated, and cut and cover), interchanges, overpasses, bridges over streams, land acquisition, residential and commercial relocations, major pipeline modifications, environmental costs and wetland mitigation.

Additionally, actual construction costs for the I-310 project in the New Orleans area were used for the elevated twin bridges being considered under corridor alternatives 2 and 4. Estimated costs for right-of-way and relocations, where available, were taken from the Lafayette Metropolitan Area Transportation Study (LMATS) or the Draft EIS for the I-49 Corridor.

In order for the various alternatives to be more comparative, additional cost estimates were prepared for major arterial improvements, which would be necessary to link the traffic generating areas to each alternative being considered. Cost estimates were previously prepared for Evangeline Thruway improvements which would be necessary to correct current traffic deficiencies of this roadway should any alternative other than the Evangeline Thruway be selected.

The table entitled "Cost Summary" identifies the total cost of each alternative freeway corridor proposal.

Table T-2
Cost Summary

* Alternative No. 1: Western Bypass	----------	$524,816,000.00
* Alternative No. 2: Eastern Alignment	----------	$265,436,000.00
* Alternative No. 3: Evangeline Thruway	----------	$232,750,000.00
* Alternative No. 4: Eastern Bypass	----------	$328,105,000.00

* The Engineering Conceptual Study of the Evangeline Thruway, U.S. 90/U.S. 167, Lafayette, La. prepared by the Dept. of Public Works, City of Lafayette (1983), states that approximately $100,884,000.00 worth of improvements to Evangeline Thruway are needed to accommodate the forecasted traffic volumes of this facility by the target year 2000. Thus, this cost should be added to alternatives 1, 2, and 4.

Source: Lafayette North-South Corridor Study, Lafayette Areawide Planning Commission, 1993

The central question for a cost benefit analysis is directed at finding the economic desirability of a project from among several alternatives. Usually these alternatives are mutually exclusive and the decision-makers must chose only one project to implement. The results of an economic analysis may show that the most economically desirable alternative is not to build new facilities; that the existing, or "no-build", alternative provides the most benefits. However, such is not the case with this study. The savings in time and vehicle operating expenses are quite significant for corridor alternative no. 3 when compared to the existing travel characteristics of the unimproved Evangeline Thruway. The other alternatives do not afford the same benefits.

Yearly user costs for this study included both the cost of time and the cost of vehicle operation. These annual costs amounted to $51.8 million for the existing, unimproved Evangeline Thruway. In comparison, the user costs for the Western Bypass amounted to $94.4 million, the Eastern Alignment amounted to $53.9 million, the Evangeline Thruway amounted to $32.2 million, and the Eastern Bypass amounted to $60.1 million. Positive benefits occur if the user costs of an alternative are less than the user costs for the existing, or "no- build" alternative. Negative user benefits (considered costs) arise when the proposed alternative has user costs that are greater than the existing Evangeline Thruway user costs. Such is the case for the Western Bypass, the Eastern Alignment and the Eastern Bypass, which all have user costs greater than the existing, unimproved Evangeline Thruway. Only the Evangeline Thruway alternative provides user costs which are significantly lower than the user costs for the existing Evangeline Thruway user costs and thus affords positive user benefits, which offset construction and maintenance costs.

Annualized construction and maintenance costs for each of the alternative amounted to $23.0 million for the Western Bypass, $13.7 million for the Eastern Alignment, $16.0 million for the Evangeline Thruway, and $15.4 million for the Eastern Bypass.

The benefit to cost (B/C) ratio places the user benefits over the construction and maintenance costs to determine if benefits will outweigh costs and to what degree. A cost benefit ratio of one (1) indicates costs are equal to benefits. A ratio of less than one (1) indicates costs outweigh benefits. A ratio greater than one (1) indicates benefits outweigh costs, which is represented by corridor alternative no. 3 with a B/C ratio of 1.22. The remaining alternatives show a relationship where costs significantly outweigh benefits because no positive user cost savings are available to offset construction/maintenance costs.

The following graphic presents the relationship between user costs, user benefits, construction costs, net benefits, and the corresponding benefit/cost ratios for the corridor alternatives 1 through 4. Comparing these figures reveals that only corridor alternative no. 3 provides positive net benefits in excess of construction and maintenance costs. Alternative no. 3 fulfills the two most important criteria for economic evaluation: it provides net benefits, and it has the highest benefit/cost ratio greater than 1, from among the alternatives being evaluated.

Table T-3
Summary of Benefits and Costs

	A	B	C	B/C	B-C
	User Costs * (Million $/year)	User Benefits * (Million $/year)	Construction Costs * (Million $/year)	Benefit to Cost Ratio (B/C)	Net Benefits (Million $/yr) (B-C)
No Build	51.384	0	0	******	*****
Alternative 1	94.442	- 42.608	23.018	0	-65.626
Alternative 2	53.911	-2.077	13.748	0	-15.825
Alternative 3	32.219	19.615	16.008	1.22	3.607
Alternative 4	60.102	-8.216	15.483	0	-23.751

* All user costs have been annualized to 1990 dollar values

** User benefits have been computed as the User Costs for the No-Build Alternative, less the User Costs for each of the proposed alternatives

Source: Lafayette North-South Corridor Study, Lafayette Areawide Planning Commission, 1993

2. Public Safety

The public's freedom from transportation-related dangers is an important consideration when planning major thoroughfares. Thus, four aspects of public safety can be used to evaluate the corridor alternatives. These are: traffic volume capacity, circulation and access, traffic accidents, and hurricane evacuation.

a. Traffic Volume Capacity

While traffic volume, measured in Average Daily Traffic (ADT) counts, have been collected for the year 1990, and forecast through the year 2012 for construction of each alternative freeway, it is also important to understand the ADT for the "no-build" scenario.

Using the TRANPLAN model for the update of Lafayette Metropolitan Area Transportation Study (LMATS), the alternate north-south corridors were evaluated independently of each other to assess impact on the street and highway network. The Base Year (1990) Network was used to study the 1990 trips and the Existing plus Committed (E+C) Network was used to study the year 2012 trips. The trip generation for the year 2012 is based on the growth forecast in LMATS.

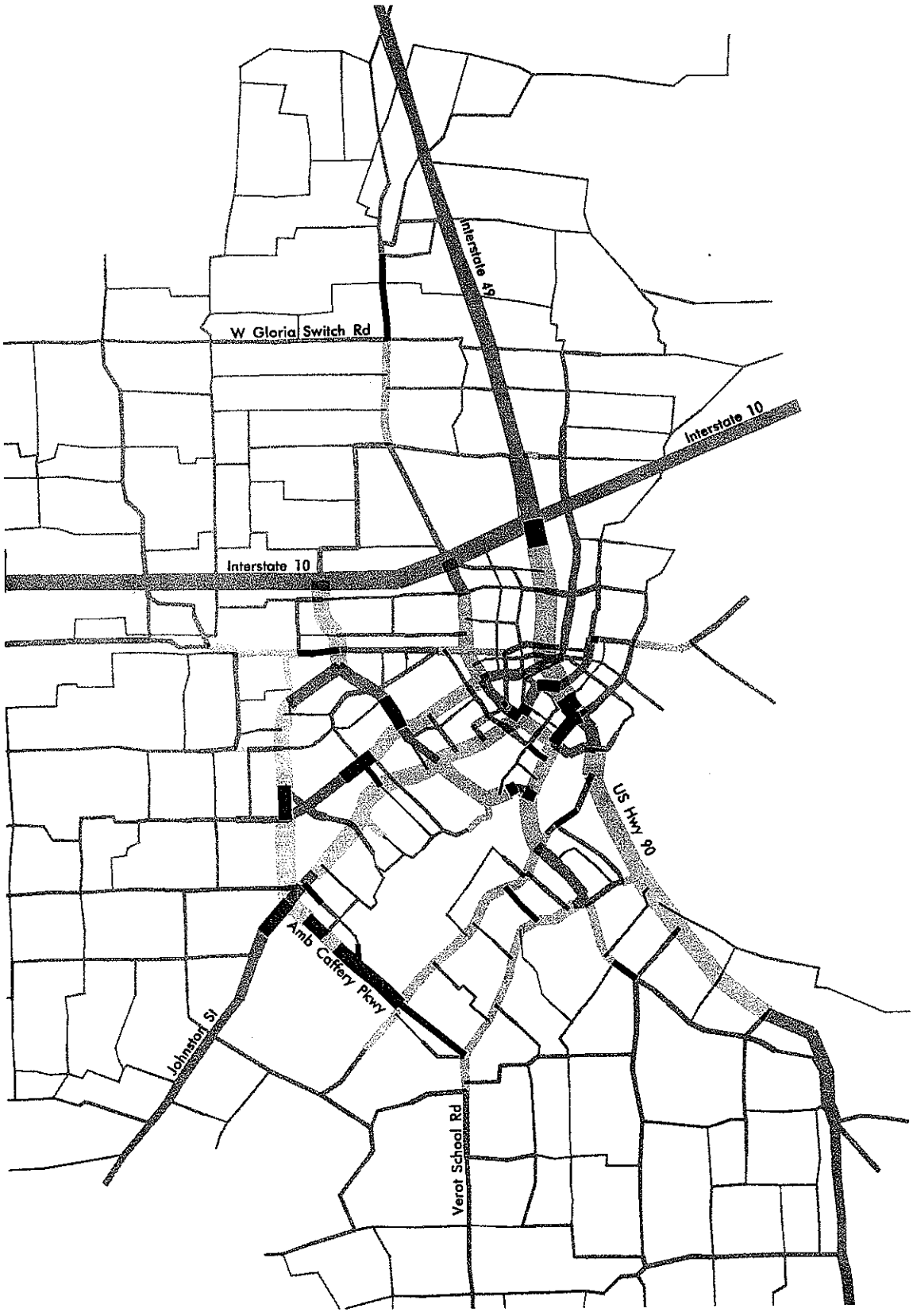
The 1990 Base Year can be assumed as a "no-build" scenario, which consists of the Evangeline Thruway continuing to operate as it does now, with few capacity or operational improvements. Localized projects aimed at particularly troublesome areas, such as turning lanes, new signalized intersections, etc., could evolve over time. Included in this scenario is the addition of a third lane in each direction of the Evangeline Thruway between Dolon Road and Interstate 10.

Table T-4
1990 BASE YEAR TRAFFIC VOLUMES
(in thousands)

LOCATION	BASE NETWORK
New Freeway	N/A
Ambassador Caffrey Parkway	
S of I-10	35
Congress St	39
Johnston St	34
Vermilion River	26
Verot School Rd	11
South College Rd	
Johnston St	26
Coolidge Blvd	33
University Ave	
Johnston St	28
Evangeline Thwy	18
Pinhook Rd	
Vermilion River	35
Evangeline Thwy	
N of I-10	40
S of I-10	40
S of Willow St	49
Johnston St	44
Vermilion River	25
University Ave	44

1990 NETWORK TRAFFIC VOLUME/CAPACITY RATIO MAP

Lafayette Parish, Louisiana



PERCENT CAPACITY:

- 0 – 89%
- 89% – 99%
- Above 100%

TRAFFIC VOLUME

25,000 50,000
(vehicles per day)

Lafayette Areawide Planning Commission

August 1, 1993

NORTH:

SCALE: (miles)

0 0.25 0.5

This network shows traffic volumes on Ambassador Caffery Parkway south of Interstate 10 with a near capacity rating of 35,000 trips. Trip volumes on Ambassador Caffery Parkway from the Vermilion River to Verot School Road indicate maximum capacity. Johnston Street, Kaliste Saloom Road, Pinhook Road, and Verot School Road are all at or near capacity. Evangeline Thruway south of Interstate 10 is also at or near capacity with one exception near the Vermilion River.

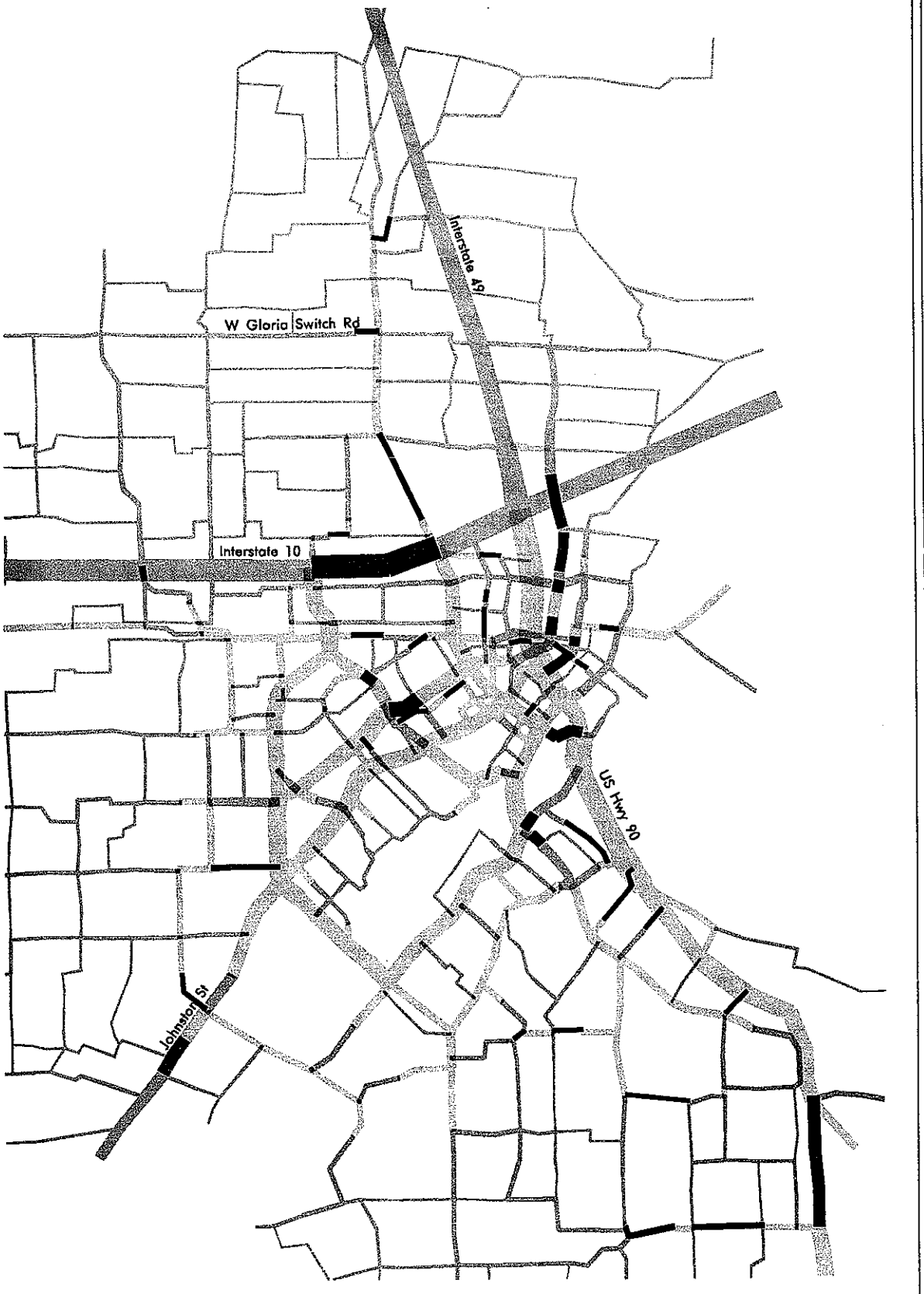
The 2012 Base Year can also be assumed as a "no-build" scenario with 888,051 total vehicle trips per day and would add eleven committed roadway improvements to the existing planned improvements. These committed roadway improvements include four-lane extension of the Cajundome Boulevard; intersection improvements on Cameron Street at South Pierce; intersection improvements on Congress Street at Bertrand; roadway realignment on East Bayou Parkway and Feu Follet Road; roadway widening on Kaliste Saloom Road; roadway widening on LA 3095; intersection improvement on Moss Street at Alexander and at Mudd Avenue; roadway widening on Surrey Street; roadway realignment on Verot School Road and A. Comeaux Road; and roadway widening on W. Congress Street.

Table T-5
2012 TRAFFIC VOLUMES
(in thousands)

LOCATION	BASE NETWORK
New Freeway	N/A
Ambassador Caffrey Parkway	
S of I-10	47
Congress St	46
Johnston St	45
Vermilion River	38
Verot School Rd	14
South College Rd	
Johnston St	32
Coolidge Blvd	43
University Ave	
Johnston St	34
Evangeline Thruway	28
Pinhook Rd	
Vermilion River	49
Evangeline Thwy	
N of I-10	55
S of I-10	56
S of Willow St	62
Johnston St	56
Vermilion River	41
University Ave	67

2012 E+C NETWORK TRAFFIC VOLUME/CAPACITY RATIO MAP

Lafayette Parish, Louisiana



PERCENT CAPACITY:

- 0 - 89%
- 89% - 99%
- Above 100%

TRAFFIC VOLUME

25,000 50,000
(vehicles per day)

Lafayette Areawide Planning Commission

August 1, 1993

NORTH:

SCALE: (miles)

0 0.25 0.5

b. Circulation and Access

Implementation or construction of one of the corridor alternatives in Lafayette Parish would expand the local roadway system by providing a north-south route to complement the existing east-west Interstate 10. An I-49/I-10 connector would also function well with the proposed perimeter roadways in the southwest, northwest and northeast quadrants. Some of the alternative roadways and ground level parallel roadways are compatible with Metropolitan Planning Organization's working Strategic Thoroughfare Plan Map and with repeated calls by city government for transportation improvements in the Evangeline Thruway corridor.

A north-south corridor is also compatible with statewide goals to upgrade to freeway standards U.S. Highway 90 south from Lafayette to New Orleans. On a national basis, construction of one of the north-south corridor alternatives would also be compatible with an expanded Interstate 49 system that could ultimately extend from New Orleans to Kansas City, Missouri.

A constructed or "build freeway" is expected to capture more traffic than if no improvement is made. As currently conceived, the north-south corridor has excess capacity to accommodate projected traffic volumes. By capturing traffic from other roadways, a north-south corridor would function to improve traffic operations throughout the local traffic network. In combination with the continuous one-way land service parallel roadways, the corridor project would provide improved service to both through and local traffic throughout the Parish.

c. Traffic Accidents

As that three of the corridor alternatives do not currently exist, traffic accident statistics area only available for the Evangeline Thruway corridor. Thus, only improvements to the Evangeline Thruway can improve the accident statistics of freeways in Lafayette Parish.

Accident data for the Evangeline Thruway for the year 1992 from Interstate 10 to the Lafayette Municipal Airport demonstrate:

- -Approximately 615 accidents occurred along this segment of Evangeline Thruway;
- -Approximately 8% of all accidents in Lafayette Parish and 12% of all accidents in the City of Lafayette occurred along this segment;
- -Accidents within this segment of Evangeline Thruway resulted in $4,725,000 of lost wages, medical expenses, insurance administration, and motor vehicle property damage during 1992.

The table entitled "Traffic Accident Statistics" compares and contrasts data from Louisiana roads, Lafayette Parish roads, the Evangeline Thruway, and U.S. Interstate Highway Network. Most revealing is the high number of "Accidents Per Million Vehicle Miles of Travel" and "Fatal Accidents Per 100 Million Vehicle Miles Traveled" for the Evangeline Thruway. Clearly, the existing Evangeline Thruway is a relatively dangerous roadway (i.e., fatal accident rate of Evangeline Thruway is nearly six times higher than that of U.S. Interstates). Any improvements to the Evangeline Thruway corridor will translate into increased safety and reduced accident costs.

Table T-6
Traffic Accident Statistics

	Accidents Per Year	Fatal Accidents Per Year	Millions of Vehicle Miles Traveled Annually	Accidents Per Millions of Vehicle Miles of Travel	Fatal Accidents Per 100 Million Vehicle Miles Traveled
State of Louisiana	140,000	862	34,710	4.0	2.5
Lafayette Parish	7,247	25	1,335	5.4	1.9
Evangeline Thruway	615	3	52	11.8	5.8
US Interstates	N/A	N/A	N/A	N/A	0.8

Source: Lafayette Metropolitan Area Transportation Plan (1992-2012), Wilbur Smith and Associates, 1992; Louisiana Highway Safety Commission, 1993; Lafayette Areawide Planning Commission, 1993; City of Lafayette, 1993.

d. Hurricane Evacuation

The underlying purpose of the alternative corridors will be to aid in the evacuation of coastal, southwestern and south-central Louisiana in the event of a hurricane. As such, the true merit of the roadway will be measured through its ability to maintain a safe and steady movement of vehicles, even under a higher than normal volume. General measures of the safe and steady flow of traffic along a roadway corridor are in terms of Volume to Capacity (V/C) ratios and Average Daily Traffic (ADT) volume. As a roadway reaches the outer limits of either the V/C ratio or the ADT, the result will be congestion and delays.

The general coastal evacuation prior to Hurricane Andrew's landfall in south central Louisiana in August, 1992 highlighted the inadequacy of the current Evangeline Thruway. According the City of Lafayette Department of Public Works, an estimated 25,900 additional vehicles joined the Thruway's average daily volume of 45,794 (1991 Count) vehicles. The total volume on the corridor, an estimated 76,000+ vehicles, was well beyond the Evangeline Thruway's design capacity of 42,000 vehicles. The resulting delays and congestion exacerbated the anxiety felt by individuals fleeing one of nature's most powerful storms.

To prevent congestion under a full or partial evacuation of coastal Louisiana through Lafayette Parish, the ideal corridor would need to absorb the additional vehicles moving north and also provide enhanced connection to population centers to the south and southeast of Lafayette. All four of the corridor alternatives meet the need to connect population centers, but would also provide the needed roadway capacity to absorb higher traffic volumes.

For comparison, the Western Bypass, the longest of the corridor alternatives, will provide at-grade or grade separated connections to U.S. Highway 90, U.S. Highway 167, Interstate 10 and Interstate 49. These connections will also be accomplished by the Evangeline Thruway, the shortest of the corridor alternatives. While the Eastern Alignment, Eastern Bypass and Evangeline Thruway corridors will enhance efforts to move a large volume of vehicles from areas southeast of the parish, which include St. Martin, Iberia and St. Mary Parishes, the Western Bypass corridor would assist with an evacuation of Vermilion Parish.

In terms of Volume to Capacity (V/C) ratios, the corridor alternatives will provide the necessary design capacity to minimize congestion and maximize safety under a general evacuation. However, as these ratios approach the range of .90 to less than 1.0, the roadway would be reaching its design capacity. The proposed V/C ratios, expressed in 1990 and 2012 traffic counts, are provided in the table entitled Volume to Capacity Ratios, North-South Corridor Alternatives. These ratios were determined from the addition of expected levels of extra traffic from an evacuation to existing and projected traffic levels for each corridor alternative. For comparison, the V/C ratio on Evangeline Thruway during the 1992 evacuation was 1.8.

Table T-7
Volume to Capacity Ratios
North-South Corridor Alternatives 1990 and 2012

Corridor Alternative	1990 Volume/Capacity Ratio	2012 Volume/Capacity Ratio
Western Bypass	0.69	0.9
Eastern Alignment	0.54	0.6
Evangeline Thruway	0.57	0.8
Eastern Bypass	0.54	0.6

Source: Lafayette Areawide Planning Commission, 1993

3. **Environmental**

When constructing of a major roadway, planners must consider the impact on the surrounding area. One major area of consideration, which holds the greatest potential for posing difficult obstacles, is environmental quality.

a. Noise

Of the alternatives outlined, only the Evangeline Thruway corridor will have effective noise reduction measures in populated areas as part of its construction program. Approximately 1.6 miles of the Evangeline Thruway will utilize depressed, or cut and cover, segments as part of the overall construction plan. This will remove a majority of the noise associated with vehicle travel from the populated areas within the vicinity of the roadway.

By comparison, the Eastern Bypass, Eastern Alternative, and Western Bypass will all utilize a combination of at-grade and elevated structures through populated areas. The result will be the introduction of additional vehicle noise into areas currently void of such an intrusion. The only buffers to the spread of noise beyond the corridor areas into adjacent areas will be the clusters of residential and commercial structures or trees that line each corridor area.

b. Underground Tanks

Of the alternatives outlined, all corridors will have an effect on underground tanks within each corridor study area. However, the Evangeline Thruway corridor provides the most information on tank locations and content, as the result of tank registration by business and industry.

According to the Draft EIS, underground storage tanks (UST's), defined as any one or a combination of tanks, including connecting underground pipes) are used to contain an accumulation of regulated substances the volume of which is 10% or more beneath the surface of the ground (Draft EIS, p. 3-41). Louisiana Administrative Code Title 33, Environmental Quality Solid Waste, Water Quality, Underground Storage Tanks requires that all UST's must be registered with the Louisiana Department of Environmental Quality (DEQ) Underground Storage Tank Division, unless they are filled with a solid, inert material. Tanks not covered by these regulations include those holding 110 gallons or less, farm and residential tanks holding 1100 gallons or less of motor fuel not used for non-commercial purposes, heating oil burned on the premises, septic tanks, stormwater and wastewater collection tanks, emergency spill and overfill tanks. The thorough extent of the impacts on underground tanks within the study areas can only be determined after an extensive field survey, which includes both registered and non-registered tanks.

c. Waste Sites

Of the alternatives outlined, all corridors will not have an impact on known hazardous waste sites within individual study areas. Positive impact from the corridor construction will come with the removal of service stations and other proprietors of underground tanks from the alignment areas. The associated tanks, contaminated soil and groundcover, will be replaced.

According to the Draft EIS, an inventory of hazardous waste sites within the State of Louisiana is maintained by the Louisiana Department of Environmental Quality, Office of Solid and Hazardous Waste. This list has determined that the Evangeline Thruway corridor could impact an abandoned solid waste dump under the new City of Lafayette Public Works Administration Building and Transit Maintenance Facility.

d. Air Quality

Of the alternatives outlined, all of the corridors will not have an impact on the general air quality of the Lafayette Metropolitan Area. However, the Evangeline Thruway corridor, by its use of depressed roadway and cut and cover segments, will bring about a localized improvement. This system will diffuse a majority of the heavy vehicle emissions polluting the air within central Lafayette. Conversely, the Western Bypass, Eastern Alignment, and Eastern Bypass segments will introduce a greater number of emissions into adjacent residential and commercial areas.

e. Water Quality

Of the alternatives outlined, only the Evangeline Thruway corridor will not impact the deterioration of surface and subsurface water. The Evangeline Thruway corridor will include connections to the City of Lafayette Sewerage System along a majority of its alignment.

By comparison, the Western Bypass, Eastern Alignment, and Eastern Bypass will introduce substantial amounts of untreated runoff into jurisdictional wetlands and drainage basins.

f. Wetlands

Of the alternatives outlined, all of the corridors will impact some portion of a wetland formation. However, the Evangeline Thruway corridor will not offer a significant impact to local wetlands. According to the Draft EIS, the only impact will be felt in the Gateway median. However, "if the proposed project is located on the periphery of the Gateway area, then impacts to the ponds (in the area) could be negligible" (Draft EIS, p 4-57).

By comparison, the Western Bypass, Eastern Alignment, and Eastern Bypass will all impact differing amounts of jurisdictional wetlands. According to current land use surveillance, 2% of the land uses impacted by the Western Bypass corridor will be in jurisdictional wetlands, while approximately 75% of the proposed Eastern Alignment and 50% to 60% of the proposed Eastern Bypass will be within jurisdictional wetlands. Initial identification of wetland areas identifies that the greatest impacts of these corridors will be felt in the Bayou Tortue Swamp and Vermilion River area.

g. Floodplains

Of the alternatives outlined, only the Evangeline Thruway alternative will have its primary services areas outside of an organized floodplain.

By comparison, the Western Bypass corridor will cross the drainage basin which feeds into the 100-year floodplain located just north of LA Highway 342 to the intersection with LA Highway 93, south of Vatican. Impacts will include the introduction of significant amounts of untreated runoff from the roadway into the water system and interruptions to natural flow basins of the area, increasing the likelihood of localized flooding.

Both the Eastern Alignment and Eastern Bypass will cross the 100-year floodplain, which lies directly east of the Lafayette Municipal Airport. This floodplain is part of a much larger system connected to the Vermilion River and Bayou Tortue Swamp.

h. Wildlife Habitats

Of the alternatives outlined, both the Evangeline Thruway and the Western Bypass will have little or no impact on natural wildlife habitats. Both areas are of a highly urbanized nature. As such, those wildlife species living in these areas should readily migrate to more "suitable adjacent habitat"(Draft EIS, p 4-56).

Both the Eastern Alignment and Eastern Bypass will incorporate large sections of wetlands, which serve as an estuary for many reptiles, amphibians and birds. These types of animals do not respond well to the loss of safe havens and breeding areas. Many of the species impacted rely upon water not only for food, but for protection from the elements.

i. Endangered Species

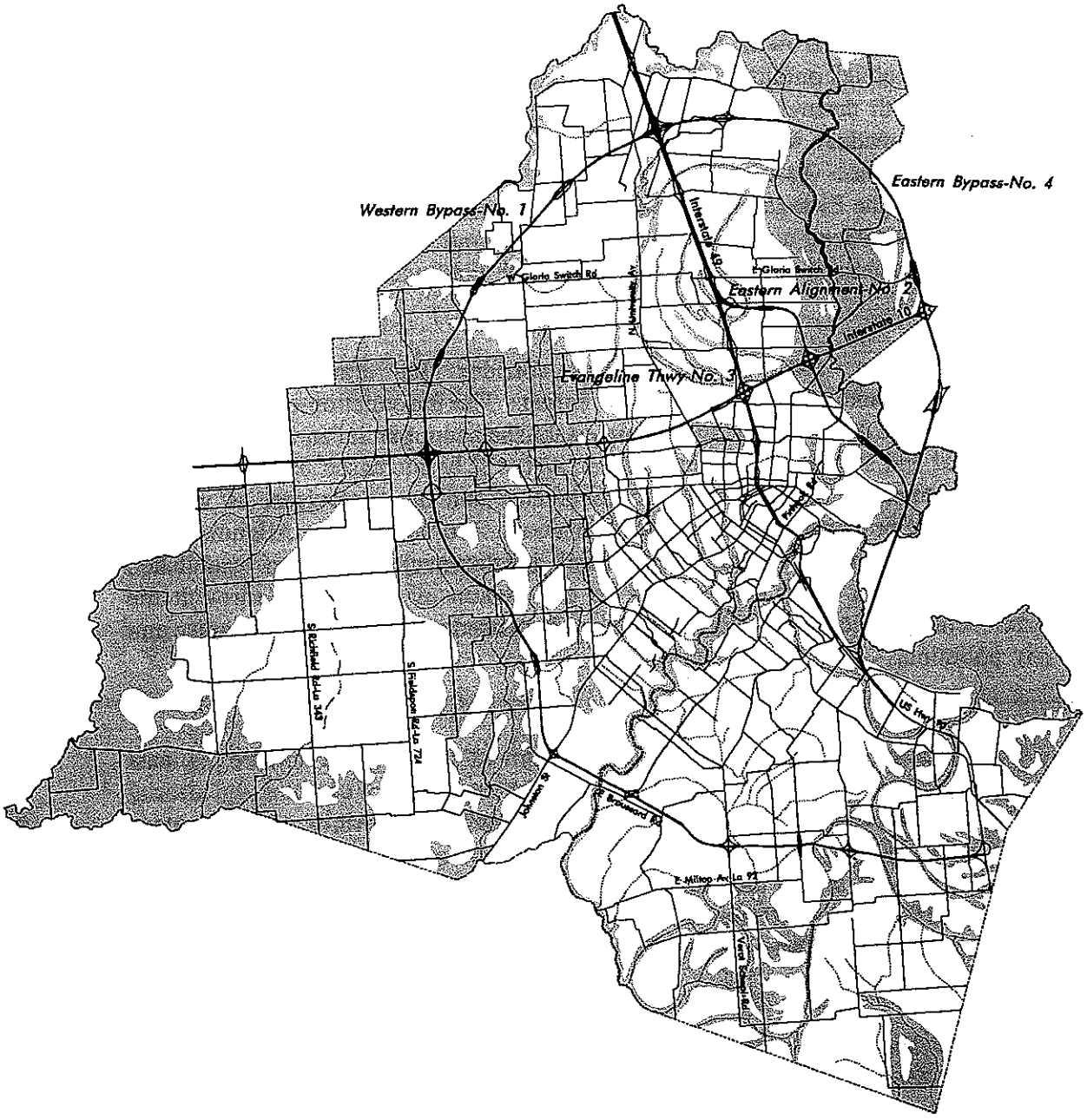
Of the alternatives outlined, none of the corridors as presented will impact endangered species within Lafayette Parish. Because of the highly urbanized nature of the corridor study areas, most of the animal species which may be impacted should readily migrate to "suitable adjacent habitat"(Draft EIS, p 4-56).

j. Coastal Zone Management

Of the alternatives outlined, none of the corridors as presented will impact coastal zone management. Lafayette Parish is not included within the coastal zone act boundary as established under Act 361 of the Louisiana State Legislature. Therefore, none of the regulations of the State's Coastal Zone Management Act, which include the requirement of a Coastal Zone Permit prior to construction, pertain to this proposed project.

FLOODPLAIN MAP

Lafayette Parish, Louisiana



LEGEND:

- 100 Year Floodplain
- Western Bypass
- Eastern Alignment
- Evangeline Thruway
- Eastern Bypass
- Arterials
- Coulees
- Collectors
- Interstates
- Parish Boundary
- Vermilion Bayou

Lafayette Areawide Planning Commission

August 1, 1993

NORTH:

SCALE: (miles)

0 1

4. Quality of Life

Construction of a major roadway provides a direct impact on the project area. While initial impacts are often measured in terms of transportation enhancements, additional impacts on the local population can be calculated as well. These other impacts last long beyond the conclusion of project construction.

a. Projected Growth, Development and Economics

Of the alternatives outlined, only the Evangeline Thruway corridor will maintain quality growth through the reduction of uncontrolled sprawl. The Evangeline Thruway corridor will keep commercial development within established commercial areas. As identified in the Draft EIS for the I-49 Corridor, land use trends within the Evangeline Thruway corridor area point to "residential land uses (are) being displaced by commercial land uses"(Draft EIS, p 3-4). Improvements to traffic movement within this alignment will continue to attract development into the area.

By comparison, the Western Bypass corridor will transverse relatively undeveloped land in western Lafayette Parish. The introduction of the roadway will encourage development away from established commercial and business areas in central and southern Lafayette. The result will be increased expenditures for the investment in infrastructure improvements and basic services, as well as reduction of property value in established areas. Both the Eastern Alignment and the Eastern Bypass will pull commercial development north, into established residential areas. The result could be the erosion of these areas through the encroachment of commercial development, increased traffic, congestion, noise and air pollution.

b. Displacements

Of the alternatives outlined, the Eastern Alignment corridor will remove the least number of residential and commercial structures as a result of corridor and arterial improvement construction. The Eastern Alignment corridor will displace approximately 51 commercial and residential structures through the construction of the alignment, with a loss of no structures through the construction of arterials to support the alignment's development. The remaining alternatives, the Western Bypass, Evangeline Thruway, and Eastern Bypass Alignment, will displace greater numbers of structures.

By comparison, the Western Bypass corridor will displace the greatest number of structures through the development process. Approximately 403 commercial and residential structures will be demolished through the corridor and arterial

construction process. A majority of these structures will be 260 residential dwellings. Of the remaining number, over 90 commercial structures will be removed along Cameron Street, to accommodate arterial improvements.

Within the Evangeline Thruway corridor, construction will displace approximately 227 commercial and residential structures. However, several of these structures remain unoccupied following business closure or owner vacancy. Along the Eastern Bypass corridor, construction will displace approximately 61 commercial and residential structures.

c. Sensitive Land Uses

Of the alternatives outlined, only the Evangeline Thruway corridor will not intrude into agricultural areas, National Register of Historic Places properties, historic neighborhoods, schools, cemeteries or burial grounds, or floodplains. According to the field survey completed as part of the Draft EIS, the proposed corridor alignment will not remove any National Register of Historic Places properties from the Sterling Grove Historic District. The combination of depressed sections and the cut and cover of the roadway through the central area of the corridor alignment will help to eliminate noise, air pollution and congestion associated with the current roadway, as well as a major highway. This proposal will restore the area's integrity and allow for the creation of recreational area from an area which contains blight.

By comparison, the Western Bypass corridor will have a negative impact on several agricultural and floodplain areas. According to current land use surveillance, 77% of the land uses impacted will be agricultural. The project's 23 bridges will cross the drainage basin which feeds into the 100-year floodplain located just north of LA Highway 342 to the intersection with LA Highway 93, south of Vatican. Impacts will include the introduction of significant amounts of untreated runoff from the roadway into the water system and interruptions to natural flow basins of the area, increasing the likelihood of localized flooding.

Both the Eastern Alignment and Eastern Bypass will have a negative impact on the Bayou Tortue Swamp and Vermilion River areas, home to a variety of flora and fauna. Approximately 75% of the proposed Eastern Alignment and 50%-60% of the Eastern Bypass corridor will need to be constructed in a jurisdictional wetland. This construction process will not only disturb the wetland's integrity, but will require application for construction permits through the U.S. Army Corps of Engineers, a process which could take as long as three years.

d. Parks and Recreation Areas

Of the alternatives outlined, the Evangeline Thruway corridor will have a positive impact on efforts to promote Vermilionville, Beaver Park and the Jean Lafitte Center as tourist destinations. The direct connection will make the transition from Interstate 10 to the area an easier accomplishment. The addition of a plaza through the cut and cover segments will enhance local efforts to increase pedestrian and bicycle traffic through adjacent residential and commercial areas, a need seen by tourists as essential to increase visitation to the city.

While the Eastern Alignment and Eastern Bypass corridors will offer similar impacts on local tourist destinations, their location adjacent to established neighborhood parks and recreation areas will have negative impacts through increased local traffic, noise and air pollution in the vicinity. This will remove the safety factor for pedestrian and bicycle movement within the area through at-grade crossings.

The Western Bypass corridor will have no impacts on organized, public park and recreation areas. Since most of western Lafayette Parish is devoted to agribusiness, most of the areas frequented by residents for recreation are private in nature.

e. Cultural and Archeological Resources

Of the alternatives outlined, only the Evangeline Thruway corridor will not intrude into areas of cultural and archaeological significance. Since the developed corridor will be within an existing roadway alignment, its construction will not disturb any known sites of archaeological or cultural significance, including National Register of Historic Places properties within the Sterling Grove Historic District.

As illustrated on the following map entitled "Cultural Resources", the Eastern Bypass will cross lands once frequented by early setters in the area. Initial investigation has revealed that the study area could contain approximately 27-35 known sites of early French and Spanish settlement in Acadiana, as well as settlement sites from the Archaic period. Sites which qualify for the National Register of Historic Places would be catalogued as part of the excavation process.

By comparison, the Eastern Alignment and Western Bypass Corridors will impact several potentially significant archaeological sites. Initial investigation has revealed that the Eastern Alignment study area could contain between 18 and 23

CULTURAL RESOURCES

Lafayette Parish, Louisiana

LEGEND:

- Western Bypass
- Eastern Alignment
- Evangeline Thruway
- Eastern Bypass
- Airport
- Arterials
- Railroads
- Collectors
- Interstates
- Parish Boundary
- Vermilion Bayou
- Cultural Resource
- High Potential Area

Lafayette Areawide Planning Commission

August 1, 1993

NORTH:

SCALE: (miles)

0 1

sites of early Archaic, French and Spanish settlement in Acadiana, while the Western Bypass will impact between 23 and 29 sites of general archaeological significance. Sites that qualify for the National Register of Historic Places would be catalogued as part of the excavation process.

f. Aesthetics and Revitalization

Of the alternatives outlined, only the Evangeline Thruway corridor will have a positive impact on efforts to revitalize central Lafayette. One of the components outlined in the Downtown Development Authority's long range plan is the need to link central Lafayette to the proposed connector. The Evangeline Thruway corridor's depressed and cut and cover segments will provide a link between Lafayette's northern residential areas and the central business area. This enhancement will bring a needed boost to the area, encouraging investment and revitalization.

By comparison, the Eastern Bypass and Eastern Alignment corridors will have negative impacts on efforts to revitalize central Lafayette. These corridors will contribute to increased urban sprawl, which works at cross purposes to renewal efforts. These corridors will cross large residential areas in northern Lafayette. Proposed elevated and at-grade sections would introduce noise, high-speed traffic, and air pollution to the area, thereby reducing the quality of life.

Likewise the Western Bypass corridor will have a negative impact on the ability to redevelop central Lafayette. Construction of the roadway will pull development to the West, increasing the sprawl of urbanization and the problems associated with unchecked development.

VII. SELECTION OF CORRIDOR FOR IMPLEMENTATION

HIS SECTION IS RESERVED PENDING THE SEPTEMBER 22, 1993 PUBLIC HEARING AND DECISION BY THE TRANSPORTATION POLICY COMMITTEE (TPC).

(See back cover pocket)

TECHNICAL STUDY

LIST OF EXHIBITS

Exhibit Number

LIST OF TABLES

Table Number

LIST OF TABLES (continued)

Table Number

I. INTRODUCTION

In 1987, the U.S. Congress authorized and funded a demonstration study "to provide limited continuous access between an interstate route and a highway on the Federal-Aid primary system in Lafayette, Louisiana." In October 1990, the Louisiana Department of Transportation and Development (LaDOTD) began a comprehensive Environmental Impact Statement (EIS) study of potential transportation improvements in the U.S. Highway 90 - U.S. Highway 167 - Evangeline Thruway corridor in Lafayette.

In 1992, a Draft EIS was completed. Entitled the I-49 Connector, the study evaluated six alternatives within the Evangeline Thruway corridor between Interstate 10 and just south of the Lafayette Regional Airport. However, at public hearings in 1992, substantial public opposition to the elevated portion of the freeway project resulted in the cancellation of the remaining portions of the study.

In 1993, the Greater Lafayette Chamber of Commerce convened an Arterial Task Force with the purpose of increasing interest in and to further study construction of a badly needed North-South highway corridor through Lafayette. As a result of the Task Force's request, staff of the Metropolitan Planning Organization (MPO), also known as the Lafayette Areawide Planning Commission (LAPC), coordinated the preparation of this study, which evaluates the feasibility of four corridor alternatives.

1. Western Bypass: A corridor from I-49 north of Carencro, to U.S. Highway 90 south of Broussard, crossing I-10 west near Scott (26.8 miles);
2. Eastern Alignment: A corridor from I-49 south of Butcher Switch Road, to U.S. Highway 90 south of the Lafayette Regional Airport, traversing I-10 near Louisiana Avenue (10.35 miles);
3. Evangeline Thruway: A corridor from I-49 south of Butcher Switch Road, through the center of Lafayette along the alignment of the Evangeline Thruway (4.5 total miles);
4. Eastern Bypass: A corridor from I-49 north of Carencro, to U.S. Highway 90 in Broussard, crossing I-10 near Breaux Bridge (16.5 total miles).

Now that the evaluation is complete, it is anticipated that the Areawide Transportation Policy Committee (TPC) will select one corridor alternative for implementation. This will begin the process of placing the project in the local Transportation Improvement Plan (TIP). Once accepted by the State of Louisiana for placement in the State Transportation Improvement Plan (STIP), federal dollars become available to develop a final Environmental Impact Statement ($1 million needed for FY94), a corridor master plan and corridor construction program. Construction cost estimates range from $232 million to $524 million.

II. LITERATURE REVIEW

Lafayette Metropolitan Area Transportation Study
Volume 1, October 1967. Wilbur Smith Associates
Volume 2, January 1968. Wilbur Smith Associates

This study represents a transportation planning effort based on the horizon year of 1985. The study utilized travel demand forecasting models, addressed land use, traffic conditions, travel patterns, demographics, and costs. The final product was a staged implementation plan for improving the region's transportation system. The recommended roadway plan includes a "metro loop" (which crosses the Vermilion River at approximately the same location as the later Bertrand/Acacia Crossing proposal), an "eastern bypass" (that passes east of the current airport), and a western bypass which is the basic alignment of the current Ambassador Caffery Parkway.

Location Study: Lafayette Loop
Supplementary Report on Alternate Alignment
State Project No. 700-07-96
December 1973: Louisiana Department of Highways

A comparative study of a selected (by the Location and Survey Section of the Highway Department) alignment of a loop around Lafayette from the Scott interchange at Interstate 10 southeast to U.S. Highway 167 and northeast back to Interstate 10. This study included an alternate alignment which generally followed the original alignment, except for a section beginning at a point south of U.S. Highway 90 on the western side of the loop and ending at LA Highway 182 on the eastern side of the loop. The alternate segments between these points were studied. Comparisons were made with regard to traffic volumes and services, costs of right of way, construction costs, and displacements. All factors considered, the study concluded that no justification could be made for recommending one alignment over the other.

R/UDAT Report
June 1978. Regional/ Urban Design Assistance Team,
American Institute of Architects

This report was the result of a study undertaken by a team of eight urban design experts. It provides an objective look at the growth and development trends and policies of the Lafayette area. The team was impressed by the character and ambiance of Lafayette, as well as the people's pride in their city. They were, however, critical of the City and

Parish governments' "apparent abdication of responsibility to control, meter, and fashion growth" (p. 5). The team made several recommendations, particularly with regard to the issues of urban form, transportation, and implementation. The team recommended the completing of Evangeline Thruway as a limited access facility, to improve north-south access to the eastern part of the city. The western outer loop proposed at this time was along New Flanders (now Ambassador Caffery Parkway).

Location Study: Lafayette Loop I-10 to U.S. 90 Southwest
State Project No. 700-13-49
May 1981: La Department of Transportation and Development

This location study was of a partial loop around the City of Lafayette from Interstate 10 at the Scott interchange to U.S. Highway 90 near Broussard. Traffic projections for the year 2005 were provided. The costs of bridges along the loop were estimated, as well as the costs for relocating any utilities that would be affected by this project. From the environmental standpoint, the proposed alignment was deemed satisfactory in that adverse impacts on the social, economic, and environmental parameters were minimal for a project of this magnitude.

Recommended 1982-1989 Capital Outlay Program, Final Draft
February 1982: Sellers, Dubroc and Associates

This document, an engineering and economic feasibility report as required by Section 5-09 of the City of Lafayette Home Rule Charter, proposed the use of $188,900.00 in the fiscal years 1982-1989 for capital improvements projects "in addition to projects funded in the 1980-1985 program" (p. ii). Funding would be derived from the "sales tax revenues and/or the sale of sales tax bonds" (p. ii).

The City proposed to fund $4,000.00 (25%) of the total $16,000.00 estimated cost of engineering and right-of-way acquisition for making Evangeline Thruway a controlled access highway with interchanges at major intersections. The City requested that the State provide the other 75% of the costs (p. 34). At this point in time the City had prepared preliminary cost for the improvements and was working with the State DOTD to start a feasibility study on this project.

It was also proposed that the city would provide $10,000.00 through the 1982-1989 capital Outlay Program toward the planning and construction of the Outer Loop from Interstate 10 west of Scott south to the Evangeline Thruway. The remaining costs would come from State and Federal funds through the Louisiana DOTD (p. 44).

Engineering Conceptual Study of the Evangeline Thruway
U.S. 90/ U.S. 167, Lafayette Parish, Lafayette, Louisiana.
August 1983: The Department of Public Works,
City of Lafayette, Louisiana.

This report presented possible upgrades for the Evangeline Thruway as a means of identifying a course of action and an estimated cost for planning and budgeting purposes The analysis provided a preliminary plan of improvements needed to accommodate the forecasted traffic volumes of this facility in the target year 2000. Three concepts were considered. Two of these concepts would utilize the existing roadways as collector/distributor roadways with an elevated section of roadway located at the center line of the Evangeline Thruway. A third concept, studied in less detail, would be the use of a specially designed bridge structure that would allow an elevated roadway to be constructed directly above the existing roadway. The study offered a plan of improvements with an average cost per mile of improvement at slightly less that $9 million. The cost estimate for the entire project was a total of $100,884,000.

Evangeline Thruway Improvements
Interstate 10 to the Vermilion River, Lafayette Parish
Feasibility Study. State Project No. 700-16-76
January 1984. Louisiana Dept. of Transportation and Development
Evangeline Thruway Improvements
Vermilion River to Broussard, Lafayette Parish
Feasibility Study. State Project No. 700-16-76
March 1984. Louisiana Dept. of Transportation and Development

This study reported on the feasibility of upgrading the Evangeline Thruway from Interstate 10 to the LA Highway 182 railroad overpass at Broussard to a controlled-access facility. The study looked at the concept of an elevated freeway with at-grade frontage roads from Interstate 10 to the Vermilion and an at-grade facility with frontage roads from the Vermilion River to the LA Highway 182 railroad overpass. The improvements planned for the Evangeline Thruway were designed to meet interstate standards with the future plan that it be utilized as an extension of Interstate 49.

Public Meeting for State Project No. 700-13-49:
Lafayette Loop: I-10 to U.S. 167: Lafayette Parish
February 20, 1986: Scott City Hall, Scott, Louisiana

This report consisted of documentation from a public hearing held on the proposed southern half of the western outer loop from U.S. Highway 167 to a proposed Interstate-10 interchange, west of the current LA Highway 93 interchange. City and state

representatives were present to answer questions that the public might have on the proposed project. The areas of concern expressed by the citizens attending this meeting were the lack of proposed interchanges between US Highway 90 and LA Highway 342 (Ridge Road), and the fear that without service roads, landowners would find themselves with "dead land" west of the proposed loop, and that emergency vehicles would take a longer period of time to reach those located on the west side of the loop.

Comprehensive Transportation and Freeway Plan for the Metropolitan Area of Lafayette- Scope of Services document.
March 1988. Howard Needles Tammen & Bergendoff

This document presented a detailed history and bibliography of transportation planning efforts in the Lafayette area. This document contained a chronological history of "outer loop" proposals. This document provided only a conceptual framework for necessary future studies.

Lafayette Metropolitan Area Transportation Plan (1992-2012)
Prepared for Louisiana Department of Transportation and Development (LADOTD)
February 1992: Wilbur Smith and Associates
in association with Sellers, Dubroc & Associates.

The significant changes in population, transportation and land use in the Lafayette area since the 1968 Lafayette Metropolitan Area Transportation Study was the catalyst for an updated study initiated by the LADOTD and the Lafayette Areawide Planning Commission (LAPC) to produce an updated Transportation Plan. This study updates area travel characteristics, evaluates the existing transportation system, develops and analyzes alternative transportation improvements and recommends a 20 year transportation plan for the Lafayette Metropolitan Area to provide a framework for the rational development of an efficient transportation system through the year 2012.

Based on the evaluation of alternative transportation networks, it was discovered that both a southern extension of Interstate 49 through Lafayette Parish and a partial Outer Loop facility (Acadiana Beltway) would be necessary by the year 2012 to accommodate future traffic demands.

I-49 Connector: Draft Environmental Impact Statement
Lafayette, Louisiana: State Project # 700-24-73
Louisiana Department of Transportation and Development
Approved: May 1992

This study provides a comprehensive Environmental Impact Statement (EIS) study of potential transportation improvements in the U.S. Highway 90 - U.S. Highway 167 - Evangeline Thruway corridor in Lafayette, Louisiana. Six freeway alternatives on four alignments were considered in this study, with a "no-build" alternative as a base for comparison. This EIS is in response to the 1987 authorization and funding by the U.S. Congress of a demonstration study "to provide limited continuous access between an interstate route and a highway on the Federal-Aid primary system in Lafayette, Louisiana." (p. S-1)

Adverse impacts (dislocations, air and noise impacts, impacts on wetlands, etc.) of each alternative were weighed against the positive impacts (travel time and accident cost reductions, economic stimulus, etc). Potential mitigation measures for the adverse impacts were summarized.

Strategic Thoroughfare Plan for Areawide Transportation Planning
1992: Lafayette Areawide Planning Commission

This document describes a plan that will act as a guide for future street design, development and improvements to "provide for the safe, convenient, and efficient movement of people and goods."(p. 3) It focuses on a limited number of key issues and problems in the Lafayette area that are "definable, concrete and solvable."(p. 3) The Strategic Thoroughfare Plan (STP) is not meant to be rigid but should be amended frequently as need arises. This document lists the apparent as well as the not so apparent benefits of the Lafayette North-South Corridor Study. It provides a history of thoroughfare planning in the Lafayette area through a review of previous studies and other documents pertaining to thoroughfare planning. The present traffic volumes as well as future traffic projections for the year 2012 are defined for specific roadways in Lafayette that are the focus of this plan. Roadway standards for the different classifications of streets and highways are defined. This document lists those elements of the plan targeted for future thoroughfare improvements and alignment. The Strategic Thoroughfare Plan Map graphically displays those elements. Goals, objectives and strategies are provided to ensure that the STP for the Lafayette Metropolitan Area meets the area's needs.

The upgrading of Evangeline Thruway to a freeway facility is listed as one of the elements of the plan. This plan recommends that Interstate 49 be extended with six lanes and one-way frontage roads south along the Evangeline Thruway to Kaliste Saloom Road, where it should be extended to the Lafayette Parish line with four lanes and one-way frontage roads. In regard to the Acadiana Beltway, it is recommended that an arterial roadway be constructed along the proposed Acadiana Beltway alignment in the southwest quadrant of Lafayette Parish from Interstate 10 (west) clockwise to US Highway 90 (south) parallel to and west of Ambassador Caffery Parkway. The traffic projections for the next 20 years do not warrant a freeway outer loop, but the need will arise sometime in the future. This proposed arterial roadway should alleviate some of the traffic congestion on other thoroughfares until that time.

III. IDENTIFICATION OF ALTERNATIVE STUDY AREAS

The areas under consideration for this study have no set neighborhood boundaries, so for the purposes of this study, census block groups will be used as divisions of each study area. Census block groups provide narrower corridors for the four study areas under consideration. In Chapter V, comparisons between the study areas using 1970 and 1980 census data require discussion of these areas using census tracts instead of census block groups. The four corridor study areas being considered are:

A. STUDY AREA No.1: WESTERN BYPASS

This study area consists of a half circle around the western side of the City of Lafayette from Interstate 49 just south of the LA Highway 182 interchange, crossing Interstate 10 west of the Scott interchange and ending at US Highway 90 about a mile and a half south of the LA Highway 96 overpass. This study area consists of 19 census block groups. All of the block groups in this study area are in Lafayette Parish.

B. STUDY AREA No. 2: EASTERN ALIGNMENT

This study area begins at Interstate 49 near the Gloria Switch Road interchange and goes east around the airport through the Bayou Tortue Swamp area and ends at the US Highway 90 intersection near LA Highway 89. There are a total of 11 census block groups in this study are. Ten of the census block groups are in Lafayette Parish and one is in St. Martin Parish.

C. STUDY AREA No. 3: EVANGELINE THRUWAY

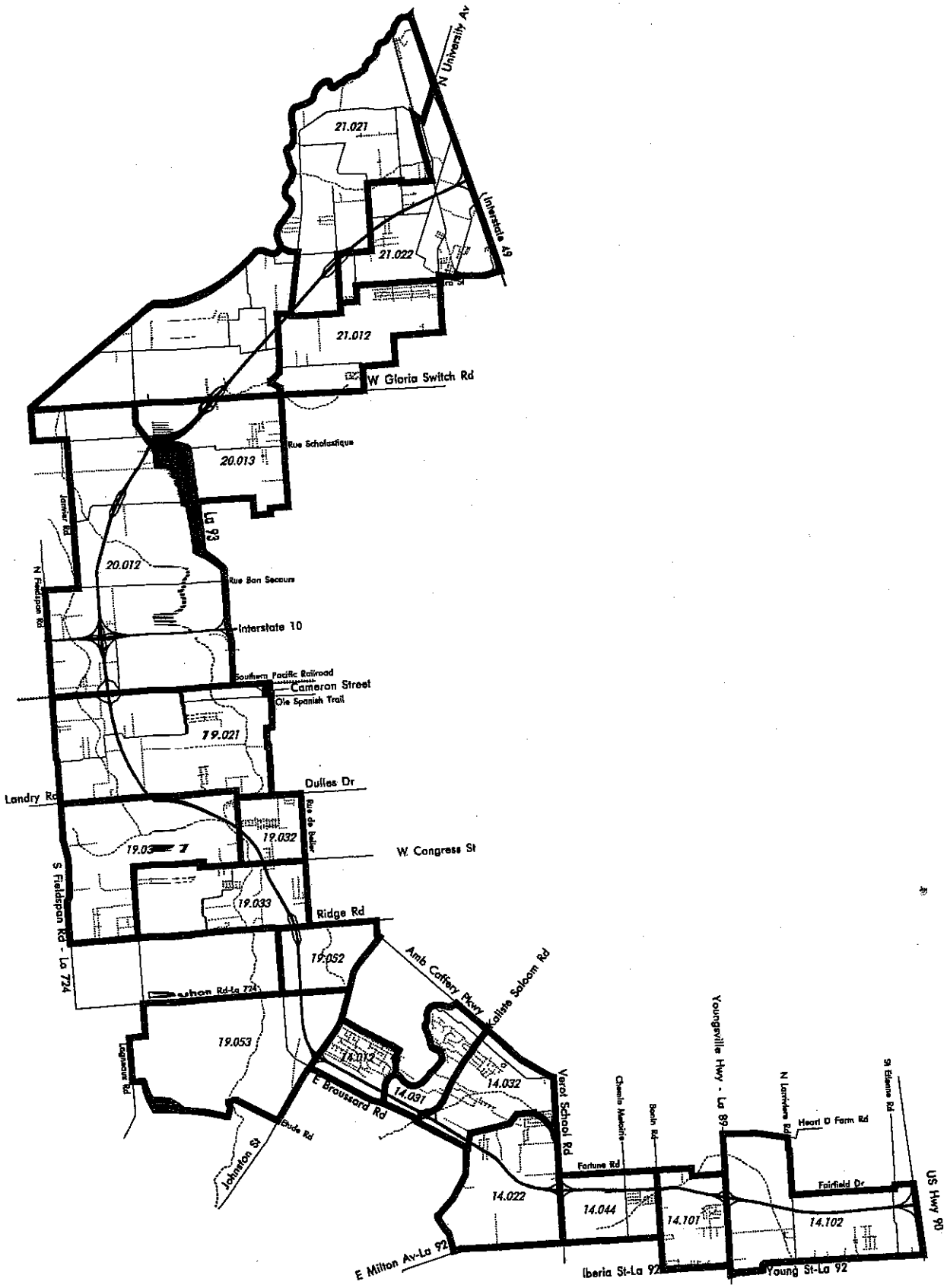
This study area follows the corridor from Interstate 10 to U.S. Highway 90 just south of the Lafayette Regional Airport. This study group contains 19 census block groups. All of the block groups in the study area are in Lafayette Parish.

D. STUDY AREA No. 4: EASTERN BYPASS

This study area forms a loop around the eastern side of Lafayette Parish and the western side of St. Martin Parish. It begins at Interstate 49, about one and one half miles south of the LA Highway 182 interchange, and terminates at the LA Highway 89-US Highway 90 intersection. There are a total of 10 census block groups in this study area. Seven of the census block groups are in Lafayette Parish and three are in St. Martin Parish.

STUDY AREA NO. 1 - WESTERN BYPASS

Lafayette Parish, Louisiana



LEGEND:

- US Census Block Groups
- Arterials
- Collectors
- Coulees
- Interstates
- Local Streets
- Parish Boundary
- Proposed Alignment
- Railroads
- Vermilion Bayou

Lafayette Areawide Planning Commission

August 1, 1993

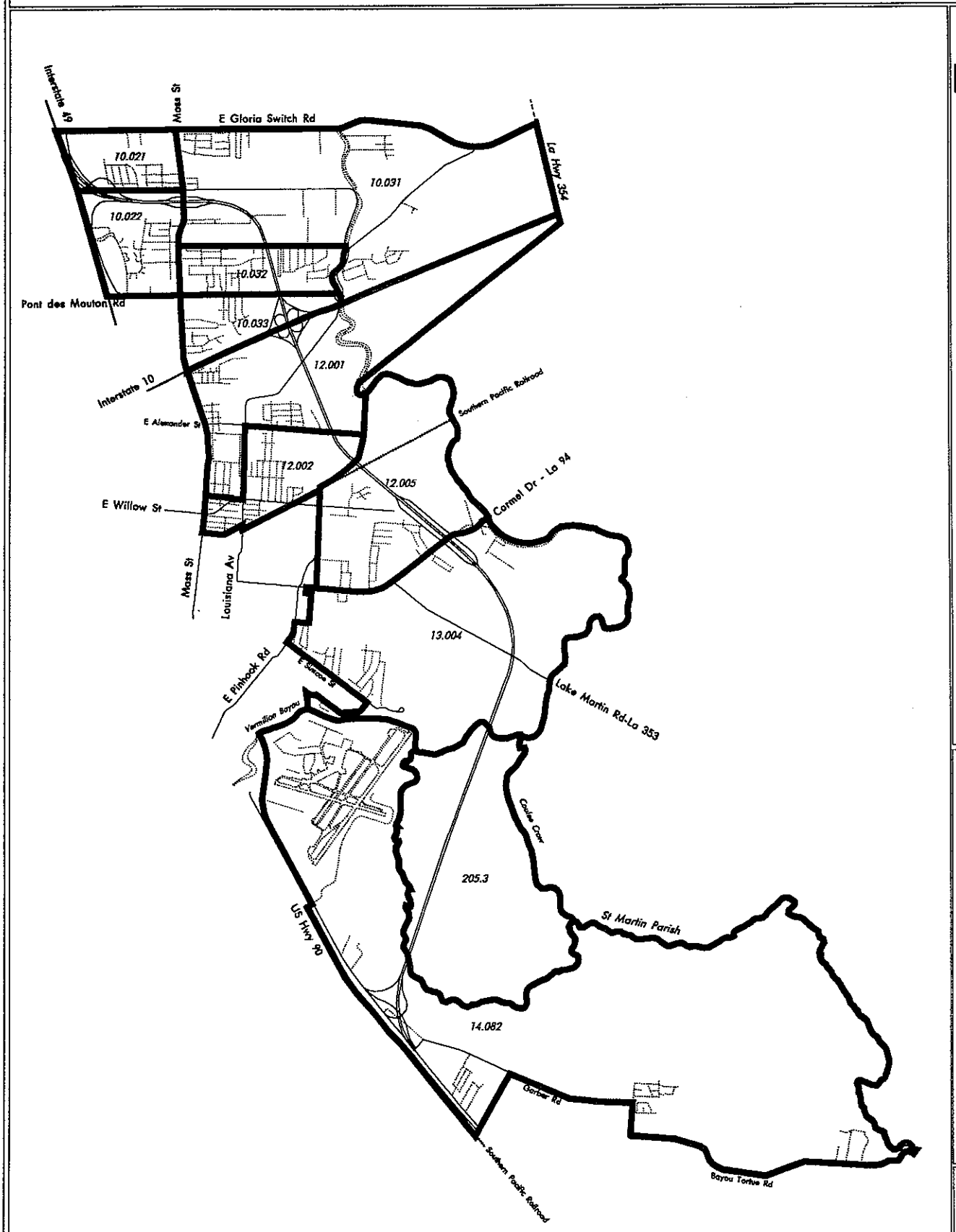
NORTH:

SCALE: (miles)

0 0.5

STUDY AREA NO. 2 - EASTERN ALIGNMENT

Lafayette Parish, Louisiana



LEGEND:

- US Census Block Groups
- Airport
- Arterials
- Collectors
- Interstates
- Local Streets
- Parishline
- Proposed Alignment
- Railroads
- Vermilion Bayou

Lafayette Areawide Planning Commission

August 1, 1993

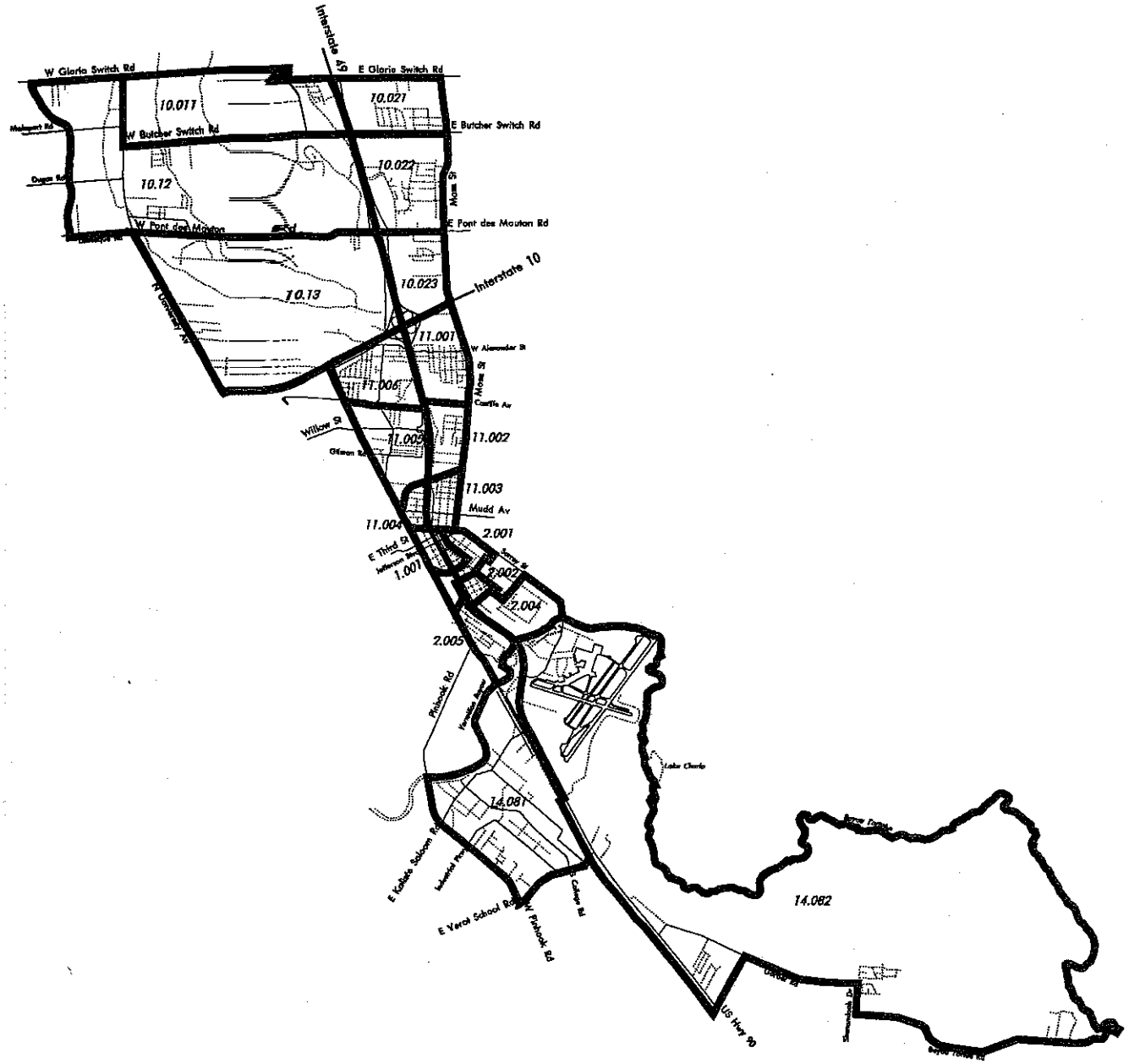
NORTH:

SCALE: (miles)

0 0.25 0.5

STUDY AREA NO. 3 - EVANGELINE THRUWAY

Lafayette Parish, Louisiana



LEGEND:

- US Census Block Groups
- Airport
- Arterials
- Collectors
- Coulees
- Interstates
- Local Streets
- Parishline
- Proposed Alignment
- Railroads
- Vermilion Bayou

Lafayette Areawide Planning Commission

August 1, 1993

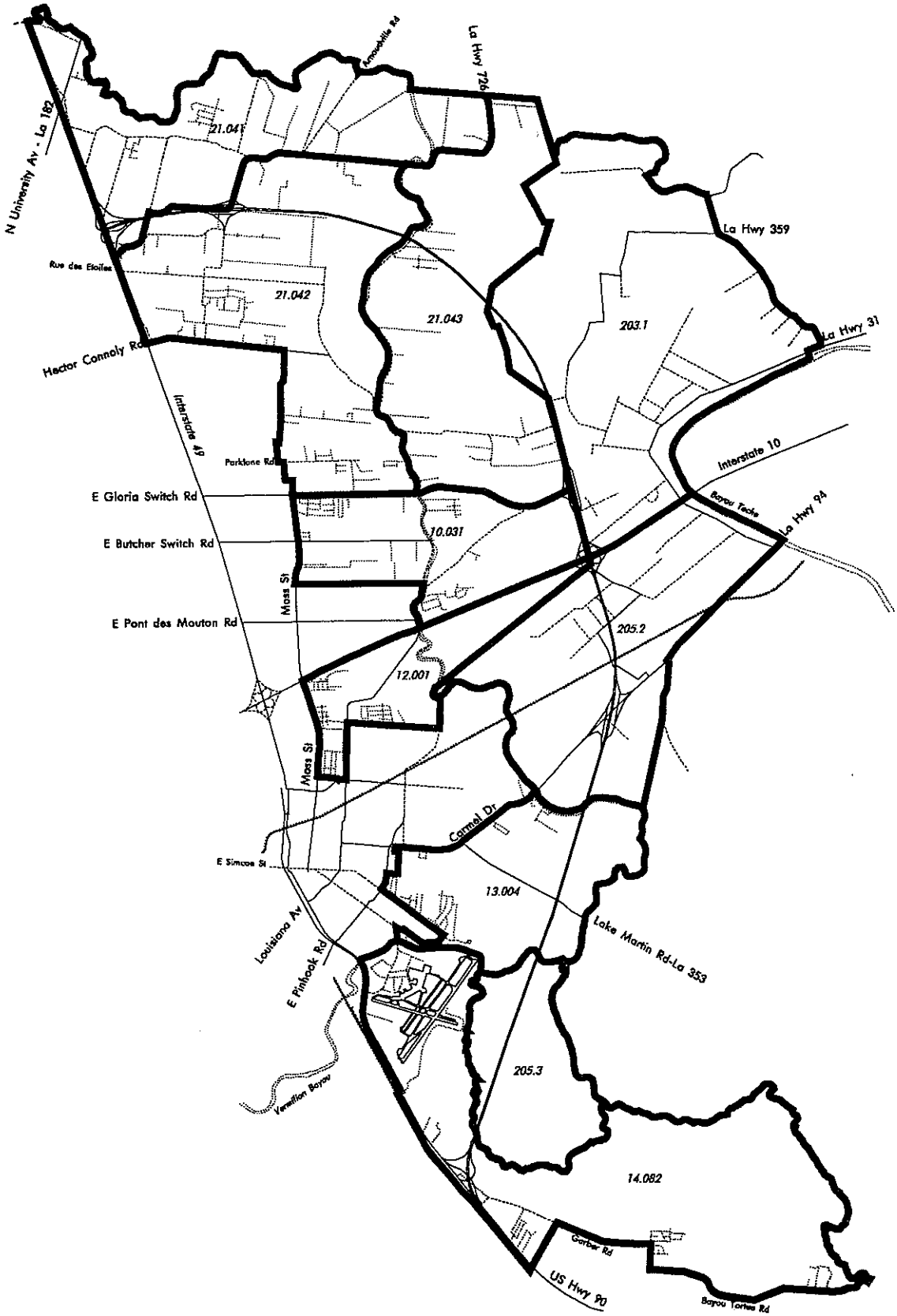
NORTH:

SCALE: (miles)

0 0.5 1

STUDY AREA NO. 4 - EASTERN BYPASS

Lafayette Parish, Louisiana



LEGEND:

- US Census Block Groups
- Airport
- Arterials
- Collectors
- Interstates
- Local Streets
- Parish Boundary
- Proposed Alignment
- Railroads
- Vermilion Bayou

Lafayette Areawide Planning Commission

August 1, 1993

NORTH:

SCALE: (miles)

0 0.5

IV. EXISTING LAND USE REVIEW

Land Use Background

Prior to 1950, Lafayette consisted of the original town of Vermilionville, the University of Southwestern Louisiana and surrounding neighborhoods. From 1950 to 1965, Lafayette experienced major urbanization with single family residences spreading southwest from the center of the city. The resulting decentralization left behind deteriorating commercial buildings and substandard housing in the older parts of the city.

This trend accelerated through 1983, as residential, commercial and industrial growth expanded to keep pace with the exploding oil and gas industry. To support the oil and gas industry, large industrial areas developed along Cameron Street, along the corridor between West Pinhook Street and US Highway 90 and within the Southpark Industrial Complex. The Oil Center continued to grow during this period, filling with offices serving the oil and gas industry throughout south Louisiana and the Gulf of Mexico.

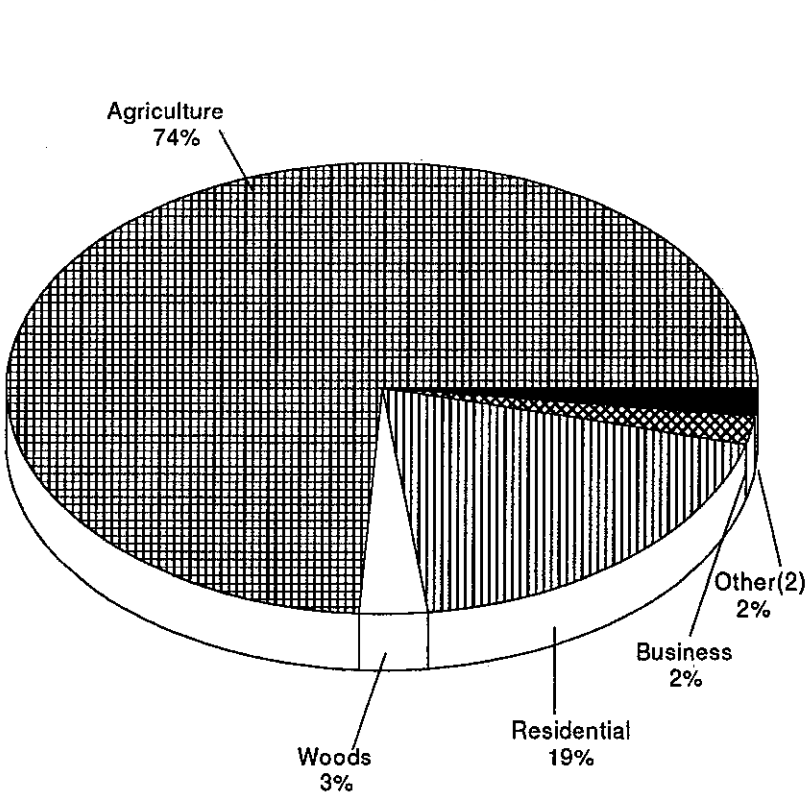
The national downturn in the oil and gas industry of the middle 1980's had a visible impact on Lafayette. Increases in vacancies of residential, commercial, and industrial structures were recorded. In 1982, the number of building permits for new housing starts was 1,421. By 1987, the number of building permits for new housing units had decreased to 111. The total number of new housing building permits has increased steadily since then with 558 issued in 1992. Reoccupation of many of the vacant commercial and residential establishments has occurred as the area continues to diversify its economic base. This diversification process, however, has not changed the overall land uses of the Parish.

Current land use profiles for the four corridor study areas, as compiled by the Lafayette Areawide Planning Commission, came from aerial photographs and digital databases. The maps provided illustrate the composite land use profile for each corridor study area. Land uses categories recorded for each study area included Agricultural, Business, Residential, Transportation, Water, Wetlands, Woodlands, and Other. Pie charts accompany the discussion, to provide a graphic illustration of current land use distribution.

A. Study Area No. 1: Western Bypass

Exhibit E-5 depicts the various land use percentages associated with the Western Bypass study area corridor. The dominant land use is agricultural, which accounts for 74% of the total acreage within the area. The second most predominant land use is residential, which accounts for 19% of the total acreage considered within the area. The remaining land uses fall into a mixture of business, wetlands, institutional and other uses. This study area contains the largest individual segment of residential land use, in comparison to the other alternatives.

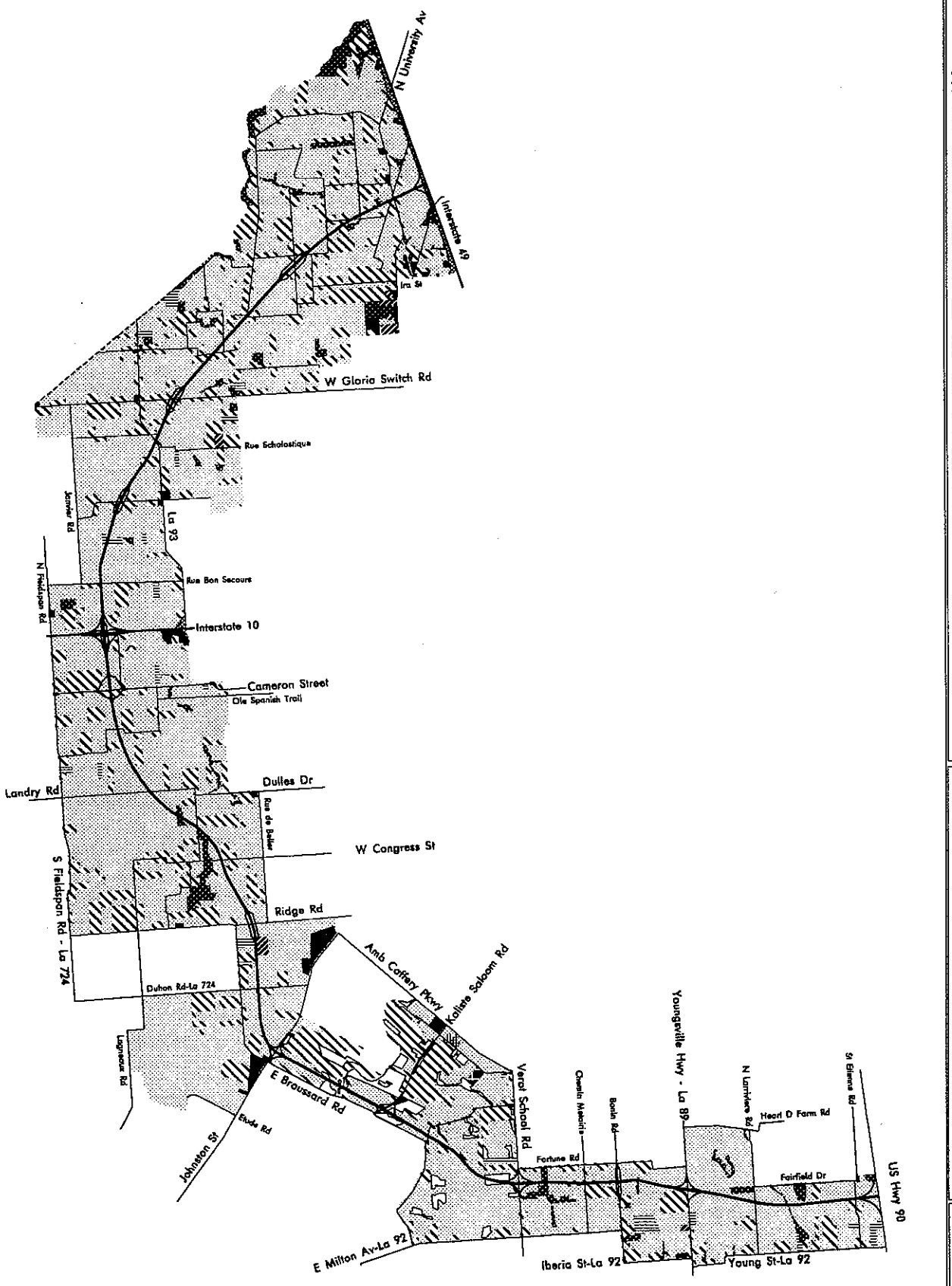
Exhibit E-5
EXISTING LAND USE



Source: Lafayette Areawide Planning Commission, 1993

ALTERNATIVE NO 1-WESTERN BYPASS: EXISTING LAND USE MAP

Lafayette Parish, Louisiana



LEGEND:

- Agriculture
- Churches
- Hospitals
- Industrial
- Offices
- Public/ Semi-Public
- Residential
- Retail
- Schools
- Transportation
- Utilities
- Vacant
- Water
- Woodland
- Arterials
- Collectors
- Interstates
- Parish Boundary
- Proposed Alignment

Lafayette Areawide Planning Commission

August 1, 1993

NORTH:

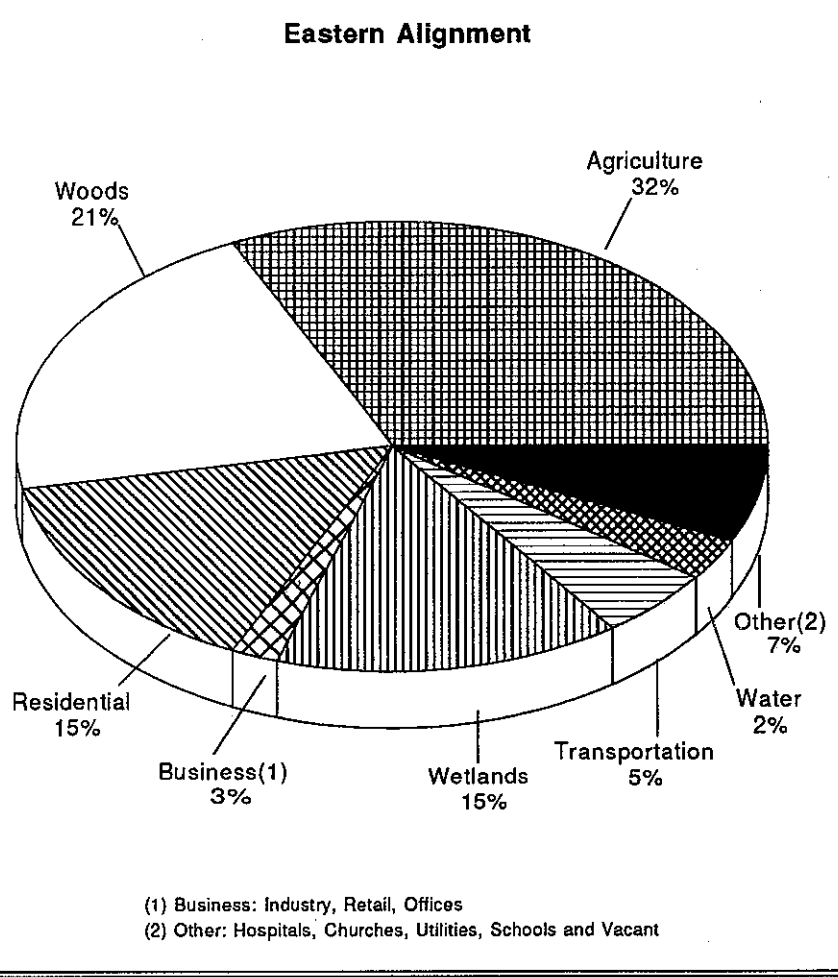
SCALE: (miles)

0 0.5

B. Study Area No. 2: Eastern Alignment

Exhibit E-7 depicts the various land use percentages associated with the Eastern Alignment corridor study area. The dominant land uses are those tied to the Bayou Tortue Swamp and the Vermilion River (woods, wetlands and water), which account for 38% of the total acreage within the area. The second most predominant land use is agriculture, which accounts for 32% of the total acreage within the area. The remaining land uses fall into a mixture of residential, business, transportation and other uses. This study area contains the largest individual segment of wetlands in comparison to other alternatives.

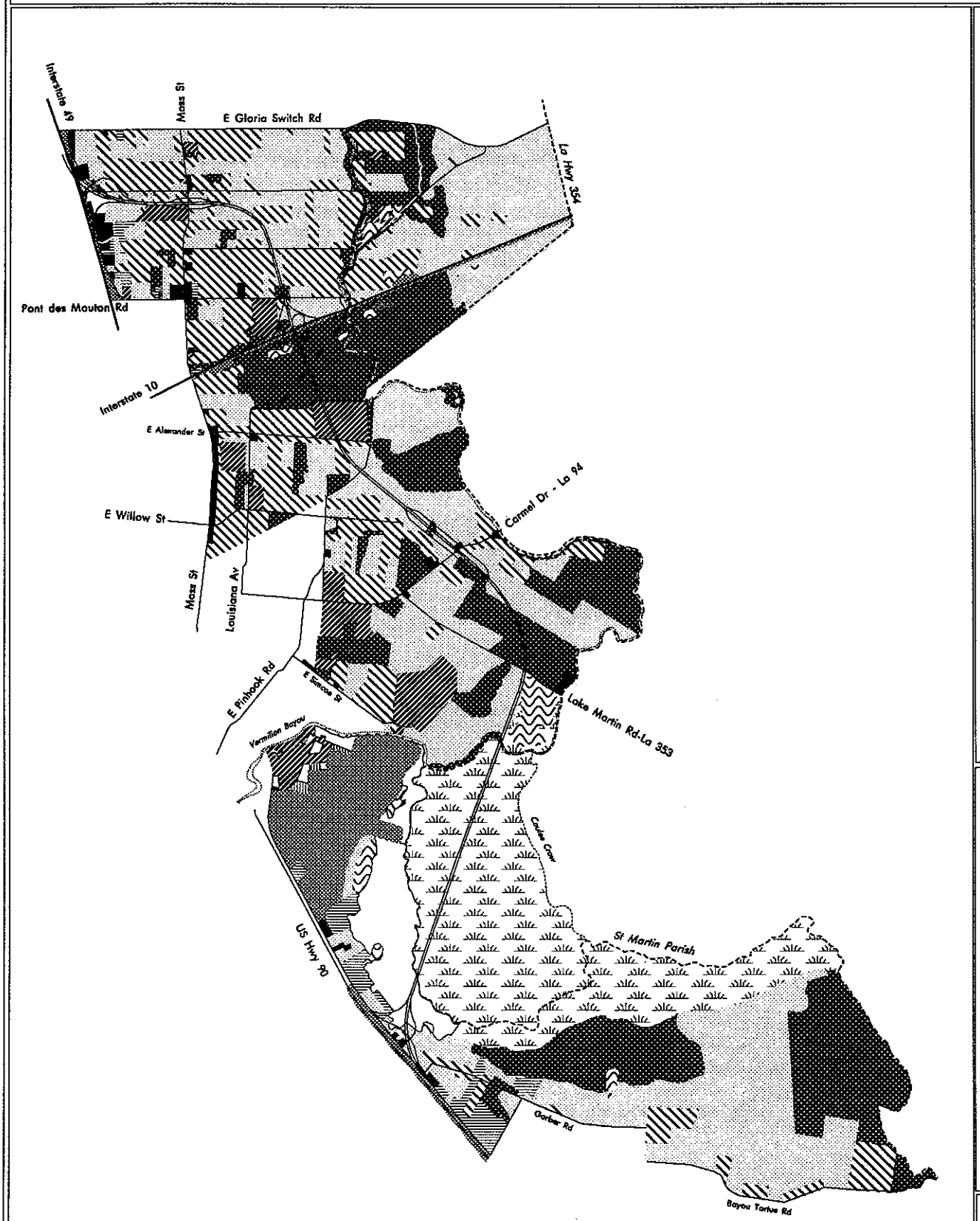
Exhibit E-7
EXISTING LAND USE



Source: Lafayette Areawide Planning Commission, 1993

ALTERNATIVE NO 2-EASTERN ALIGNMENT: EXISTING LAND USE MAP

Lafayette Parish, Louisiana



LEGEND:

- Agriculture
- Churches
- Hospitals
- Industrial
- Offices
- Public/Semi-Public
- Residential
- Retail
- Schools
- Transportation
- Utilities
- Vacant
- Water
- Wetlands
- Woodlands
- Arterials
- Collectors
- Interstates
- Parishline
- Proposed Alignment
- Vermilion Bayou

Lafayette Areawide Planning Commission

August 1, 1993

NORTH:

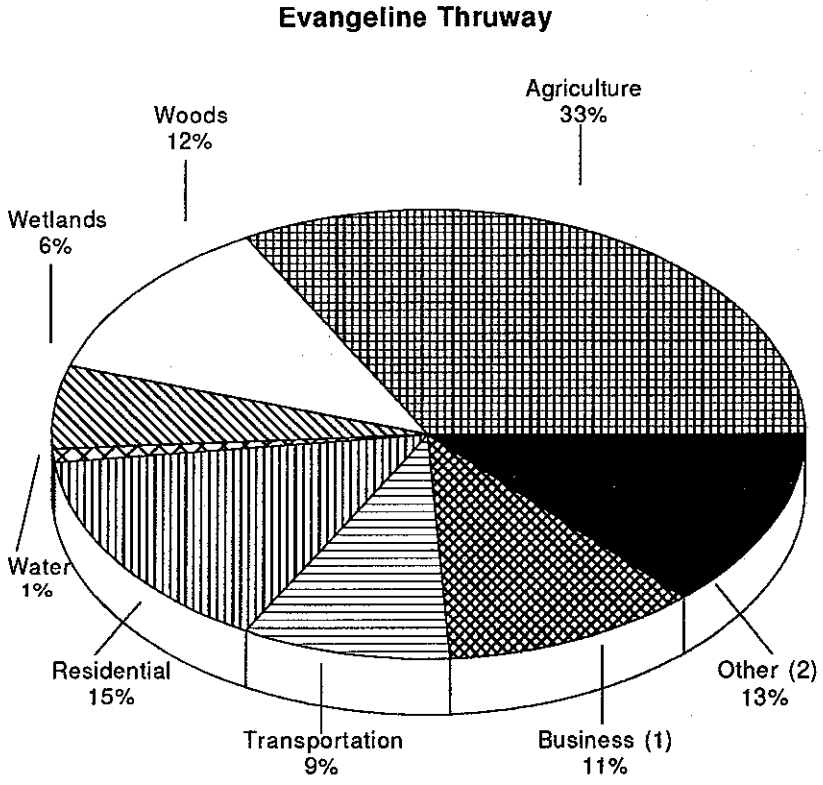
SCALE: (miles)

0 0.25 0.5

C. Study Area No. 3: Evangeline Thruway

Exhibit E-9 depicts the land use percentages associated with the Evangeline Thruway corridor study area. The dominant land use are those associated with urban development patterns (residential, transportation, business and other), which account for 48% of the total acreage within the area. The second most predominant land use is agriculture, which accounts for 33% of the total acreage within the area. The remaining land uses fall into a mixture of water, wetlands and woods. This study area contains the largest percentage of transportation-devoted land use, in comparison to the other alternatives.

Exhibit E-9
EXISTING LAND USE



Source: Lafayette Areawide Planning Commission, 1993

ALTERNATIVE NO 3-EVANGELINE THRUWAY: EXISTING LAND USE MAP

Lafayette Parish, Louisiana

LEGEND:

- Agriculture
- Churches
- Hospitals
- Industrial
- Offices
- Public/ Semi-Public
- Residential
- Retail
- Schools
- Transportation
- Utilities
- Vacant
- Water
- Wetlands
- Woodland
- Arterials
- Collectors
- Interstates
- Parishline
- Proposed Alignment
- Railroads
- Vermilion Bayou

Lafayette Areawide Planning Commission

August 1, 1993

NORTH:

SCALE: (miles)

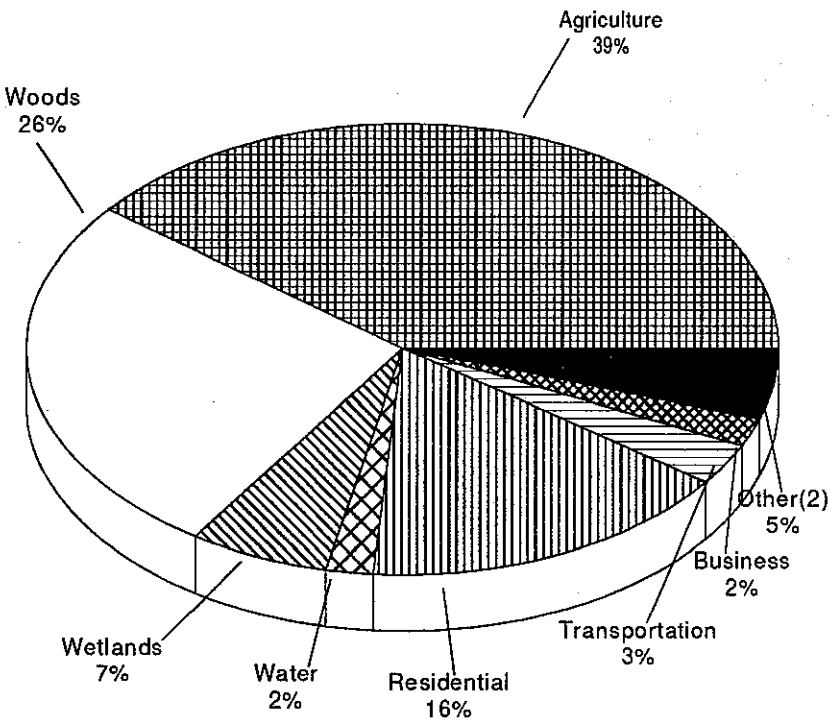
0 0.5 1

D. Study Area No. 4: Eastern Bypass

Exhibit E-11 depicts the land use percentages associated with the Eastern Bypass corridor study area. The dominant land use is agricultural, which accounts for 39% of the total acreage within the area. The second most predominant land uses are those associated with the Vermillion River and Bayou Tortue Swamp area (woods, wetlands and water), which account for 35% of the total acreage within the area. The remaining land uses fall into a mixture of residential, business, transportation and other uses. This study area contains the largest individual segment of woods in comparison to the other alternatives.

Exhibit E-11
EXISTING LAND USE

Eastern Bypass

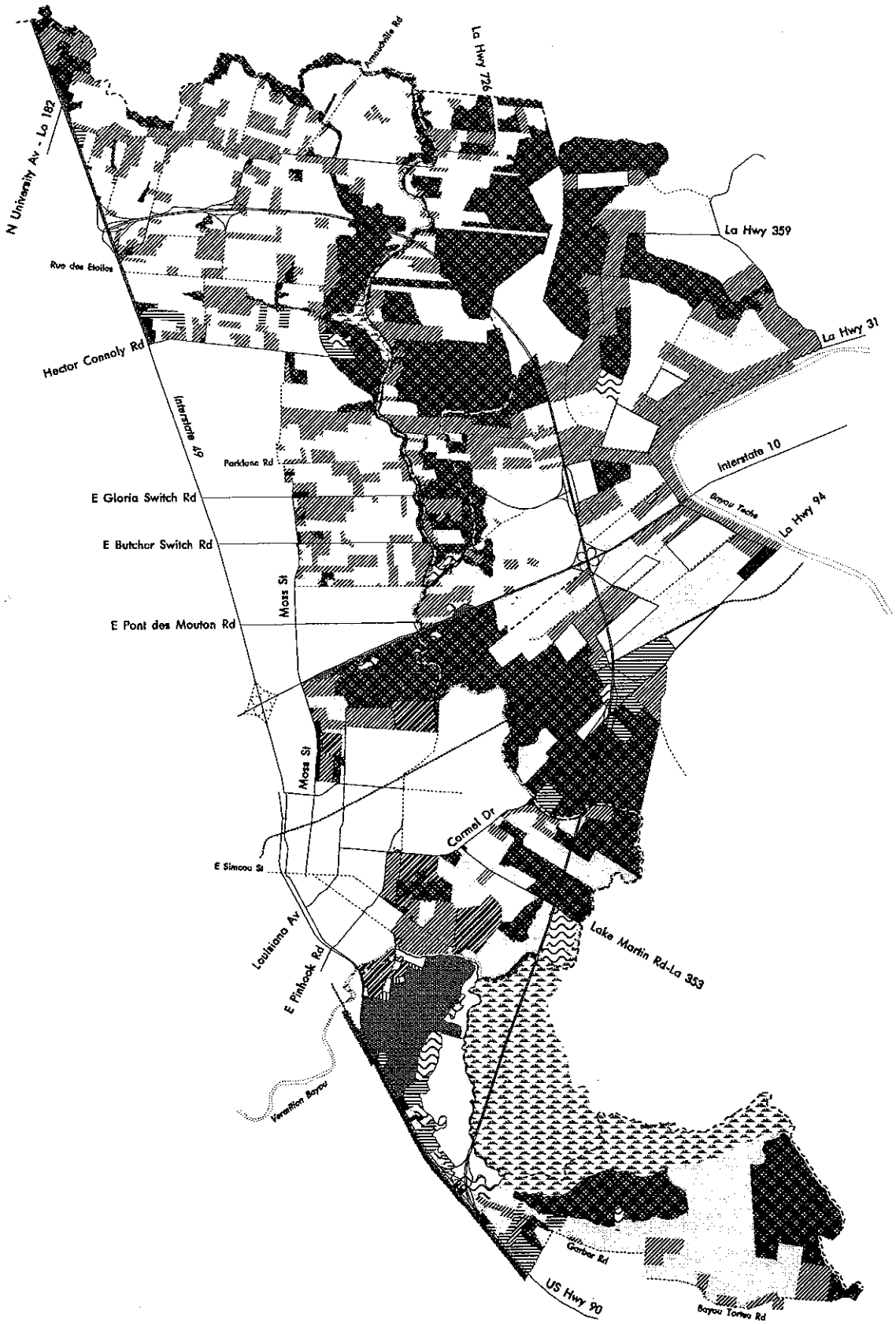


(1) Business: Industrial, Retail and Offices
(2) Other:Hospitals, Public, Churches, Schools, Utilities and Vacant

Source: Lafayette Areawide Planning Commission, 1993

ALTERNATIVE NO. 4-EASTERN BYPASS: EXISTING LAND USE MAP

Lafayette Parish, Louisiana



LEGEND:

- Agriculture
- Churches
- Hospitals
- Industrial
- Offices
- Public/ Semi-Public
- Residential
- Retail
- Schools
- Transportation
- Utilities
- Vacant
- Water
- Wetlands
- Woodlands
- Arterials
- Collectors
- Interstates
- Parish Boundary
- Proposed Alignment
- Railroads
- Vermilion Bayou

Lafayette Areawide Planning Commission

August 1, 1993

NORTH:

SCALE: (miles)

0 0.5

V. DEMOGRAPHIC PROFILE

A. Present Socioeconomics (1990)

The existing socioeconomic conditions of the four study areas have been determined using 1990 data compiled by the U.S. Census Bureau. In situations where projections are made, the 1950 through 1980 Census Bureau data have also been utilized. Since the study areas have no set neighborhood boundaries, census block groups were used. As a result, the Western Bypass study area consisted of 19 census block groups, the Eastern Alignment consisted of 11 block groups (one of which was in St. Martin Parish), the Evangeline Thruway corridor consisted of 19 census block groups and the Eastern Bypass consisted of 10 block groups (three of which are in St. Martin Parish).

1. Study Area No. 1: Western Bypass

a. **Race**: Study Area No. 1 had an average non-white population of 14% across all census blocks groups.

b. **Age**: Study Area No.1 had 5% of its population over 65, while 34% of its population was under 18 years of age.

c. **Median Housing Value:** Study Area No. 1 had a median housing unit value of $60,947. Two of the census block groups in this study area had unusually high median housing units values at $185,300 and $119,500.

d. **Owner-Occupied Housing:** Study Area No. 1 had 62% of it's housing units owner occupied.

2. Study Area No. 2: Eastern Alignment

a. **Race**: Study Area No. 2 had an average non-white population of 32% across all census block groups.

b. **Age**: Study Area No. 2 had 8% of its population over 65 years of age, while 30% of the study areas population is 18 years of age or under.

c. **Median Housing Value**: Study Area No. 2 had a median housing unit value of $62,481. Six of the 11 census block groups in this study area had median housing values below the study area median.

d. **Owner-Occupied Housing**: Study Area No. 2 had 58% of its housing units owner-occupied.

3. **Study Area No. 3: Evangeline Thruway**
   a. **Race**: Study Area No. 3 had an average non-white population of 45% across all census block groups. The study area had six of its census blocks with an average non-white population of over 60%.

   b. **Age**: Study Area No. 3 had 11% of its population over 65 years of age, and 30% of its population 18 years or under.

   c. **Median Housing Value**: Study Area No. 3 has a median housing value of $47,468. Twelve of the 19 census block groups in this study area had housing unit values below the median of the study area.

   d. **Owner-Occupied Housing**: Study Area No. 3 had 49% of the housing units owner-occupied, the lowest percentage of owner-occupied housing units between the four study areas.

4. **Study Area No. 4: Eastern Bypass**
   a. **Race**: Study Area No. 4 had an average non-white population of 26% across all census block groups.

   b. **Age**: Study Area No. 4 had 6% of its population over 65 years of age and 34% of its population 18 years or under.

   c. **Median Housing Value**: Study Area No. 4 had a median housing value of $63,300.

   d. **Owner-Occupied Housing**: Study Area No. 4 had an average of 66% of the housing units owner-occupied.

B. Trends and Projections

To compare data from the 1990 Census with corresponding data from 1970 and 1980, the corridor study areas were expanded to cover entire census tracts. Census Tracts (CT) within the Western Bypass study area included CT14, CT19, CT20, and CT21. Census Tracts (CT) within the Eastern Alignment study area included CT10, CT12, CT13, and CT14. Census Tracts (CT) within the Evangeline Thruway study area included CT1, CT2, CT10, CT11, and CT14. Census Tracts (CT) within the Eastern Bypass included CT10, CT12, CT13, CT14, and CT21. For the purposes of comparison, those tracts within St. Martin Parish were excluded.

1. Population

The population of Lafayette Parish increased from 57,743 persons in 1950 to 164,762 people in 1990. The Parish's largest population increase took place in between 1950-1960, when the population grew by 26,913. The Parish experienced it slowest period of population growth between 1980-1990, when the population grew by only 14,745. As with the decrease in land use, this reduction in the growth of the local population was attributed to the downturn in the oil and gas industry.

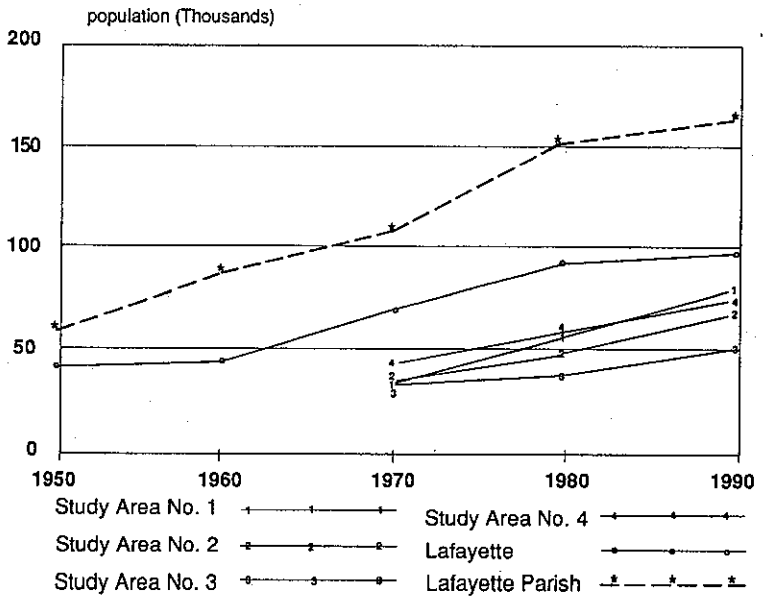
The population within the Western Bypass study area increased from 29,519 in 1970 to 76,722 in 1990. The population within the Eastern Alignment study area increased from 29,815 in 1970 to 62,366 in 1990. The population within the Evangeline Thruway study area increased from 33,857 in 1970 to 61,624 in 1990. The population within the Eastern Bypass study area increased from 35,860 in 1970 to 75,427 in 1990. While all the study areas recorded growth in the 1970-1990 period, the Evangeline Thruway study area recorded the slowest increase in population (45%), while the Western Bypass study area recorded the greatest increase in population (61.5%).

Table T-1
Population Characteristics of Corridor Study Areas in Comparison to United States, State of Louisiana, Parish of Lafayette and City of Lafayette: Population Changes 1950-1990

	1950	1960	1970	1980	1990
United States	151,326,600	179,323,000	203,302,000	226,546,000	249,632,692
Louisiana	2,683,516	3,257,022	3,641,306	4,206,116	4,219,973
Lafayette Parish	57,743	84,656	109,716	150,017	164,762
City of Lafayette	33,541	40,400	68,908	81,961	94,440
Western Bypass Study Area	*****	*****	29,519	53,735	76,722
Eastern Alignment Study Area	*****	*****	29,815	49,598	62,366
Evangeline Thruway Study Area	*****	*****	33,857	49,623	61,624
Eastern Bypass Study Area	*****	*****	35,860	59,402	75,427

Source: U.S. Bureau of the Census, 1950-1990

Exhibit E-13
Population Growth 1950-1990



Source: U.S. Bureau of the Census, 1990

Population projections for the Parish of Lafayette were prepared for the Louisiana Department of Transportation and Development by Wilbur Smith Associates in the Lafayette Metropolitan Area Transportation Plan 1992-2012 (p.10). In this publication, the population was expected to increase from 182,918 in 1990 to 245,431 in 2012. The population total of 182,918 in 1990 was a projection developed on previous growth trends. However, the oil-related recession contributed to an actual 1990 population for the Parish of Lafayette of 164,762.

With this in mind, population projections for the Parish have been revised. During the 20-year period 1990-2012, the population is expected to increase by 32.4%. The major growth areas will be in the northeast area of the Parish, east of Evangeline Thruway (roughly in the vicinity of the northern section of the Eastern Alignment study area), and in the southwest area of the city west of LA Highway 93, and south to Broussard (approximately the southernmost quarter of the Western Bypass study area).

2. Age

The impacts of a major transportation facility affects different age groups differently. The most adversely impacted will usually be the elderly and very young. Lafayette Parish had 47,895 persons under the age of 18, accounting for 29% of the population in 1990. This was an increase of 1,742 persons since the 1980 Census and an increase of 5,972 persons

since the 1970 Census. In 1990, the percentage of the population within the City of Lafayette under age 18 was 26%. This was a decrease over figures recorded in 1980 (28%) and 1970 (40%). By comparison, the four study areas followed the City's trend in population decrease.

Of the four corridor study areas, all had a higher percentages of the residents age 18 or younger than either the Parish or City. However, only the Evangeline Thruway study area had a higher percentage of population over age 65 than either the Parish or City. Approximately 34% of the population in the Western Bypass study area was age 18 and younger, while only 5% of the population was over the age of 65. Approximately 30% of the population in the Eastern Alignment study area was age 18 and younger, while only 8% of the population was age 65.

Table T-2
Population Characteristics of Corridor Study Areas in Comparison to Parish of Lafayette and City of Lafayette: Persons Age 18 and Younger vs. Persons Over Age 65, 1990

	Population (1990)	Population Age 18 and Younger	% of Total Population	Population Age 65 and Older	% of Total Population
Lafayette Parish	164,762	47,780	29	13,180	8
City of Lafayette	94,440	24,554	26	9,444	10
Western Bypass Study Area	21,543	7,324	34	1,077	5
Eastern Alignment Study Area *	15,519	4,655	30	1,241	8
Evangeline Thruway Study Area	15,968	4,790	30	1,916	12
Eastern Bypass Study Area *	13,004	4,421	34	780	6

* Does not include areas located in St. Martin Parish

Source: U.S. Bureau of the Census, 1990

Approximately 30% of the population in the Evangeline Thruway study area was age 18 and younger, while 12% of the population was over age 65. Approximately 34% of the population in the Eastern Bypass study area was age 18 or younger, while 6% of the population was over age 65.

Lafayette Parish had 10,069 persons age 65 or older in 1980, accounting for almost 7% of the population. By 1990, this figure had increased to 13,718 (over 8% of the total population of the parish). The total of persons over age 65 in the City of Lafayette grew from 6,613 in 1980 (8%) to 8,979 in 1990 (9.5%). The percentage of persons in the Parish under age 18 and over age 65 was lower in 1980 and in 1990 than the State's percentage.

The median age of the population of Lafayette Parish increased from 22.8 in 1970 to 25.7 in 1980 to 29.1 in 1990. The City of Lafayette has shown similar increases in the median age over the last 20 years with a median age of 23 in 1970, 25.7 in 1980 and 30.4 in 1990. The four study areas all had increases in the median age from 1980 to 1990, with the exception of the Eastern Bypass Study Area, which has maintained approximately the same median age from 1980 to 1990.

Table T-3
Population Characteristics of Corridor Study Areas in Comparison to Parish of Lafayette and City of Lafayette: Median Age 1970-1990

	1970	1980	1990
Louisiana	24.8	27.3	31.0
Lafayette Parish	22.8	25.7	29.1
City of Lafayette	23.0	26.0	30.4
Western Bypass Study Area	****	25.4	29.2
Eastern Alignment Study Area*	****	26.3	31.4
Evangeline Thruway Study Area	****	26.4	29.9
Eastern Bypass Study Area*	****	28.6	28.1

* Does not include St. Martin Parish

Source: U.S. Bureau of the Census, 1970-1990

3. Racial and Ethnic Composition

According to the 1990 Census, the City of Lafayette had a population of 94,440. Of this total, 29% of the population was considered non-white. This figure was higher than Lafayette Parish with 24% of the population considered non-white. Of the four corridor study areas, three had a higher non-white population than either the City or Parish average. The Eastern Alignment study area had an average non-white population of 32%

across all census blocks. The Evangeline Thruway study area had an average non-white population of 45% across all census blocks. The Eastern Bypass study area had an average non-white population of 26% across all census blocks. However, the Western Bypass study area had an average non-white population of 14% across all census blocks, the lowest of the four study areas.

The Western Bypass study area non-white population decreased from 18.5% in 1970 to 11.6% in 1980, but increased to 13.2% in 1990. The Eastern Alignment study area non-white population decreased from 19.6% in 1970 to 17.9% in 1980, but increased to 19.7% in 1990. The Evangeline Thruway study area non-white population decreased from 23.7% in 1970 to 19.8% in 1980, but increased to 20.4% in 1990. The Eastern Bypass study area non-white population decreased from 21.2% in 1970 to 18.1% in 1980, but increased to 22.7% in 1990.

Table T-4
Population Characteristics of Corridor Study Areas
in Comparison to State of Louisiana, Parish of Lafayette and City of Lafayette:
Non-White Population 1970-1990

	1970	% of Population	1980	% of Population	1990	% of Population
Louisiana	1,086,832	29.8	1,238,241	29.4	1,299,281	30.8
Lafayette Parish	23,857	21.7	30,334	20.2	36,846	22.3
City of Lafayette	17,162	24.9	22,832	27.8	25,679	27.2
Western Bypass Study Area	5,454	18.5	6,251	11.6	10,124	13.2
Eastern Alignment Study Area*	5,857	19.6	8,858	17.9	12,283	19.7
Evangeline Thruway Study Area	8,041	23.7	9,840	19.8	12,573	20.4
Eastern Bypass Study Area*	7,612	21.2	10,752	18.1	15,594	22.7

* Does not include St. Martin Parish

Source: U.S. Bureau of the Census, 1970-1990

The number of white persons in Lafayette Parish increased from 85,640 (78% of the population) in 1970 to 117,867 (78.5% of the population) in 1980. However, this

percentage decreased to 76% or 125,340 persons by 1990. This trend was likewise reflected in the corridor study areas. The Western Bypass study area white population went up from 81.3% in 1970 to 87.9% in 1980 to 85.6% in 1990. The Eastern Alignment study area white population demonstrated a similar trend, increasing from 80.2% in 1970 to 81.3% in 1980 but decreasing to 79.1% in 1990. The Evangeline Thruway study area white population increased from 75.9% in 1970 to 79.3% in 1980, but decreased to 78.4% in 1990. The Eastern Bypass study area white population increased from 78.7% in 1970 to 81.1% in 1980, but decreased to 76.1% in 1990. While the Western Bypass study area gained the greatest net percentage of white population (4.3%) in the 1970-1990 period, the Eastern Bypass study area recorded the greatest net loss of white population in the same period (-2.6%).

Table T-5
Population Characteristics of Corridor Study Areas in Comparison to State of Louisiana, Parish of Lafayette and City of Lafayette: White Population 1970-1990

	1970	% of Population	1980	% of Population	1990	% of Population
Louisiana	2,541,498	69.7	2,912,172	69.2	2,839,138	67.3
Lafayette Parish	85,640	78.0	117,867	78.5	125,340	76.0
City of Lafayette	51,578	74.8	57,776	70.4	66,867	70.8
Western Bypass Study Area	24,011	81.3	47,218	87.9	65,690	85.6
Eastern Alignment Study Area*	23,909	80.2	40,307	81.3	49,342	79.1
Evangeline Thruway Study Area	25,711	75.9	39,361	79.3	48,296	78.4
Eastern Bypass Study Area*	28,199	78.7	48,246	81.1	52,259	76.1

* Does not include St. Martin Parish
Source: U.S. Bureau of the Census, 1970-1990

4. Median Housing Value

According to the 1990 Census, the median housing unit value within the City of Lafayette was $66,000, compared to $62,700 within Lafayette Parish. While none of the study areas had a median housing unit value higher than the City of Lafayette, one study area had an average housing unit value higher than Lafayette Parish. The Eastern Bypass study area had an average median housing unit value of $63,300. The Western Bypass study area had an average median housing unit value of $60,947. The Evangeline Thruway study area had an average median housing unit value of $47,468, the lowest of the four study areas. The Eastern Alignment study area had an average median housing unit value of $62,481.

Table T-6
Housing Characteristics of Corridor Study Areas in Comparison to Parish of Lafayette and City of Lafayette: Persons per Household and Median Housing Unit Value 1990

	Persons Per Household	Median Housing Unit Value
Lafayette Parish	2.50	$62,700
City of Lafayette	2.66	$66,000
Western Bypass Study Area	2.86	$60,947
Eastern Alignment Study Area *	2.79	$62,481
Evangeline Thruway Study Area	2.68	$47,468
Eastern Bypass Study Area *	2.98	$63,300

* Includes areas located in St. Martin Parish

Source: U.S. Bureau of the Census, 1990

In 1970, the average household size for the State, Parish and City, as well as all four study areas, was above 3.0 persons per household. By 1990, all four study areas, as well as the Parish and City, had average household sizes of 2.93 or less. The City of Lafayette had the smallest number of persons per household (2.5), while the Eastern Bypass study area had the highest number of persons per household (2.93).

5. Owner/Renter-Occupied Housing

The total number of housing units within Lafayette Parish grew from 32,057 in 1970 to 53,136 in 1980, to 67,431 in 1990. Likewise, the stock of housing units within the City of Lafayette grew similarly. The housing stock increased from 20,724 units in 1970 to 29,853 units in 1980 then to 40,379 units in 1990. Within the corridor areas, the largest increase in housing units during the period (1970-1990) took place in the Western Bypass study area. The number of housing units within the Western Bypass study area increased by 22,111 between 1970 and 1990. For comparison, the number of housing units within the Eastern Alignment study area increased by 16,670 units from 1970 to 1990, while the number of housing units within the Eastern Bypass study area increased by 19,807 housing units. The number of housing units within the Evangeline Thruway study area only increased by 14,751 housing units in the same period. This was the smallest increase recorded amongst the study areas.

Table T-7
Housing Characteristics of Corridor Study Areas
in Comparison to Parish of Lafayette and City of Lafayette:
Growth in Housing 1970-1990

	Housing Units 1970	Housing Units 1990	Change 1970-1990
Lafayette Parish	32,057	67,431	35,374
City of Lafayette	20,724	40,379	19,655
Western Bypass Study Area	8,399	30,510	22,111
Eastern Alignment Study Area *	8,339	25,009	16,670
Evangeline Thruway Study Area	10,105	24,856	14,751
Eastern Bypass Study Area *	10,104	29,911	19,807

* Does not includes areas located in St. Martin Parish
Source: U.S. Bureau of the Census, 1970-1990

According to the 1990 Census, the percentage of owner-occupied housing decreased in Lafayette Parish from 64.3% in 1970 to 63.1% in 1980 to 54.9% in 1990. The City has followed the same trend, falling from an owner-occupancy rate of 60% in 1970 to an owner-occupancy rate of 48% in 1990. Both the Eastern Alignment and Eastern Bypass study areas demonstrated a continuous decrease in owner-occupancy rates. The Eastern Alignment study area registered an owner-occupancy rate of 69% in 1970, but this figure decreased to 65% in 1980 and to 58% in 1990. The Eastern Bypass study area registered an owner-occupancy rate of 68% in 1970, but this figure decreased to 67% in 1980 and to 66% in 1990. For comparison, both the Western Bypass and Evangeline Thruway

study areas demonstrated fluctuations in their owner-occupancy rates. The Western Bypass study area recorded a 74% owner-occupancy rate in 1970, followed by a 75% owner-occupancy rate in 1980, and a 62% owner-occupancy rate in 1990. The Evangeline Thruway study area recorded a 61% owner-occupancy rate in 1970, followed by a decrease to 54% in 1980, and a small increase to 56% in 1990.

According to the 1990 Census, approximately 35% of the housing units within the City of Lafayette were renter-occupied, while 42% of the housing units in Lafayette Parish were owner occupied. Three of the study areas had percentages of renter-occupied units,

Table T-8
Housing Characteristics of Corridor Study Areas
in Comparison to Parish of Lafayette and City of Lafayette:
Percentage of Owner/Renter-Occupied Housing and Percentage of Vacant Units
1990

	% of Owner Occupied Housing Units	% of Renter Occupied Housing Units	% of Vacant Housing Units
Lafayette Parish	55	35	10
City of Lafayette	48	42	10
Western Bypass Study Area	62	26	11
Eastern Alignment Study Area *	58	34	8
Evangeline Thruway Study Area	49	38	13
Eastern Bypass Study Area *	66	24	10

* Does not include areas located in St. Martin Parish

Source: U.S. Bureau of the Census, 1990

which were greater than or equal to the City and/or Parish average. The Western Bypass study area recorded a renter-occupancy percentage of 26%, while the Eastern Alignment recorded a renter-occupancy percentage of 34% and the Eastern Bypass recorded a renter-occupancy percentage of 24%. However, the Evangeline Thruway study area had a renter-occupancy percentage of 42%, higher than the City average but equal to the Parish average.

According to the 1990 Census, approximately 10% of the housing units in the City of Lafayette and Lafayette Parish were vacant. Three of the study areas had vacancy rates greater than or equal to the City and/or Parish average. The Western Bypass study area recorded an 11% vacancy rate, while the Evangeline Thruway study area and the Eastern Bypass study area each recorded a 10% vacancy rate. The Eastern Alignment study area was well below the City and Parish vacancy rates at 8%.

6. Displacement Analysis

Construction along the Western Bypass corridor would require the relocation of 163 residences, 14 commercial businesses and 33 mobile homes. The supporting arterial construction for this project would be Bernard/Ira Street (2.5 miles: 30 residential relocations), Gloria Switch Road (5.0 miles: nine residential and one mobile home displacement), Cameron Street (6.5 miles: 55 residential and 95 commercial business displacements), West Congress (.56 miles: one residence relocation), Kaliste Saloom Road (1.7 miles: no displacements), Verot School Road (5.4 miles: no displacements), and LA Highway 89 (3.8 miles: three residential relocations). This alternative presents the greatest number of displacements.

Construction along the Eastern Alignment corridor would require the relocation of 31 residences and 20 commercial businesses. The arterial construction in support of this corridor would be necessary at Willow Street and at LA Highway 94. No relocations would be necessary for this arterial construction in support of this corridor.

Construction along the Evangeline Thruway corridor would result in 176 residential displacements and 51 business displacements. The new interchange at Interstate 49 and Interstate 10 would be necessary for this corridor, but this interchange should not result in any displacements as long as it is contained within the area of the existing interchange.

Construction along the Eastern Bypass corridor would necessitate the relocation of 38 residences and 10 commercial businesses. The support arterial construction would need to take place at Willow Street (1.1 miles: no relocations), LA Highway 94 (3.4 miles: seven residential and one commercial displacement) and Gloria Switch Road (4.1 miles: one residential and three mobile home displacements).

Table T-9
Displacement Analysis of the Corridor Alternatives:
Construction of Main Alignment

	Residential Displacement	Commercial Displacement	Mobile Home Displacement
Western Bypass	163	14	33
Eastern Alignment	31	20	0
Evangeline Thruway	176	51	0
Eastern Bypass	38	10	0

Source: Parish of Lafayette, 1993

Table T-10
Displacement Analysis of the Corridor Alternatives:
Construction of Arterials to Support Alignment

	Residential Displacement	Commercial Displacement	Mobile Home Displacement
Western Bypass	97	95	1
Eastern Alignment	0	0	0
Evangeline Thruway	0	0	0
Eastern Bypass	8	1	3

Source: Parish of Lafayette, 1993

C. ECONOMICS AND EMPLOYMENT

In 1970, Lafayette Parish had 37,569 employed persons, which accounted for 95.8% of the Parish civilian labor force. By 1990, total employment increased within the Parish by 92.3%. These changes in employment reflect substantial growth in several sectors of

Table T-11
Employed Persons, Age 16 and Over, by Occupation:
Lafayette Parish, 1970-1990

Occupation	1970	1980	1990	1970-1990 Change (%)
Managerial and Professional	10,472	17,381	20,297	48.4%
Technical, Sales and Administrative Support	9,338	23,145	25,198	62.9%
Service	5,934	8,054	9,633	38.3%
Farming, Forestry, and Fishing	1,150	832	963	-19.4%
Precision Production, Craft and Repair	4,585	10,416	7,976	42.5%
Operators, Fabricators, and Laborers	6,090	8,989	8,176	25.5%
Total	37,569	68,817	72,243	47.9%

Source: U.S. Bureau of the Census, 1970-1990

the local economy. Since 1970, the technical, sales, and administrative sector has been the largest and fastest growing sector of the Parish economy. This was followed closely by the managerial and professional sector. This signals a continued move to diversify the Parish's general economic profile.

The four study areas maintain a similar diversification within their employment patterns. Employment data for the four study areas was obtained from the results of the 1992 Lafayette Areawide Planning Commission Employment Survey. Surveyed job areas included three categories: Retail, Service, and Basic. Retail jobs included those within establishments engaged in selling merchandise for personal or household consumption and rendering services incidental to the sale of the goods. Service jobs included those within establishments engaged in providing a wide variety of services to people, businesses, and government establishments. Basic jobs included all other professions including manufacturing, agriculture, mining, construction, and transportation.

Table T-12
Employment Statistics for Corridor Study Areas:
Lafayette Parish, Louisiana 1992

Study Area	Total Number of Jobs	Retail Jobs	Service Jobs	Basic Jobs
Western Bypass	3,733	863	1,240	1,630
Eastern Alignment*	4,316	753	2,612	951
Evangeline Thruway	14,372	3,182	5,693	5,500
Eastern Bypass*	3,049	42	1,896	731

* Does not include jobs from study area portions within St. Martin Parish

Source: Lafayette Areawide Planning Commission, 1992

VI. ENVIRONMENTAL CONSIDERATIONS

A. STUDY AREA No. 1: Western Bypass

1. Wetlands and Permitting

The Western Bypass primarily traverses agricultural areas and would have minimum impact upon jurisdictional wetlands. Wetlands encountered would be associated with the crossing of farm ditches, coulees and bayous, and "prior converted" croplands. The "prior converted" croplands are exempt from Section 404 permits.

A wetland delineation would have to be performed to quantify wetlands on the route. A site specific delineation would require approximately 1-4 months.

Section 404 of the Clean Water Act requires that a permit be obtained prior to the filling of any jurisdictional wetland. As a result, a permit application would need to be filed with the U.S. Army Corps of Engineers, New Orleans District, for the construction of the road. Processing the application would take 4-8 months. This estimated time could be greatly increased by unforeseen complications, due to the advertising of the public notice, mitigation and alternatives analysis.

Mitigation for the unnecessary destruction of wetlands would be required to some extent. In general, mitigation means that the functions and values of the destroyed wetlands need to be replaced. The replacement can be conducted through the preservation or enhancement of existing wetlands or the creation of new wetland areas. A "Farmland Impact Conversion Rating" from the Soil Conservation Service would be required for this route due to the impact on crop lands.

2. Flora

The value of land in Lafayette Parish is such that the majority has been cleared and used as farmland or has been developed for urban use such as residential or commercial purposes. The majority of land impacted by this route selection would be farmland where the crops may vary from sugarcane, soybeans, milo, winter wheat, rice, corn, or devoted to pasture.

The trees and associated understory in this area are located mainly along fence lines or drainage ditches. The most common tree species are: water oak, Chinese tallow, hackberry, sweet gum, black cherry, black willow, rough-leaf dogwood, wax myrtles and eastern red cedars. Trees introduced by property owners include

live oaks, pines and pecans. The common understory plants found along fence lines and ditches are composed of brambles, grasses, rushes, sedges, common privet, honeysuckle, trumpet vine, elderberry, sumac, goldenrod and bloodweed.

3. Fauna

The faunal assemblages encountered along this alternative are well adapted to and tolerant of human presence and impacts. The birds and animals are suited or adaptable to existence in open land habitats (ie. pastures, croplands, etc.) with some small intermittent woodlands. Game birds and animals associated with open land habitats include quail, dove, snipe and cottontail rabbit. Many nongame birds such as robins, sparrows, killdeer and several raptorial species are known to utilize the area. Nongame mammals utilizing open land habitat include various mice and rat species, armadillos and red fox.

The woodland habitats include small, fragmented stands of trees such as wind breaks between cultivated fields and small undeveloped areas. Birds and animals associated with this habitat include wood duck, woodcock, thrushes, woodpeckers, squirrels, raccoon, deer and rabbits.

The birds and animals mentioned are all capable of relocating to more similar habitat in the near vicinity of this alternative route. Impacts to the fauna by this alternative are expected to be minimal.

4. Water Resources and Hydraulics

The Western Bypass, because of its length and configuration, bisects many natural waterways and drainage areas. Commencing at its intersection with U.S. Highway 90, south of Broussard, the proposed bypass crosses Cypress Bayou, Lasalle Coulee, Bayou Parc Perdu, Anselm Coulee, the Vermilion River, Coulee Ile des Cannes and a few spurs off of Bayou Carencro. This does not include many small unnamed ditches, which would be impacted by the bypass and require improvement. The receiving waters for runoff in Lafayette is ultimately the Vermilion River.

The impacts to the water quality of the Vermilion River associated with the proposed bypass would most likely increase during construction. Temporary and permanent erosion control measures would be required during and after construction of the bypass, embankment and drainage areas to prevent silt laden waters from drastically increasing turbidity to the Vermilion River. The major period of concern would be during a storm event when runoff containing

suspended solids reaches the Vermilion River. The impact is usually of short duration and the long-term impacts are negligible due to the already poor water quality of the Vermilion River. This inherent characteristic of the Vermilion River makes it unsuitable for recreational or domestic use.

Post construction concerns relating to runoff would be the typical contaminants deposited on the roadway from the vehicles. The contaminates are washed off the roadway during a storm event and eventually flow to the Vermilion River. The toxicity in the receiving is at its peak during the runoff period and reduces with time after the storm has subsided. The accumulation of hazardous roadway runoff over a period of years would most likely increase within the Vermilion River with any alternative route, since the watershed throughout the parish ultimately drains to the Vermilion River.

5. Floodplains

Federal policy requires consideration of floodplains during the planning and design process for the alternatives being considered. Floodplains are established as the area of land inundated by water during a flood of specified frequency. The flood frequency, or expected recurrence interval, is established by federal regulations at 100 years.

Approximately 40-50% of the roadway for this alternative passes through the 100-year floodplain. The largest area within the floodplain is located just north of LA Highway 342 to its intersection with LA Highway 93, south of Vatican.

6. Soils

Soil Characteristics:

The characteristics of Memphis-Frost can be described as gently sloping to nearly level, well-drained loamy soils that formed in loess. This association makes up about 22.5% of Lafayette Parish. The well drained Memphis soils are on the drainage divides and on side slopes. They are loamy throughout and are not wet during any season. The poorly-drained Frost soils are in narrow, concave areas along drainageways. They are loamy throughout and have a seasonal high water table. Lower areas of Frost soils are subject to occasional flooding.

The characteristics of Coteau-Frost can be described as very gently sloping to nearly level, somewhat poorly-drained and poorly-drained loamy soils that formed in loess. This association makes up about 27% of Lafayette Parish. The somewhat poorly-drained Coteau soils are on stream divides, in very gently-

undulating areas, and on very gently-sloping side slopes. The poorly-drained Frost soils are at lower elevations in nearly level, concave areas and in narrow, concave areas along drainageways. Both soils are loamy throughout and have a seasonal high-water table.

The characteristics of Patoutville-Frost can be described as nearly level, somewhat poorly-drained and poorly-drained loamy soils that formed in loess. This association makes up about 27% of Lafayette Parish. The somewhat poorly - drained Patoutville soils are on broad stream divides. The poorly drained Frost soils are in nearly level, concave areas at lower elevations. Both soils are loamy throughout and have a seasonal high-water table.

The characteristics of Acy-Coteau can be described as nearly level, somewhat poorly-drained loamy soils that formed in loess. This association makes up about 2.5% of Lafayette Parish. Acy soils are at lower elevations than Coteau soils. Both soils are loamy throughout and have a seasonal high-water table.

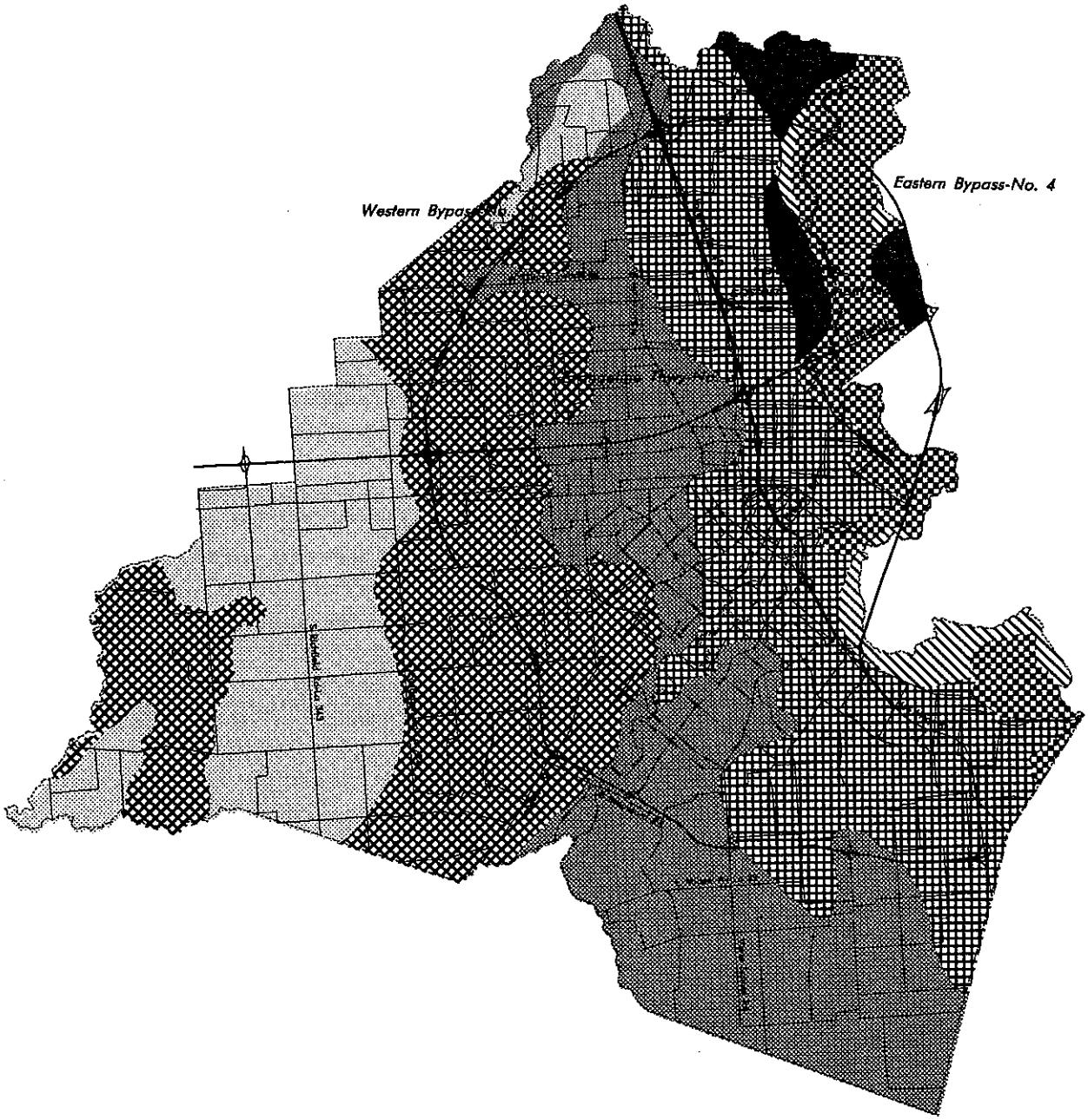
The characteristics of Jeanerette can be described as level to nearly level, somewhat poorly-drained loamy soils that formed in loess or in mixed loess and alluvial sediments. This association makes up about 13% of the parish. Jeanerette soils are somewhat poorly-drained and are loamy throughout. They have a seasonal high-water table.

The characteristics of Fausse-Sharkey can be described as level, very poorly-drained and poorly drained clayey soils that formed in alluvium. This association makes up about 2% of Lafayette Parish. The very poorly-drained Fausse soils are at lower elevations than Sharkey soils. They have a water table that is at or above the surface for part of the year. The poorly-drained Sharkey soils have a seasonal high-water table that extends to the surface mainly from December through April.

The characteristics of Sharkey-Baldwin-Iberia can be described as level to nearly level, poorly-drained clayey and loamy soils that formed in alluvium. This association makes up about 6% of Lafayette Parish. Sharkey soils are somewhat lower in elevation than Baldwin soils and slightly lower in elevation than Iberia soils. Sharkey soils have a surface layer of clay, Baldwin soils have a surface layer of silty clay loam, and Iberia soils have a surface layer of wilty clay. All three soils have a clayey subsoil, have a seasonal high-water table, and are poorly drained.

SOIL ASSOCIATIONS

Lafayette Parish, Louisiana



LEGEND:

- Acy–Coteau
- Coteau–Frost
- Fausse–Sharkey
- Jeanerette
- Memphis–Frost
- Patoutville–Frost
- Sharkey–Baldwin–Iberia
- Western Bypass
- Eastern Alignment
- Evangeline Thruway
- Eastern Bypass
- Arterials
- Collectors
- Interstates
- Parish Boundary
- Vermilion Bayou

Lafayette Areawide Planning Commission

August 1, 1993

NORTH:

SCALE: (miles)

0 1

Hydric Soils:
Hydric soils are defined by the U. S. Department of Agriculture (USDA) as soils that, in their undrained condition are saturated, flooded or ponded long enough during the growing season to develop anaerobic conditions that favor the growth and regeneration of hydrophytic vegetation. (See Table T-14 for a list of soils within the project area and those which are on the hydric soils list from the Soil Conservation Service List Dated April 19, 1990.)

The soil associations were used to identify soils encountered within each of the four alternative areas. See Tables T-13 and T-14 for more detailed information and the Soil Association Map for the location of the associations.

Soil associations encountered by this roadway alternative include Memphis-Frost, Coteau-Frost and Patoutville-Frost.

B. STUDY AREA No. 2: Eastern Alignment

1. Wetlands and Permitting

The Eastern Alignment traverses existing agricultural areas as well as a significant forested wetland/swamp. Approximately 75% of the proposed alignment would need to be constructed in a jurisdictional wetland.

As a result, a permit application would need to be filed with the U.S. Army Corps of Engineers, New Orleans District, for the construction of the road. Processing of the application could potentially take 1-3 years. Construction techniques, alternative routes, and justification for the expansion would be explored in great detail during the permit process. A public hearing would probably be held for direct input from the public to the U.S. Army Corps of Engineers. Numerous environmental agencies would be involved in the review process including: the Louisiana Department of Environmental Quality, the Louisiana Department of Wildlife and Fisheries, the U.S. Environmental Protection Agency and the U.S. Fish and Wildlife Services. A preliminary meeting held with U.S. Fish and Wildlife to present the proposed routes concluded that the "Resource Agencies" are not going to look favorably upon this route. Additionally, it is possible that an environmental assessment and impact statement would need to be prepared for this route.

Mitigation for the unnecessary destruction of wetlands would be required. A specific mitigation plan would be developed in cooperation with the above referenced agencies assuming, of course, that a permit would be issued. A

"Farmland Impact Conversion Rating" from the Soil Conservation Service would also be required for this route.

2. Flora

The Eastern Alignment would potentially disturb a large quantity of natural vegetation in the Bayou Tortue Swamp area. This low-lying, wooded area adjacent to the Lafayette Regional Airport, which also forms the border between Lafayette and St. Martin Parishes, contains a mature canopy of bottomland hardwoods. Two other areas containing a mature tree canopy would also be traversed. One area is adjacent to the Lake Martin Road (LA-353) and another larger block is located south of Interstate 10, just west of the Vermilion River.

The species typically found in these bottomland or wetland areas are: water oak, black willow, bald cypress, sugar hackberry, cottonwood, water hickory, drummond red maple, greenash, sweet gum, common persimmon, water elm, honey locust and water tupelo. The common understory plants are composed of buttonbush, blackberry, groundsel bush, roughleaf dogwood, peppervine, golden rod, smartweed and butterweed.

3. Fauna

This proposed alternative will cross a variety of habitats such as wooded wetlands, woodlands (upland hardwood and/or conifer forests) and open lands. The faunal assemblages associated with the open land and woodland habitats will be similar to that encountered by the Western Bypass alternative. In addition, this alternative will cross a previously non-impacted wooded wetland and cross the Vermilion River. This alternative will have an impact on a larger variety of birds, mammals, reptiles and amphibians. Species lists for the potential fauna encountered are presented in the I-49 Connector Draft EIS (HNTB, 1992). The wetland faunal assemblages are less tolerant to environmental perturbation due to more specialized habitat requirements.

Effects to the fishery potential in the project area should be minimal. The fishery potential for Lafayette Parish is already low due to poor water quality. The implementation of this alternative will surely degrade water quality, probably reducing fishery potential further.

4. Water Resources and Hydraulics

As with the Western Bypass alternative, many of the same concerns such as erosion control during and after construction, would be applicable to the Eastern Alignment. Temporary and permanent erosion control measures would be required

to contain the amount of dissolved solids in runoff water where the roadway is at grade or on embankment. In wetland areas, it is proposed that the roadway would be elevated so as not to impede the surface hydrology and lessen the impacts to the wetlands. Major drainage routes in the Eastern Alignment include Bayou Tortue Swamp, Vermilion River, Coulee Ben, Francois Coulee and Dan Debaillon Coulee.

5. Floodplains

Approximately 70% of the roadway for this alternative passes through the 100 year floodplain. The largest area within the floodplain is located from its intersection with U.S. Highway 90 and does not leave the floodplain until just north of LA Highway 94. It enters another floodplain where it intersects with Interstate 10.

6. Soils

Soil associations encountered by this roadway alternative include Memphis-Frost, Jeanerette, Fausse-Sharkey and Sharkey-Baldwin-Iberia. (See Tables T-13 and T-14)

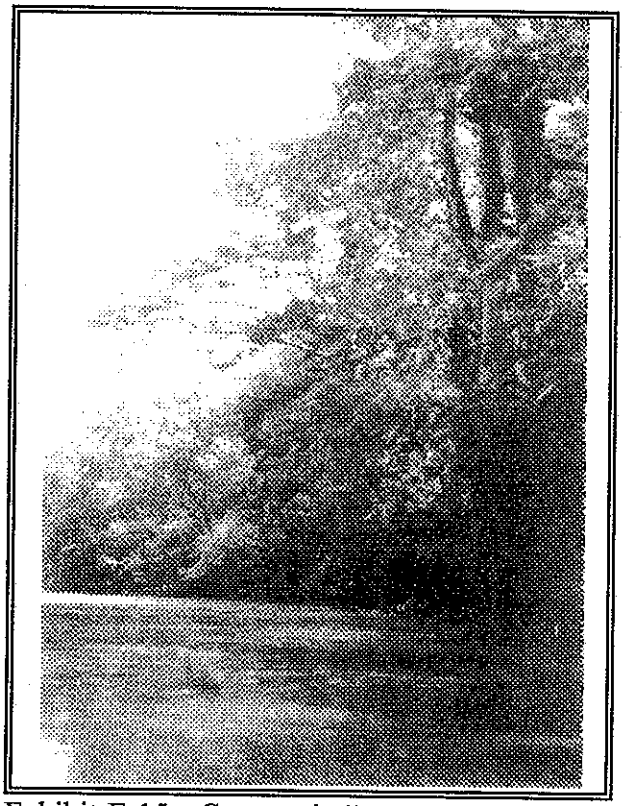
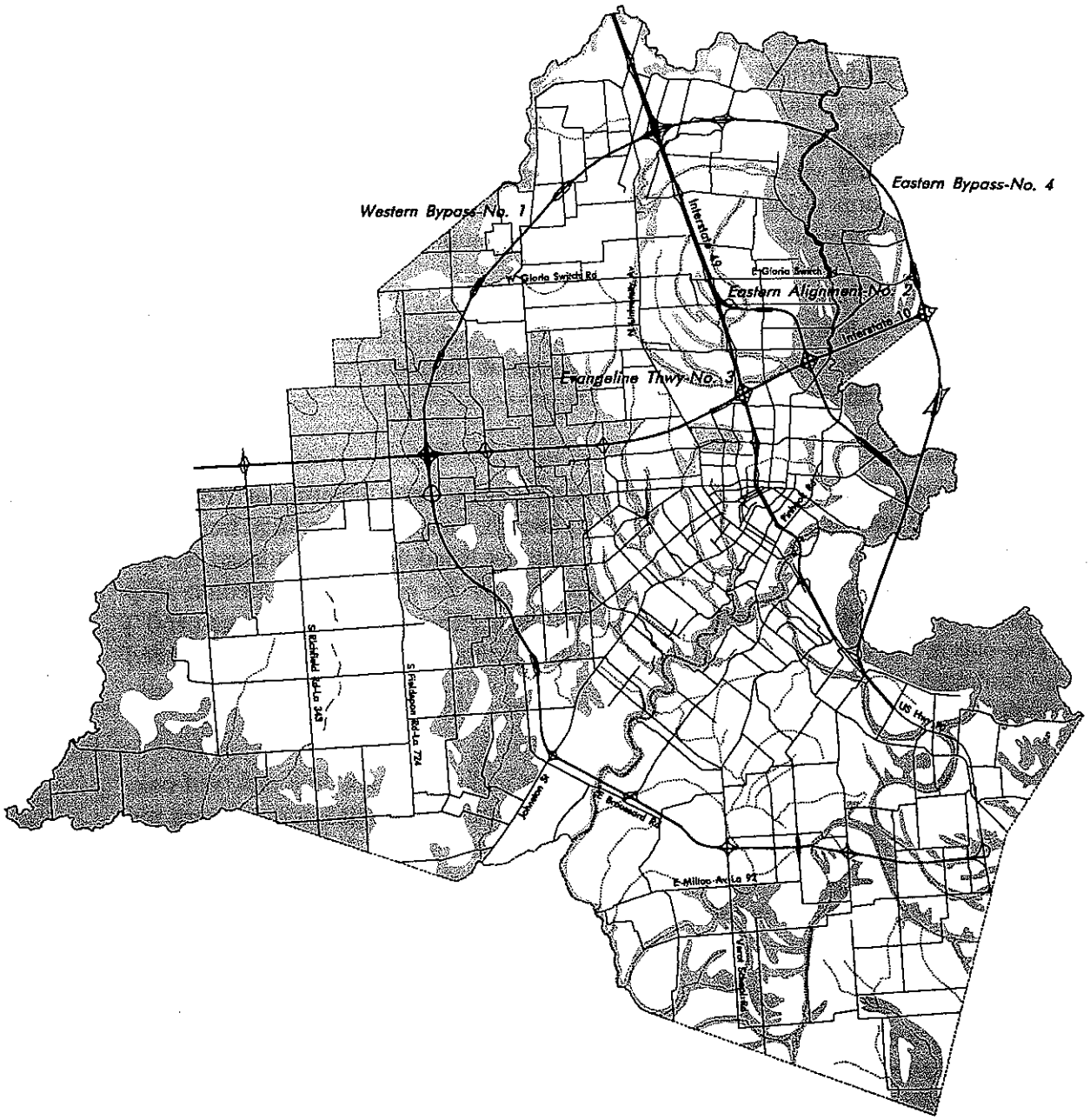


Exhibit E-15: Cypress in Bayou Tortue

FLOODPLAIN MAP

Lafayette Parish, Louisiana



LEGEND:

- 100 Year Floodplain
- Western Bypass
- Eastern Alignment
- Evangeline Thruway
- Eastern Bypass
- Arterials
- Coulees
- Collectors
- Interstates
- Parish Boundary
- Vermilion Bayou

Lafayette Areawide Planning Commission

August 1, 1993

NORTH:

SCALE: (miles)

0 1

C. STUDY AREA No. 3: Evangeline Thruway

1. Wetlands and Permitting

The Evangeline Thruway has potentially no impact to jurisdictional wetlands. This alternative utilizes an existing highway corridor and would be the preferred alternative from the environmental viewpoint.

A site-specific wetland delineation would require approximately one month. If wetlands were identified, permitting of the central alignment would possibly be conducted under a Nationwide Permit and would take 4-6 weeks. The ponds in and around the Visitor's Information Center at Gateway Lafayette would be considered created wetlands and would thus be jurisdictional wetlands and require a U.S. Army Corps of Engineers permit. The Vermilion River crossing would also encounter wetlands and require permitting. Mitigation for wetland loss would be minimal.

Construction techniques, alternative routes, and justification for the expansion would not be explored. The U.S. Army Corps of Engineers would have little to no jurisdiction on this alternative.

2. Flora

As the Evangeline Thruway is urban, impact to a large quantity of trees and understory plants would be minimal. Even though, there are some large trees such as pecans and oaks in this corridor from Pinhook Road up to the railroad tracks. The remainder of the median is developed except for grass in the median strip from the Lafayette Regional Airport to 16th Street. There is one very large (+60") live oak in the median strip across from the Northgate Mall which is considered a landmark. The oak was spared when the Evangeline Thruway was initially constructed.

Typical species found in the central alignment include pecans, live oak, red oak, water oak, southern magnolia, American elm, loblolly pine, sycamore, eastern red cedar, bald cypress, swamp red maple, American holly, flowering dogwood, southern catalpa, chinaberry, common fig, and crepe myrtle. Much of the understory and shrubs are ornamental material planted around the residences.

3. Fauna

The wildlife and fisheries resources present in this proposed corridor already exist in a highly-disturbed habitat. These species are opportunists capable of adapting to a highly-modified habitat. Examples of these species are robins, swallows, mocking birds and squirrels. The implementation of this alternative will have the

least effect on the fauna of the area with the exception of those few waterfowl associated with the Gateway Lafayette ponds.

4. Water Resources and Hydraulics

As with the Western Bypass and Eastern Alignment, the same impacts concerning runoff are associated with this route, as the ultimate receiving water is the Vermilion River. The major drainage systems in the Evangeline Thruway scenario include: Coulee des Poches, Coulee Mine, the Vermilion River, Dan Debaillon Coulee and Breaux Bridge Coulee.

Preliminary drainage calculations have been made for the depressed portion of the roadway. These calculations indicated that a depressed roadway within the Evangeline Thruway corridor between Pinhook Road and Mudd Avenue would be capable of utilizing gravity drainage flow. The design of the depressed drainage system would be based on the simultaneous occurrence of the 100-year flood on the Vermilion River and a 100-year rainfall event of the project area. Preliminary studies indicate that the hydraulic gradient developed for the depressed trunkline system between Mudd Avenue and Vermilion River would be sufficient for the gravity-flow transportation of pavement runoff from the 100-year runoff event. The development of the hydraulic gradient would entail raising (or bubbling) some cross street overpasses to achieve proper vertical clearances. The amount of bubbling would range from 0' to approximately 6', requiring grade adjustment to some cross streets and portions of the existing Evangeline Thruway.

The rainwater runoff to be handled by the depressed drainage system would be limited to only the rainfall within the depressed section, which amounts to approximately 26 acres. Drainage from the adjacent area and roadways would be collected and transported by the existing drainage system which serves the existing Evangeline Thruway. Some modifications to the existing drainage system would have to be made in the area between 6th Street and the Vermilion River to accommodate the depressed roadway. It is anticipated that the Evangeline Thruway will drain into the Vermilion River at 16.0 feet above mean sea level (msl), while Mudd Avenue will enter the existing drainage network at 18.5 feet above mean sea level. The result will be a roadway system which is higher than the drainage system designed to move water runoff. Further modifications to the system could include the development of a separate drainage system for the cut and cover section of the roadway, which would reduce the total rainwater runoff level expected to be moved through the Evangeline Thruway corridor.

Extending the depressed freeway north of Mudd Avenue has been determined not possible because of the Webb Street Coulee, which exists immediately north of the Southern Pacific Railroad spur and paralleling the tracks. The coulee at the point where it crosses the Evangeline Thruway serves a drainage area of approximately 165 acres. This area is estimated to contribute approximately 850 cubic feet per second of runoff for the 100-year rainfall event. This large volume of runoff makes it impractical to pump the runoff across an extended depressed roadway or to intercept the runoff by the depressed roadway drainage system. However, should the 100-year rainfall event be exceeded, the Evangeline Thruway's three-lane auxiliary road network, which parallels interstate grade roadway, can be utilized to move traffic.

5. Floodplains

The roadway, as proposed, crosses only one small floodplain area, which is the Vermilion River crossing. This floodplain consists of the river and an area of low land adjacent to the river banks which is covered to a depth of approximately three to four feet in a 100-year flood.

6. Soils

Soil associations encountered by this roadway alternative include Memphis-Frost and Coteau-Frost. (See Tables T-13 and T-14)

D. STUDY AREA No. 4: Eastern Bypass

1. Wetlands and Permitting

The Eastern Bypass traverses existing agricultural areas, as well as significant forested wetland/swamp. Approximately 50%-60% of the proposed alignment would need to be constructed in a jurisdictional wetland. Three bridge crossings of the Vermilion River would also impact the permitting process adding a substantial review period to the permitting process.

As a result, a permit application would need to be filed with the U.S. Army Corps of Engineers, New Orleans District, for the construction of the road. Processing of the application could potentially take 1-3 years. Construction techniques, alternative routes, and justification for the expansion would be explored in detail during the permit process. A public hearing would probably be held to provide direct input from the public to the U.S. Army Corps of Engineers. Numerous environmental agencies would be involved in the review process including: the Louisiana Department of Environmental Quality, the Louisiana Department of Wildlife and Fisheries, the U.S. Environmental Protection Agency and the U.S.

Fish and Wildlife Services. A preliminary meeting held with U.S. Fish and Wildlife to present the proposed routes concluded that the "Resource Agencies" are not going to look favorably upon this route. Additionally, it is possible that an environmental assessment and impact statement would be required by the agencies.

Mitigation for the unnecessary destruction of wetlands would be required. A specific mitigation plan would be developed in cooperation with the above referenced agencies assuming, of course, that a permit would be issued. A

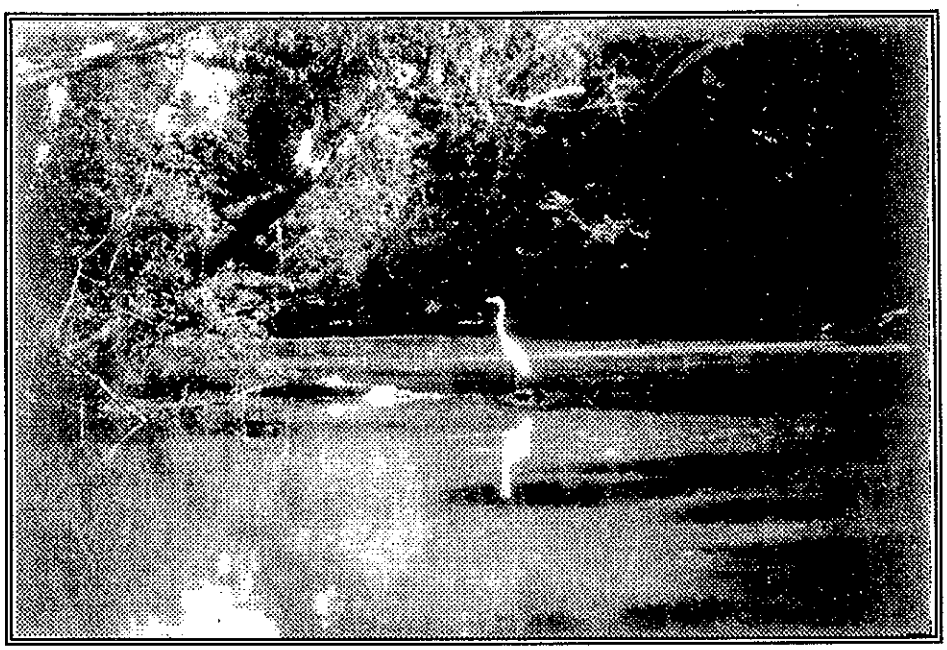


Exhibit E-17: Wildlife on Bayou Tortue

"Farmland Impact Conversion Rating" from the Soil Conservation Service would be required for this alternative.

2. Flora

The Eastern Bypass would cross a multitude of bottomland and upland forest areas. The majority of these forested areas are bottomlands or wetlands with the exception of the escarpment/ridge crossing west of the Vermilion River near

Table T-13
Relationships Between Soils and Topography, Runoff, Drainage and Water Table: Lafayette Parish, Louisiana

Soil series grouped by Parent Material	Topography	Runoff	Internal drainage class	Seasonal high water table	
				Depth	Duration
Soils that formed in loess:					
Acy----------	Nearly level-----	Slow----------	Somewhat poorly drained.	1.5-2.5	Dec.-Apr.
Coteau----------	Gently Sloping--	Slow and medium	Somewhat poorly drained	1.5-3.0	Dec.-Apr.
Frost----------	Level and depressional.	Slow and very slow	Poorly drained--	0.0-2.5	Dec.-Apr.
Jeanerette----------	Level and nearly level	Slow----------	Somewhat poorly drained	1.0-2.5	Dec.-Apr.
Memphis----------	Nearly level to moderately sloping	Medium and rapid.	Well drained----	.6.0	Jan.-Dec.
Patoutville----------	Nearly level-----	Slow----------	Somewhat poorly drained	2.0-3.0	Dec.-May
Soils that formed in Mississippi River alluvium:					
Baldwin----------	Nearly level------	Slow----------	Poorly drained--	0.0-2.0	Dec.-Mar.
Fausse----------	Depressional------	Very slow and ponded	Very poorly drained	+0.5-1.5	Jan.-Dec.
Iberia----------	Level----------	Slow and very slow	Poorly drained	0.0-2.0	Dec.-Apr.
Sharkey----------	Level----------	Slow and very slow	Poorly drained	0.0-2.0	Dec.-Apr.
Soils that formed in Red River alluvium:					
Gallion----------	Nearly level------	Slow----------	Well drained----	>6.0	Jan.-Dec.
Soils that formed dominantly in the Prairie Formation sediments:					
Basile----------	Level----------	Slow----------	Poorly drained---	0.0-1.5	Dec.-Apr.
Crowley----------	Nearly level------	Slow----------	Somewhat poorly drained	0.5-1.5	Dec.-Apr.
Judice----------	Level and depressional	Very Slow---------	Poorly drained---	0.0-2.0	Dec.-Apr.
Mowata----------	Level and depressional	Very Slow---------	Poorly drained---	0.0-2.0	Dec.-Apr.

Source: U.S. Department of Agriculture Soil Conservation Service, Soil Survey of Lafayette Parish.

Table T-14
Acreage and Proportionate Extent of Soils: Lafayette Parish, Louisiana

Map Symbol	Soil Name	Acres	Percent
1	Acy silt loam	2,128	1.2
2	*Baldwin silty clay loam	3,126	1.7
3	*Basile soils, frequently flooded	573	0.3
4	+Coteau-Frost complex	1,661	0.9
5	Coteau silt loam, 0 to 1 percent slopes	23,807	13.2
6	Coteau silt loam, 1 to 3 percent slopes	5,799	3.2
7	Crowley silt loam	2,920	1.6
8	*Fausse association	2,459	1.4
9	*Frost silt loam	38,954	21.5
10	*Frost soils, occasionally flooded	4,147	2.3
11	*Gallion silt loam	573	0.3
12	*Iberia silty loam	2,976	1.6
13	Jeanerette silt loam	15,940	8.8
14	*Haplaquolls, occasionally flooded	306	0.2
17	Memphis silt loam, 0 to 1 percent slopes	19,088	10.5
18	Memphis silt loam, 1 to 5 percent slopes	12,300	6.8
19	Memphis silt loam, 5 to 8 percent slopes	2,038	1.1
21	*Judice silty clay loam	3,079	1.7
22	*Mowata-Frost complex	6,359	3.5
23	Patoutville silt loam	25,651	14.2
24	*Sharkey clay	3,218	1.8
25	*Sharkey clay, frequently flooded	2,336	1.3
26	*Udifluvents, loamy	757	0.4
	Water	925	0.5
	Total	181,120	100.0

* Hydric potential
\+ Have hydric inclusions

Source: U.S. Department of Agriculture Soil Conservation Service, Soil Survey of Lafayette Parish.

Carencro. Concentrations of trees vary in the northern segment, as, land has been cleared in some areas for pasture, farming and development. The species found in the wetland areas are the same as listed in the Eastern Alignment. The species on the higher elevations of the ridge are composed of live oak, water oak, red oak, red oak, white oak, laurel oak, loblolly pine, southern magnolia, sweet gum and pecan trees.

3. Fauna

This alternative represents the greatest potential impact to wildlife and fisheries, by comparison to the other three alternatives. The proposed Eastern Bypass alterative will cross the Vermilion River and the associated wetlands three times. The faunal communities impacted will be similar to those encountered by the Eastern Alignment. In addition, this proposal will impact substantial open land and woodland habitats in both Lafayette and St. Martin Parishes.

4. Water Resources and Hydraulics

The impacts on surface hydrology would not be severely affected from this alternative since a majority of the project would be elevated. The impacts to the hydrological watershed could be impacted due to the close proximity the route takes within the Vermilion River watershed. The low lying area such as the Bayou Tortue Swamp area is considered a recharge zone for groundwater associated with the Chicot Aquifer. The seasonal high-water table for the Fausse Soils located in the swamp area, for example, have a depth of +0.5 - 1.5 feet for a duration period of January to December. Any pollutants generated by the runoff from the roadway could contaminate this groundwater recharge zone since the water table is so high for a duration of the whole year. Pollutants entering the Vermilion River are flushed through the system by current whereas these low-lying areas have no constant source of water to flush out the accumulated pollutants. This is illustrated in Table T-13 - Relationships Between Soils and Topography, Runoff, Drainage and Water Table.

5. Floodplains

Approximately 75% of the roadway for this alternative passes through the 100-year floodplain. The largest area within the floodplain is located from its intersection with U.S. Highway 90 until it intersects with Interstate 10. It enters another large area just north of Interstate 10 from the intersection of the Lafayette-St. Martin Parishes boundary to a point just west of the Vermilion River.

6. Soils

Soil associations encountered by this roadway alternative include Memphis-Frost, Jeanerette, Fausse-Sharkey, Sharkey-Baldwin-Iberia, Acy-Coteau and Coteau-Frost.

E. ADDITIONAL PERMITS

The U.S. Environmental Protection Agency (EPA) has established the National Pollutant Discharge Elimination System (NPDES) permit program which requires a permit prior to discharging storm water in certain circumstances. Construction activity which disturbs more than five acres of land is subject to the permit requirements. The NPDES permit program was mandated by the Water Quality Act of 1987. The final criteria under this permit program was published on September 9, 1992, and can be found in the Federal Register (Vol. 57, No. 175, page 41,176 as pertaining to construction sites). One of the requirements stated in the General Permit is that a Storm Water Pollution Prevention Plan can be prepared prior to construction activity.

The pollution prevention plan shall contain the proposed schedule of construction activity detailing the following: ground area being disturbed in each phase of operation along with erosion controls used in and around disturbed soils; location of soil piles; measures taken to minimize offsite vehicle tracking of soil; area which will be used for vehicle parking, maintenance, or repair; waste dispenser locations and waste collection schedule; area which will be used for storage of supplies and a list of those supplies; and sanitary facility locations and their maintenance schedule. The pollution prevention plan must also show any discharge other than storm water that may occur. The General Permit will allow on sitewater disposal, provided the source is shown in the plan and that the criteria of the permit are met.

F. ENDANGERED SPECIES

A meeting was conducted with the Lafayette office of the U.S. Fish and Wildlife Service on May 21, 1993, to evaluate the possibility of endangered or threatened species in the vicinity of the proposed alternatives. According to the available information, no known endangered or threatened species reside within the project area. Although there are no specific endangered flora or fauna designated within a mile radius of the alternatives, the habitat is conducive for the possibility of endangered species to exist in the area of the Eastern Alignment and Eastern

Bypass. The Natural Heritage section of the Louisiana Department of Wildlife and Fisheries would most likely require a closer look at the wetland area east of the Lafayette Regional Airport.

G. SURFACE GEOLOGY

Physiographically, Lafayette Parish consists of two general areas; the Mississippi River Alluvial Plain, which occupies a narrow band along the eastern edge of the parish, and the terrace upland, which makes up about 90% of Lafayette Parish and characterizes the entire area west of the Mississippi River Alluvial Plain. The two areas are separated by an abrupt escarpment that rises 15 to 40 feet from the western edge of the alluvial plain to the level of the terrace upland. National Geodetic Vertical Datum (NGVD) elevations in the alluvial plain generally range from slightly more than 25 feet in northern portions of Lafayette Parish to slightly less than 10 feet in the south. Within the plain, soils developed in three distinct parent materials: Mississippi alluvium, loess, and Red River Alluvium. The terrace upland is comprised largely of loess-covered alluvial deposits. Terrace elevations range from 60 feet in the north to 25 feet in the southern portion of Lafayette Parish. The upland terrace slopes generally to the southwest with local relief typically less than five feet.

H. SUMMARY

From a natural resources evaluation, the option which is least impacting is the Evangeline Thruway. This route is proposed to traverse an urban corridor, the impacts to natural systems would be minimal. The Western Bypass would be the next least impacting route on the natural resources, since the majority of the land is farmed. The two eastern alternatives could threaten a variety of natural habitats and ecosystems. The two eastern alternatives also cross undisturbed bottomland hardwood forested areas, upland forest and emergent wetland habitats. These types of ecosystems are very fragile. Placing a major highway through such diversity of habitats, would be vigorously opposed by the Resource Agencies.

VII. QUALITY OF LIFE

The construction of a major roadway directly impacts the project area. While initial impacts are often measured in terms of transportation enhancements, additional impacts on the local population can be calculated, as well. These other impacts last long beyond the conclusion of project construction.

A. Projected Growth, Development and Economics

Of the alternatives outlined, only the Evangeline Thruway corridor will maintain quality growth through the reduction of uncontrolled sprawl. The Evangeline Thruway corridor will keep commercial development within established commercial areas. As identified in the Draft Environmental Impact Statement for the I-49 Corridor, land use trends within the Evangeline Thruway corridor area point to "residential land uses (are) being displaced by commercial land uses"(Draft EIS, p 3-4). Improvements to traffic movement within this alignment will continue to attract development into the area.

By comparison, the Western Bypass corridor will transverse relatively undeveloped land in western Lafayette Parish. The introduction of the roadway will encourage development away from established commercial and business areas in central and southern Lafayette. The result will be increased expenditures for the investment in infrastructure improvements and basic services, as well as reduction of property value in established areas. Both the Eastern Alignment and the Eastern Bypass will pull commercial development north into established residential areas. The result will be the erosion of these areas through the encroachment of commercial development, increased traffic, congestion, noise and air pollution.

B. Displacements

Of the alternatives outlined, only the Eastern Alignment corridor will remove the least number of residential and commercial structures as a result of corridor and arterial improvement construction. The Eastern Alignment corridor will displace approximately 51 commercial and residential structures through the construction of the alignment, with no loss of structures through the construction of arterials to support the alignment's development. The remaining alternatives, the Western Bypass, Evangeline Thruway and Eastern Bypass, will displace greater numbers of structures.

By comparison, the Western Bypass corridor will displace the greatest number of structures through the development process. Approximately 403 commercial and residential structures will be demolished through the corridor and arterial construction

process. A majority of these structures will be 260 residential dwellings. Of the remaining number, over 90 commercial structures will be removed along Cameron Street, to accommodate as arterial improvements.

Within the Evangeline Thruway corridor, construction will displace approximately 227 commercial and residential structures. However, several of these structures remain unoccupied following business closure or owner vacation. Along the Eastern Bypass corridor, construction will displace approximately 61 commercial and residential structures.

C. Sensitive Land Uses

Of the alternatives outlined, only the Evangeline Thruway corridor will not intrude into agricultural areas, National Register of Historic Places properties, historic neighborhoods, schools, cemeteries or burial grounds, or extensive floodplains. According to the field survey completed as part of the Draft EIS, the proposed corridor alignment will not remove any National Register of Historic Places properties from the Sterling Grove Historic District. The combination of depressed sections and the cut and cover of the roadway through the central area of the corridor alignment will help to eliminate noise, air pollution and congestion associated with the current roadway, as well as a major highway. This proposal will restore the area's integrity by allowing for the creation of a recreational area from an area which contains blight.

By comparison, the Western Bypass corridor will have a negative impact on several agricultural and floodplain areas. According to current land use surveillance, 77% of the land uses impacted will be agricultural. The project's 23 bridges will cross the drainage basin, which feeds into the 100-year floodplain located just north of LA Highway 342 to the intersection with LA Highway 93, south of Vatican. Impacts will include the introduction of significant amounts of untreated runoff from the roadway into the water system and interruptions to natural flow basins of the area, increasing the likelihood of localized flooding.

Both the Eastern Alignment and Eastern Bypass corridors will have a negative impact on the Bayou Tortue Swamp and Vermilion River areas, home to a variety of flora and fauna. Approximately 75% of the proposed Eastern Alignment and 50%-60% of the Eastern Bypass corridor will need to be constructed in a jurisdictional wetland. This construction process will disturb the wetland's integrity, and will also require application for construction permits through the U.S. Army Corps of Engineers, a process that could take as long as three years.

D. Parks and Recreation Areas

Of the alternatives outlined, the Evangeline Thruway corridor will not intrude into established or planned park and recreation areas. The corridor will have a positive impact on efforts to promote Vermilionville, Beaver Park and the Jean Lafitte Center as a tourist destinations. The direct connection will make the transition from Interstate 10 to the area an easier accomplishment. The addition of a plaza through the cut and cover segments will enhance local efforts to increase pedestrian and bicycle traffic through adjacent residential and commercial areas, a need seen by tourists as essential to increase visitation to Lafayette.

While the Eastern Alignment and Eastern Bypass corridors will offer similar impacts on local tourist destinations, their location adjacent to established neighborhood parks and recreation areas (Brown Park and Acadiana Park) will increase through traffic, noise and air pollution in the vicinity. This will remove the safety factor for pedestrian and bicycle movement within the area through at-grade crossings.

By comparison, the Western Bypass corridor will have no impacts on organized, public park and recreation areas. Since most of western Lafayette Parish is devoted to agribusiness, most of the recreation areas are private in nature. However, the roadway's development will expose both the Acadian Village and Zoo of Acadiana to more direct access. Therefore, the impact on these developments from the construction of the Western Bypass could be significant.

E. Cultural Resources

The project study areas encompass a region of Louisiana that has a unique cultural heritage. The Lafayette area offers an abundant mixture of distinctive cultural characteristics that have evolved throughout the millennia. The culmination of environmental, political and social developments within the region has established a cultural milieu in Lafayette that incorporates Native American, European and African cultural attributes. The legacy of this inheritance has resulted in an abundant inventory of cultural resources that include prehistoric and historic archaeological sites, as well as a unique historical architectural record.

A comparative study of the projected project costs for the appropriate level of cultural resources investigations was conducted on each of the alternative freeway corridors. The projected project costs for each of these alternative corridors are based on the scope of the proposed alternative projects and the level of effort required to meet the criteria established by Section 106 of the National Historic Preservation Act (NHPA).

While the original Draft EIS included a preliminary cultural resources investigation of the Evangeline Thruway, the principal investigator of that survey and the State Historic Preservation Office (SHPO) recommended that a more intensive investigation be conducted on several potentially eligible cultural resources within the Evangeline Thruway corridor if they are to be adversely impacted. Should one of the other proposed freeway corridors be selected, it would be subject to a Level I Assessment and Preliminary Field Survey, as defined by the Cultural Resources Code of Louisiana. The following discussion defines the criteria used in the projected cost proposals and subsequently lists the project costs for each of the proposed alternate corridors.

1. **Study Area No. 1: Western Bypass**

   The study area, generally referred to as the Prairie Formation surface that developed during the Late Pleistocene, may be characterized as being of low relief with a myriad of sluggish rank one and rank two drainages separated by low knolls. Previous investigations have identified a broad range of prehistoric occurrences in this terrain beginning with Paleo-Indian base camps, through encampments of Archaic and Woodland ages, and extending into the late Prehistoric and Protohistoric periods. Terrain in the northern portion of the proposed corridor was undoubtedly selected during early historic periods by subsistence farmers and later by plantation agriculturists. However, very little of this terrain has been subjected to systematic intensive survey, since most research has concentrated upon larger drainages of the region.

   In accordance with Division of Archaeology guidelines, the proposed corridor (project area) should be stratified into areas based upon the likelihood or potential for containing an archaeological site. In most terrain, current research recognizes high-, moderate- and low-site potential areas. High potential areas (HPAs) are generally characterized by ready access to water, maximum variability and availability of local resources, and generally well-drained sediments. In the western corridor, HPAs comprise approximately 13,500 meters at various positions along the linear array.

   Based upon site density in similar coastal lowland terrain in Louisiana and Texas, the intensive survey should locate between 35 and 45 archaeological sites following the procedures noted. In addition, each site located will have to be preliminarily delineated (establishment of vertical and horizontal extent), samples must be acquired, and a topographic sketch map produced in an effort to determine potential eligibility for inclusion to the National Register of Historic Places (NRHP). This process, referred to as recording, will require between eight and 15 additional shovel test units at each site.

The Level I cultural resources investigation in the western alignment will also include the historic architecture survey. An evaluation of each property encountered will require archival research, as well as photographic coverage and sketches. A Level II investigation will be required for any site considered to be significant or potentially significant and consequently eligible for inclusion to the NRHP.

Based upon standardized levels of effort, crew sizes and prevailing expenses, it is estimated that the Level I investigations in the Western Bypass corridor, including analysis of data recovered, curation of collections and a technical report of findings will cost between $ 305,000.00 and $ 390,000.00.

It is estimated that between 23 and 29 sites identified and recorded by the intensive Level I survey will require Level II operations. In addition, all historic structures and historic archaeological sites will be fully documented through archival research of both public and private sources as part of the evaluation process. All historic structures will be extensively studied by an architectural historian and complete photographic coverage and scaled drawings of unique structural and construction features will be produced during this phase. It is estimated that due to increased crew size, increased levels of data, and the need to forge these into a viable report with recommendations, the Level II program in the Western Bypass area will cost between $ 415,000.00 and $ 517,000.00.

Total estimated budget outlay for cultural resources investigations in the Western Bypass corridor ranges between $ 1,300,000.00 and $ 2,862,000.00. This figure does not include the moving and relocation costs of any NRHP eligible historic structure, or the costs involved in investigating any historical components that may be associated with such a structure.

2. Study Area No. 2 : Eastern Alignment

The study area cuts eastward across the Pleistocene valley wall and drops into the fossil floodplain of the Bayou Teche, proceeding south crossing the Vermilion River immediately southeast of Lafayette before turning in a southwest direction and returning to the Pleistocene terrace south of Lafayette. The Bayou Teche-Vermilion River floodplain terrain is of Holocene age, and selective areas have been the subject of systematic survey over the years. However, the primary emphasis of most research has been given to the numerous late prehistoric mound complexes along various drainages like the Vermilion River, Bayou Tortue Swamp and Coulee Crow. Indeed, several of these sites are within or in close proximity to the proposed alignment.

A number of prehistoric sites of earlier, Archaic periods have been identified along the edge of the escarpment into the Teche-Vermilion floodplain, and several Paleo-Indian tools have been reported from these settings, as well. In the floodplain area itself, numerous village sites have been recorded that date between 2000 B.C. and A.D. 1200. In addition, the Bayou Teche area was a focal point of early historic settlement by both French and Spanish speakers, with numerous historic sites known and reported in the literature. Based upon known prehistoric site density and distributions, as well as the potential for historic sites, it is estimated that between 28 and 36 sites will be located within the proposed alignment.

The Level I intensive survey and recording operations in the Eastern Alignment corridor are estimated to cost between $250,000.00 and $375,000.00. This figure includes an analysis of all data recovered, curation of collections and a technical report of findings with recommendations.

It is determined that between 18 and 23 sites identified and recorded by the Level I project will require a Level II investigation. In addition, all historic structures and historical archaeological sites will require increased levels of documentation using both public and private archival sources. Historic structures will require extensive study by an architectural historian, who will also be responsible for complete photographic coverage of a site. Scaled drawings of unique construction and structural features will also be undertaken as part of the evaluation process. Some of the known prehistoric components include large complex sites that will require an increased level of effort to gather data for evaluation and to produce an accurate topographic map. The Level II program, which includes fieldwork, data analyses, cataloguing and curation of materials, and production of an integrated report with recommendations for prehistoric and historic sites, as well as historic architecture components in the corridor, will cost an estimated $ 425,000.00 to $ 500,000.00.

Although the incidence of tested and evaluated sites reported elsewhere that are ultimately considered eligible for inclusion to the NRHP are generally used to estimate the frequency of sites that will be subjected to Level III investigations, the Eastern Alignment corridor area falls outside that general pattern due to the potential for significant prehistoric and historic sites. As in all Level III projects, the intensity and level of effort will depend upon the degree of projected impact. In complex sites that are multi-component or contain large numbers of cultural features, special samples or burials, the project may become very labor intensive. The best maximum cost estimate for this alternate, which is based on some Level III effort at between six and 10 sites, including existing significant structures, has been calculated at between $ 1,200,000.00 and $ 2,600,000.00.

The total estimated budget outlay for cultural resources investigations in the Eastern Alignment corridor ranges between $ 1,875,000.00 and $ 3,475,000.00. This figure does not include the moving and relocation expenses of any NRHP eligible historic structures or the costs involved in investigating any historic components that may be associated with such a structure.

3. Study Area No. 3: Evangeline Thruway

This study area corresponds to the initial Interstate 49 Connector project. While the Draft Environmental Impact Statement incorporated a preliminary Level I cultural resources investigation, the State Historic Preservation Office (SHPO) recommended a more intensive investigation be conducted at two potentially eligible historic archaeological sites and at four standing structures determined to be eligible for inclusion to the National Register. Although the exact freeway corridor for this alignment has not been determined, should any of the corridors adversely impact these sites and properties, a Level II investigation has been recommended. While the home site of Alexander Mouton, Ile Copale, may be contained within the school grounds of LeRosen School, the Civil War Bivouac Area may extend well to the west of that area and should be considered for further intensive investigation. During the construction phase of the project, especially the submerged option, an archaeological monitoring program conducted throughout the expanse of the freeway corridor would provide sufficient data recovery opportunities in order to dispel the quandary of missing links in the historical record of habitation in the Lafayette area that has so dismayed local researchers.

The initial objective for Ile Copale and the Civil War Bivouac Area will be to develop a Level II intensive testing program for definitive evaluation. Test excavations would require a thorough research design that includes archival documentation and analysis of special samples that may be recovered, including floral and faunal. Should substantial in place deposits be located and the site be determined eligible for the NRHP, a Level III data recovery program will be developed in close consultation with the Louisiana Historic Preservation Office.

In addition, the historic archaeologist investigating the corridor recommended that once the structures have been removed, an intensive investigation be undertaken to locate the archaeological remains of earlier historic occupations. This undertaking would be facilitated by scraping away the upper 10cm of matrix and searching for buried features such as privies, wall trenches, trash pits and middens associated with early settlement of the area. All historic archaeological sites located would have to be fully documented through archival research from public and private sources. The budgetary outlay anticipated for the Level II and potential Level III cultural resources programs in the Evangeline Thruway corridor is

estimated at $ 700,000.00. This expense does not include any moving or relocation costs of structures that were determined significant or potentially significant by the Louisiana Historic Preservation Office following the earlier investigation.

4. Study Area No. 4: Eastern Bypass

This study area moves eastward north of Lafayette on the Pleistocene terrace and drops into the fossil Teche-Vermilion floodplain before turning south and southwest around Lafayette to re-enter the U.S. Highway 167 corridor near the terrace edge. The transect crosses the Vermilion River on three occasions, as well as bisecting numerous distributaries. The southern portion of this alignment follows that of the Eastern Alignment.

The Level I intensive survey and recording program in the Eastern Bypass are estimated to cost between $ 285,000.00 and $ 325,000.00. This projected cost includes all field, laboratory and report production expenses, as well as recommendations.

It is estimated that between 18 and 23 of the occurrences identified during the Level I investigation will require additional study through a Level II testing and evaluation program. All historic structures, as well as historic archaeological sites, will require increased levels of documentation using both public and private sources. Historic structures will require photographic coverage and analysis by an architectural historian, and all unique structural or construction features must be documented through scaled drawings. An accurate topographic map will be produced for all archaeological resources investigated during the Level II program. The Level II program in the Eastern Bypass corridor will cost an estimated $ 289,000.00 to $ 410,000.00. This cost includes all fieldwork, data analyses, cataloguing and curation of materials, and production of an integrated report of findings with recommendations.

As with the Eastern Alignment, the likelihood that some of the cultural resources encountered in the Eastern Bypass corridor may include large, complex prehistoric sites or a complex historic site is considered high to very high. It is estimated that most or large portions of between three and five cultural resources considered eligible for inclusion to the NRHP will be impacted by the proposed activity and

CULTURAL RESOURCES

Lafayette Parish, Louisiana

LEGEND:

- Western Bypass
- Eastern Alignment
- Evangeline Thruway
- Eastern Bypass
- Airport
- Arterials
- Railroads
- Collectors
- Interstates
- Parish Boundary
- Vermilion Bayou
- Cultural Resource
- High Potential Area

Lafayette Areawide Planning Commission

August 1, 1993

NORTH:

SCALE: (miles)

0 1

require some Level III data recovery program. Again, as in the Eastern Alignment corridor, the intensity and level of effort will depend on the degree of impact and the complexity of the sites effected. The best maximum cost estimate for this alternate ranges between $700,000.00 and $1.5 million.

The total estimated budget outlay for cultural resources investigations in the Eastern Bypass corridor ranges between $1,194,000.00 and $2,235,000.00. This figure does not include the moving and relocation expenses of any NRHP eligible historic structure or the costs involved in investigating any historic components that may be associated with such structures.

F. Aesthetics and Revitalization

Of the alternatives outlined, only the Evangeline Thruway corridor will have a positive impact on efforts to revitalize central Lafayette. One of the components outlined in the Downtown Development Authority's long-range plan is the need to link central Lafayette to the proposed connector. The Evangeline Thruway corridor's depressed, and cut and cover segments will provide a link between Lafayette's northern residential areas and the central business area. This enhancement will bring a needed boost to the area, encouraging investment and revitalization.

By comparison, the Eastern Bypass and Eastern Alignment corridors will have negative impacts on efforts to revitalize central Lafayette. These corridors will contribute to increased urban sprawl, which works at cross purposes to renewal efforts. These corridors will cross large residential areas in northern Lafayette. Proposed elevated and at-grade sections would introduce noise, high-speed traffic, and air pollution to the area, thereby reducing the quality of life.

Likewise, the Western Bypass corridor will have a negative impact on the ability to redevelop central Lafayette. Construction of the roadway will pull development to the West, increasing the sprawl of urbanization and the problems associated with unchecked development.

VIII. PUBLIC SAFETY

Using the TRANPLAN model for the update of Lafayette Metropolitan Area Transportation Study (LMATS), the alternate north-south corridors were evaluated independent of each other to assess impact on the street and highway network. The Base Year (1990) Network was used to study the 1990 trips and the Existing plus Committed (E+C) Network was used to study the year 2012 trips. The trip generation for the year 2012 is based on the growth forecast in LMATS.

A. TRAFFIC VOLUMES: 1990 BASE YEAR

The 1990 Base Year can be assumed as a "no-build" scenario with 613,439 total vehicle trips and would generally consist of the Evangeline Thruway continuing to operate as it does now, with few capacity or operational improvements. Localized projects aimed at particularly troublesome areas, such as turning lanes, new signalized intersections, etc., could evolve over time. Included in this scenario is the addition of a third lane on the Evangeline Thruway in each direction between Dolon Road and I-10.

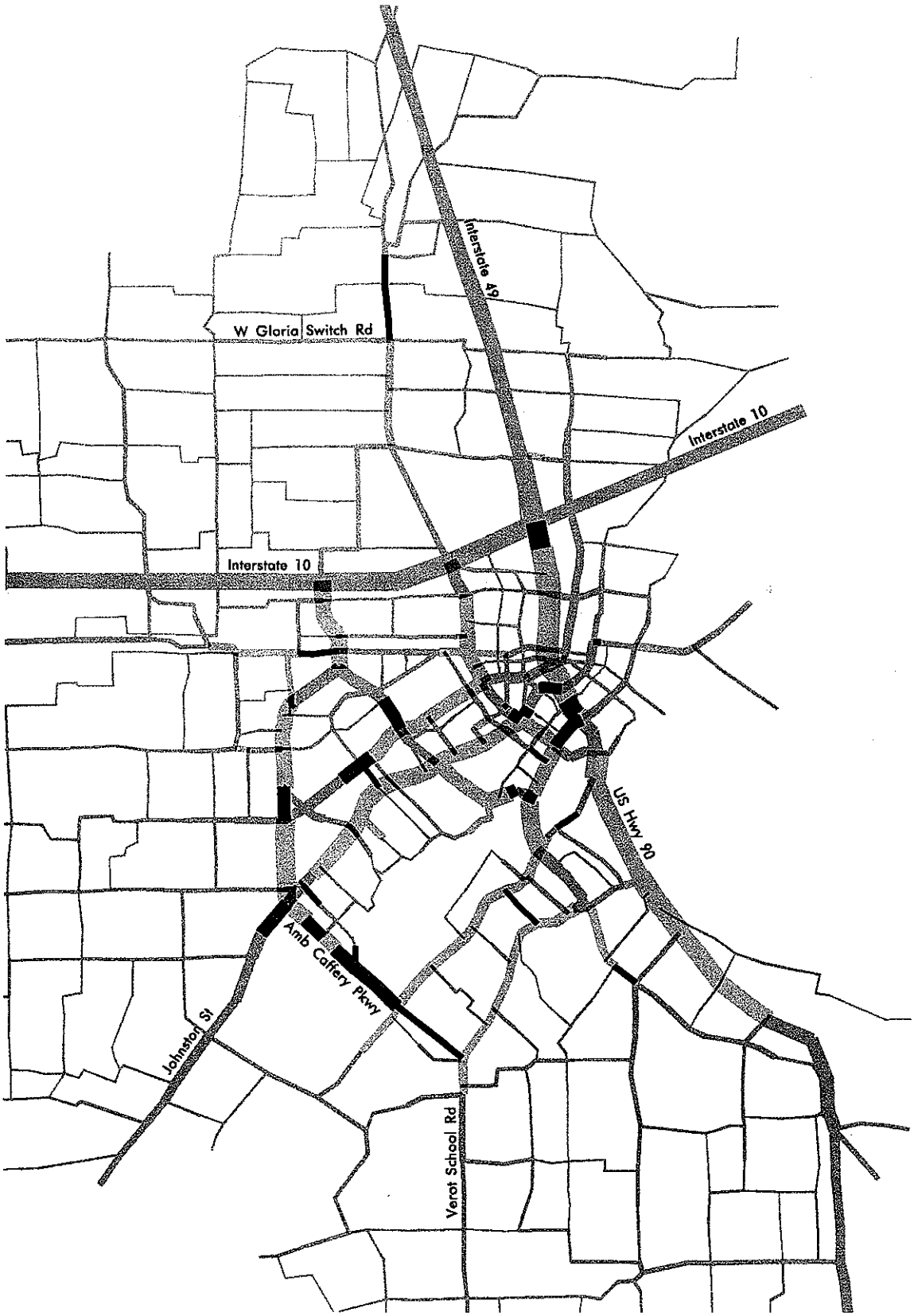
Table T-15
1990 BASE YEAR TRAFFIC VOLUMES
(in thousands)

LOCATION	BASE NETWORK
New Freeway	N/A
Ambassador Caffrey Parkway	
S of I-10	35
Congress St	39
Johnston St	34
Vermilion River	26
Verot School Rd	11
South College Rd	
Johnston St	26
Coolidge Blvd	33
University Ave	
Johnston St	28
Evangeline Thruway	18
Pinhook Rd	
Vermilion River	35
Evangeline Thwy	
N of I-10	40
S of I-10	40
S of Willow St	49
Johnston St	44
Vermilion River	25
University Ave	44

The 1990 Base Map depicts the existing network with vehicle miles traveled at 3,402,877. This network shows traffic volumes on Ambassador Caffery Parkway south of Interstate 10 with a near capacity of 35,000 trips. Trip volumes on Ambassador Caffery Parkway from the Vermilion River to Verot School Road indicate maximum capacity. Johnston Street, Kaliste Saloom Road, Pinhook Road, and Verot School Road are all at or near capacity. Evangeline Thruway south of Interstate 10 is also at or near capacity with one exception near the Vermilion River.

1990 NETWORK TRAFFIC VOLUME/CAPACITY RATIO MAP

Lafayette Parish, Louisiana



PERCENT CAPACITY:

- 0 – 89%
- 89% – 99%
- Above 100%

TRAFFIC VOLUME

25,000 50,000

(vehicles per day)

Lafayette Areawide Planning Commission

August 1, 1993

NORTH:

SCALE: (miles)

0 0.25 0.5

Total vehicle trips for the 1990 Base Year is 613,439 with the average trip length at 8.95 minutes. The network vehicle hours traveled is 79,813 at an average speed of 42.6 miles per hour with the volume to capacity ratio of 41%.

B. TRAFFIC VOLUMES: 2012 BASE YEAR

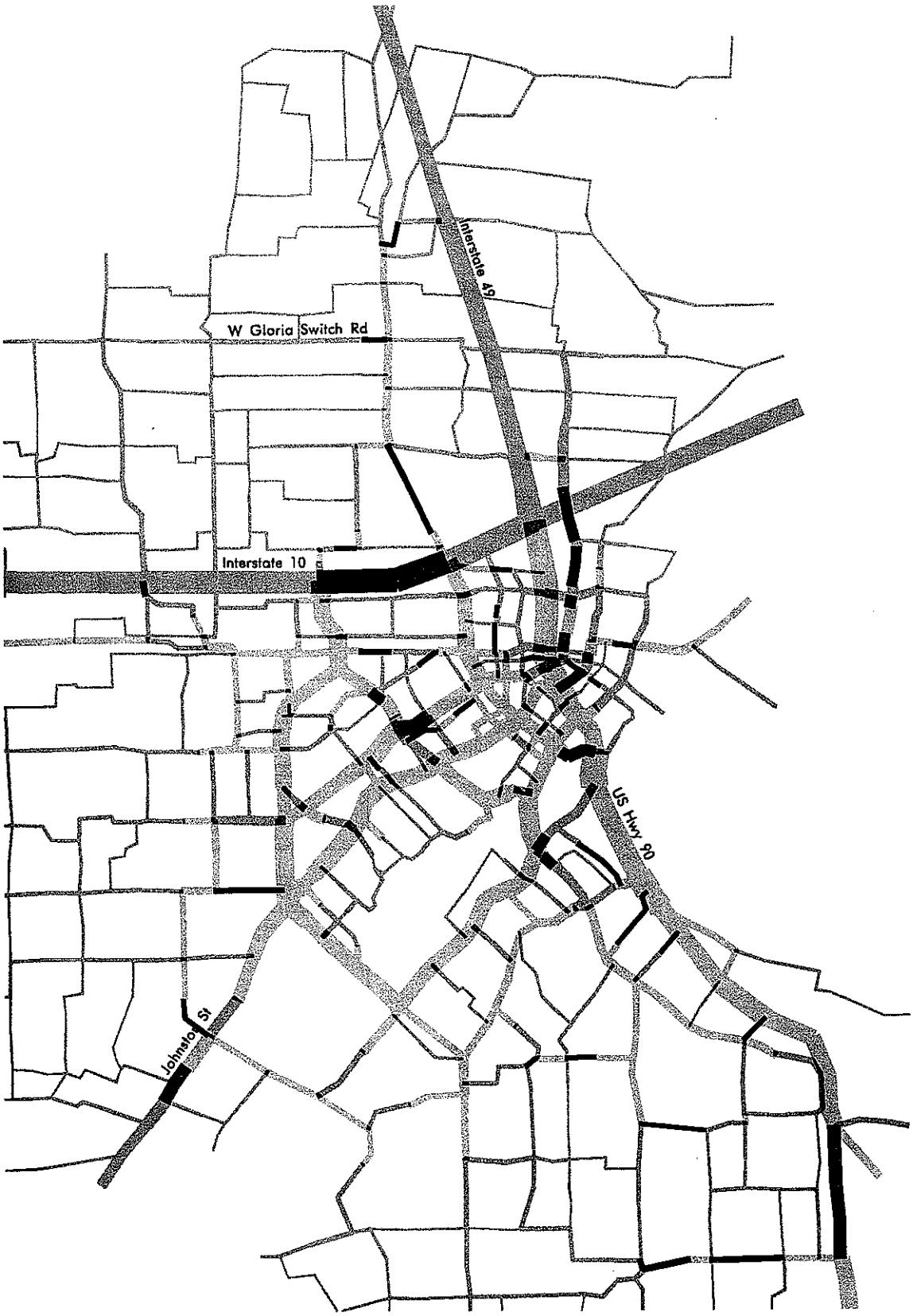
The 2012 Base Year can also be assumed as a "no-build" scenario with 888,051 total vehicle trips per year and would add 11 committed roadway improvements to the existing planned improvements. These committed roadway improvements include four-lane extension of the Cajundome Boulevard; intersection improvements on Cameron Street at South Pierce; intersection improvements on Congress Street at Bertrand Street; roadway realignment on East Bayou Parkway and Feu Follet Road; roadway widening on Kaliste Saloom Road; roadway widening on LA 3095; intersection improvement on Moss Street at Alexander Street and at Mudd Avenue; roadway widening on Surrey Street; roadway realignment on Verot School Road and A. Comeaux Road; and roadway widening on W. Congress Street. The 2012 Base Map depicts the network with 5,358,340 vehicle miles traveled and a volume to capacity ratio of 162%. The average travel time for the corridor is 21.0 minutes at an average speed of 15 miles per hour. The network vehicle hours traveled is 147,886.

Table T-16
2012 TRAFFIC VOLUMES
(in thousands)

LOCATION	BASE NETWORK
New Freeway	N/A
Ambassador Caffrey Parkway	
S of I-10	47
Congress St	46
Johnston St	45
Vermilion River	38
Verot School Rd	14
South College Rd	
Johnston St	32
Coolidge Blvd	43
University Ave	
Johnston St	34
Evangeline Thruway	28
Pinhook Rd	
Vermilion River	49
Evangeline Thwy	
N of I-10	55
S of I-10	56
S of Willow St	62
Johnston St	56
Vermilion River	41
University Ave	67

2012 E+C NETWORK TRAFFIC VOLUME/CAPACITY RATIO MAP

Lafayette Parish, Louisiana



PERCENT CAPACITY:

- 0 – 89%
- 89% – 99%
- Above 100%

TRAFFIC VOLUME

25,000 50,000
(vehicles per day)

Lafayette Areawide Planning Commission

August 1, 1993

NORTH:

SCALE: (miles)

0 0.25 0.5

C. CORRIDOR ALTERNATIVES

For each evaluation, the corridor alternative is the only improvement added to the original network. Each alternative is assumed to be a four-lane freeway facility. The Western Bypass and the Eastern Bypass are assumed to have posted speeds of 65 mph; The Eastern Alignment will have a posted speed of 55 mph; and the Evangeline Thruway will have a posted speed of 50 mph. The assignment of trips to each network resulted in 24-hour volumes at various locations through Lafayette Parish.

1. TRAFFIC VOLUMES: WESTERN BYPASS - 1990

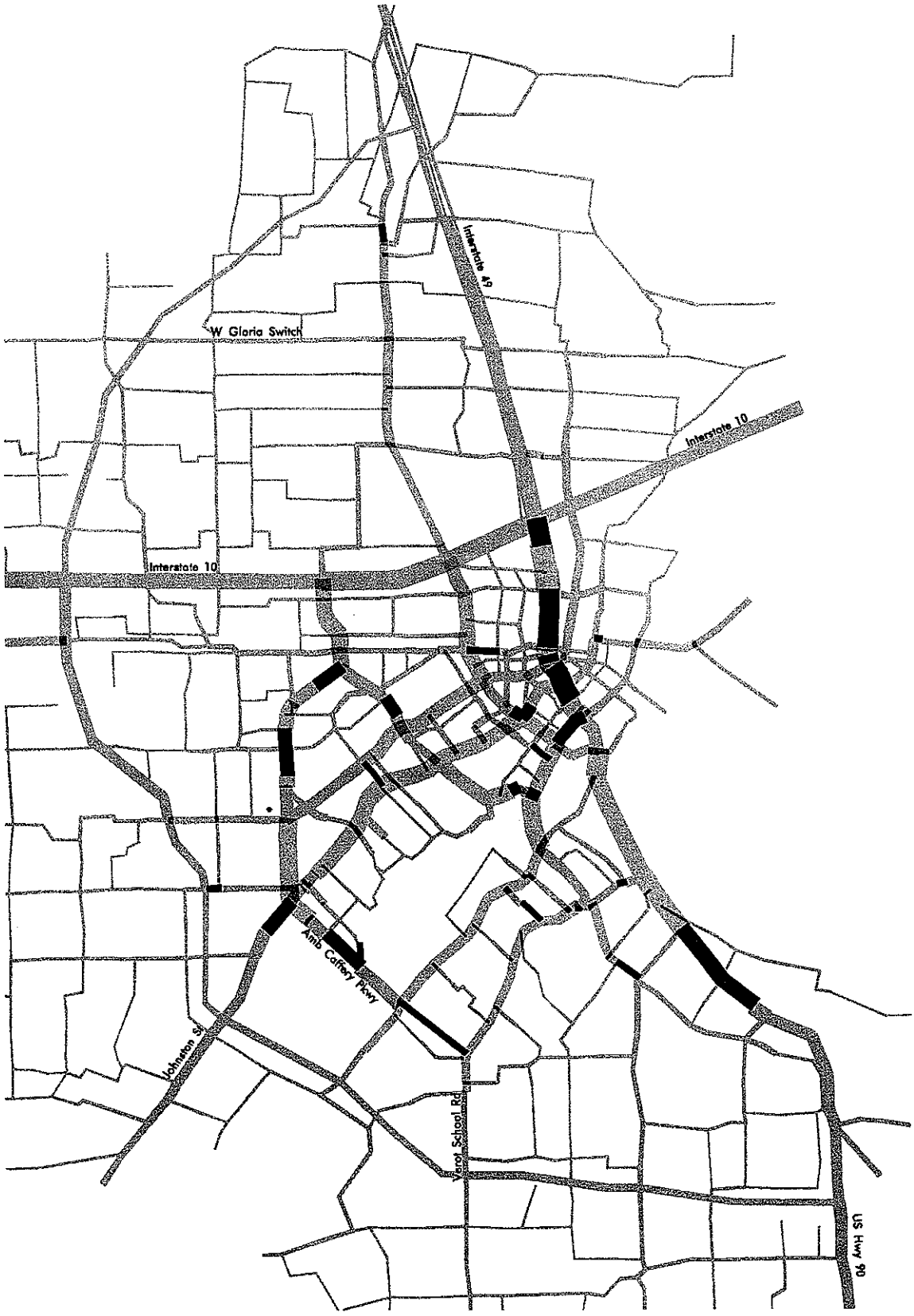
The assumption for the Western Bypass is a total length of 25.8 miles, and a total vehicle trip assignment of 613,439 and a network vehicle miles traveled figure of 3,426,210. This alternative has an average travel time of 23.81 minutes and with 78,176 network vehicle hours traveled at an average speed of 65 miles per hour, the Western Bypass does not seem to significantly change anything along the Evangeline Thruway. The traffic volumes are very low on the section of freeway north of Interstate 10. On the southern portion of the roadway, the volume is increased but does not alleviate congested traffic flow to any great extent at any point in Lafayette Parish.

Table T-17
1990 TRAFFIC VOLUMES
(in thousands)

LOCATION	Western Bypass	VOL
New Freeway	Carencro	3
	N of I-10	9
	S of I-10	21
	Vermilion River	12
	US 90	11
Ambassador Caffrey Parkway		
S of I-10		31
Congress St		36
Johnston St		32
Vermilion River		23
Verot School Rd		11
South College Rd		
Johnston St		25
Coolidge Blvd		32
University Ave		
Johnston St		27
Evangeline Thwy		16
Pinhook Rd		
Vermilion River		34
Evangeline Thwy		
N of I-10		32
S of I-10		40
S of Willow St		49
Johnston St		41
Vermilion River		24
University Ave		40

TRAFFIC VOLUMES: 1990 WESTERN BYPASS MAP

Lafayette Parish, Louisiana



PERCENT CAPACITY:

- 0 - 89%
- 90% - 99%
- Above 100%

TRAFFIC VOLUME

25,000 50,000
(vehicles per day)

Lafayette Areawide Planning Commission

August 1, 1993

NORTH:

SCALE: (miles)

0 0.25 0.5

2. TRAFFIC VOLUMES: WESTERN BYPASS - 2012

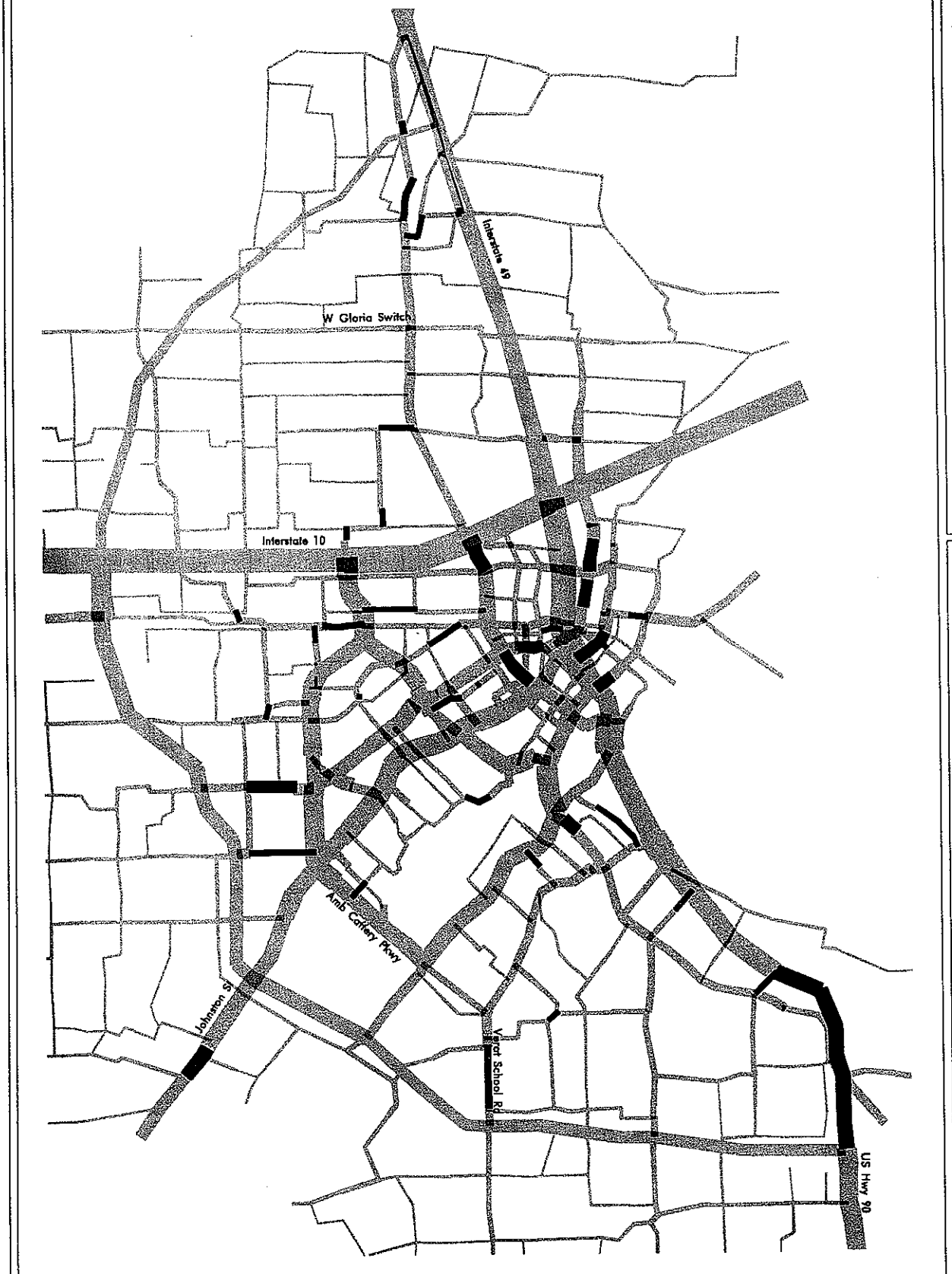
The assumption for the Western Bypass is a facility length of 25.8 miles with total vehicle trip assignment of 888,051 and a network vehicle miles traveled figure of 5,439,614. This alternative has an average travel time of 26.23 minutes with 137,810 network vehicle hours traveled at an average speed of 59 miles per hour. This alternative does not significantly change any congestion along the Evangeline Thruway. The traffic volumes are very low on the section of freeway north of Interstate 10. On the southern portion, the volume is increased but does not alleviate the trouble traffic flow to any great extent at any point in Lafayette Parish.

Table T-18
2012 TRAFFIC VOLUMES
(in thousands)

LOCATION	Western Bypass	VOL
New Freeway	Carencro	8
	N of I-10	18
	S of I-10	39
	Vermilion River	30
	US 90	23
Ambassador Caffrey Parkway		
S of I-10		45
Congress St		42
Johnston St		41
Vermilion River		30
Verot School Rd		11
South College Rd		
Johnston St		30
Coolidge Blvd		41
University Ave		
Johnston St		29
Evangeline Thwy		23
Pinhook Rd		
Vermilion River		45
Evangeline Thwy		
N of I-10		46
S of I-10		55
S of Willow St		59
Johnston St		52
Vermilion River		39
University Ave		61

TRAFFIC VOLUMES: 2012 WESTERN BYPASS MAP

Lafayette Parish, Louisiana



PERCENT CAPACITY:

- 0 - 89%
- 90% - 99%
- Above 100%

TRAFFIC VOLUME

25,000 50,000
(vehicles per day)

Lafayette Areawide Planning Commission

August 1, 1993

NORTH:

SCALE: (miles)

0 0.25 0.5

3. TRAFFIC VOLUMES: EASTERN ALIGNMENT - 1990

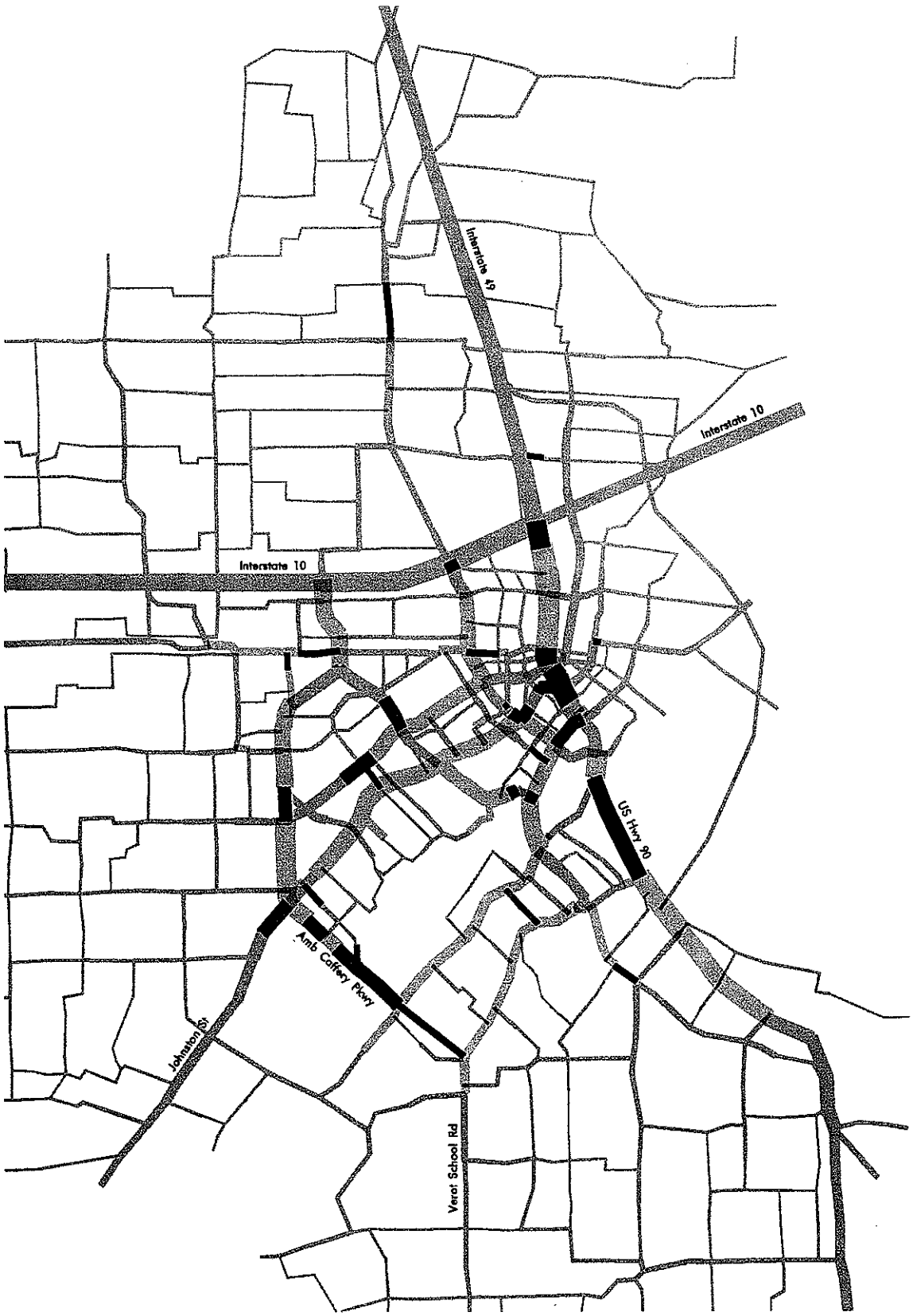
The assumption for the Eastern Alignment is a total length of 10.4 miles and a total network vehicle miles traveled figure of 3,400,725. This alternative has an average travel time of 12.4 minutes with 79,259 network vehicle hours traveled at an average speed of 55 miles per hour. This network shows no traffic volume changes on Ambassador Caffery Parkway, South College Road, University Avenue, or Pinhook Road. There are no significant changes in volume along the Evangeline Thruway. Traffic volumes north and south on the Eastern Alignment are extremely low.

Table T-19
1990 TRAFFIC VOLUMES
(in thousands)

LOCATION	Eastern Alignment	VOL
New Freeway	North	6
	South	3
Ambassador Caffrey Parkway		
S of I-10		35
Congress St		39
Johnston St		34
Vermilion River		26
Verot School Rd		11
South College Rd		
Johnston St		36
Coolidge Blvd		33
University Ave		
Johnston St		28
Evangeline Thwy		18
Pinhook Rd		
Vermilion River		35
Evangeline Thwy		
N of I-10		36
S of I-10		39
S of Willow St		49
Johnston St		42
Vermilion River		23
University Ave		41

TRAFFIC VOLUMES: 1990 EASTERN ALIGNMENT MAP

Lafayette Parish, Louisiana



PERCENT CAPACITY:

- 0 - 89%
- 90% - 99%
- Above 100%

TRAFFIC VOLUME

25,000 50,000

(vehicles per day)

Lafayette Areawide Planning Commission

August 1, 1993

NORTH:

SCALE: (miles)

0 0.2 0.4

4. TRAFFIC VOLUMES: EASTERN ALIGNMENT - 2012

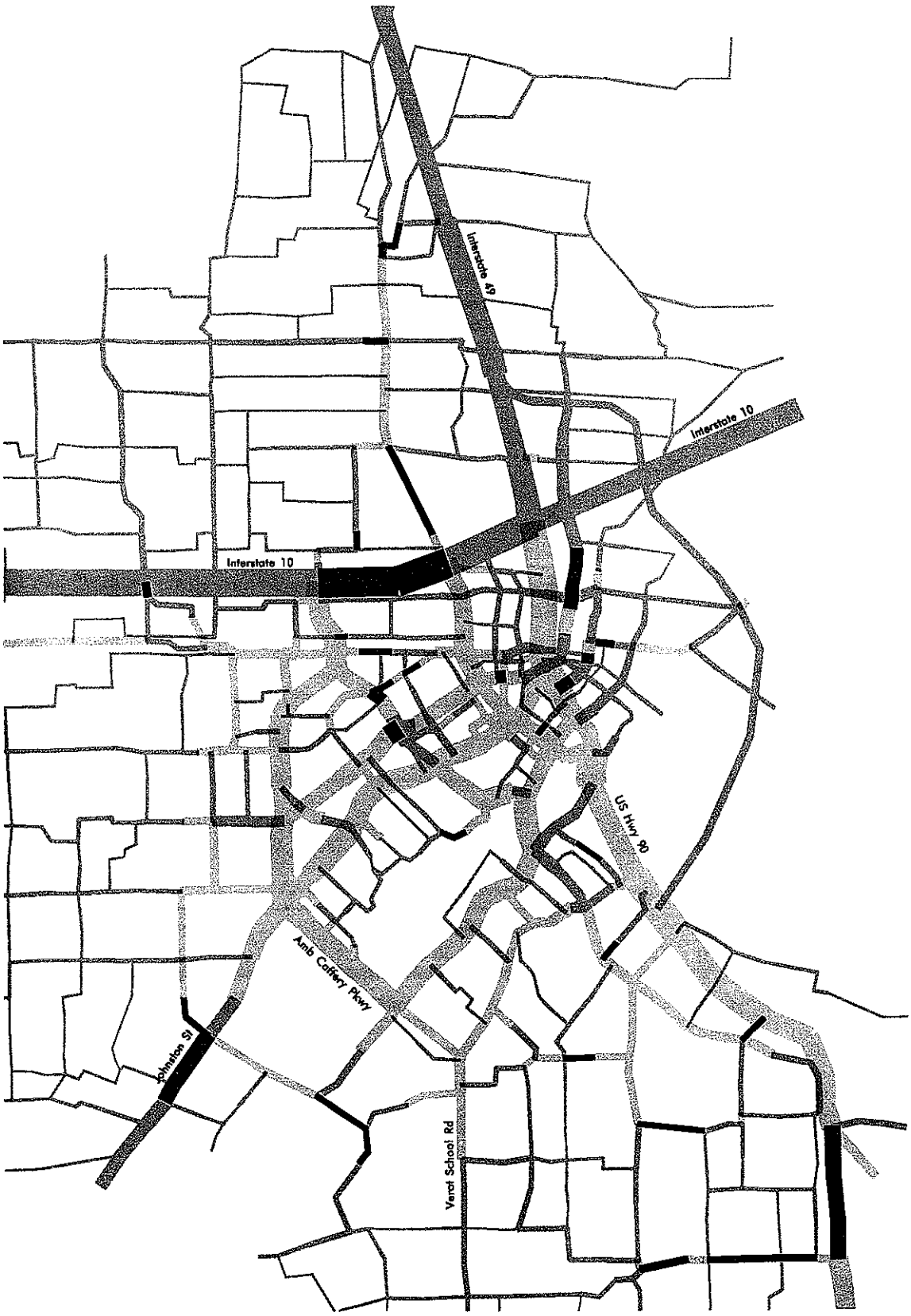
The assumption for the Eastern Alignment is a total length of 10.4 miles and a total network vehicle miles figure of 5,369,066. This alternative has an average travel time of 12.4 minutes with 144,044 network vehicle hours traveled at an average speed of 55 miles per hour. This alternative does not significantly change any congestion within Lafayette Parish. The traffic volumes are low on the new freeway both north and south.

Table T-20
2012 TRAFFIC VOLUMES
(in thousands)

LOCATION	Eastern Alignment	VOL
New Freeway	North	13
	South	12
Ambassador		
Caffrey Parkway		
S of I-10		47
Congress St		44
Johnston St		43
Vermilion River		38
Verot School Rd		14
South College Rd		
Johnston St		32
Coolidge Blvd		43
University Ave		
Johnston St		33
Evangeline Thwy		28
Pinhook Rd		
Vermilion River		47
Evangeline Thwy		
N of I-10		49
S of I-10		52
S of Willow St		57
Johnston St		51
Vermilion River		32
University Ave		61

TRAFFIC VOLUMES: 2012 EASTERN ALIGNMENT MAP

Lafayette Parish, Louisiana



PERCENT CAPACITY:

- 0 - 89%
- 90% - 99%
- Above 100%

TRAFFIC VOLUME

25,000 50,000

(vehicles per day)

Lafayette Areawide Planning Commission

August 1, 1993

NORTH:

SCALE: (miles)

0 0.2 0.4

5. TRAFFIC VOLUMES: EVANGELINE THRUWAY - 1990

The assumption for the Evangeline Thruway is a total length of 5.36 miles in length and a total network vehicle miles figure of 3,413,644. This alternative has an average travel time of 6.43 minutes at an average speed of 50 miles per hour. The network volume to capacity ratio (V/C) is .171. This network shows travel onto and along the Evangeline Thruway to be greatly improved as shown by the following chart.

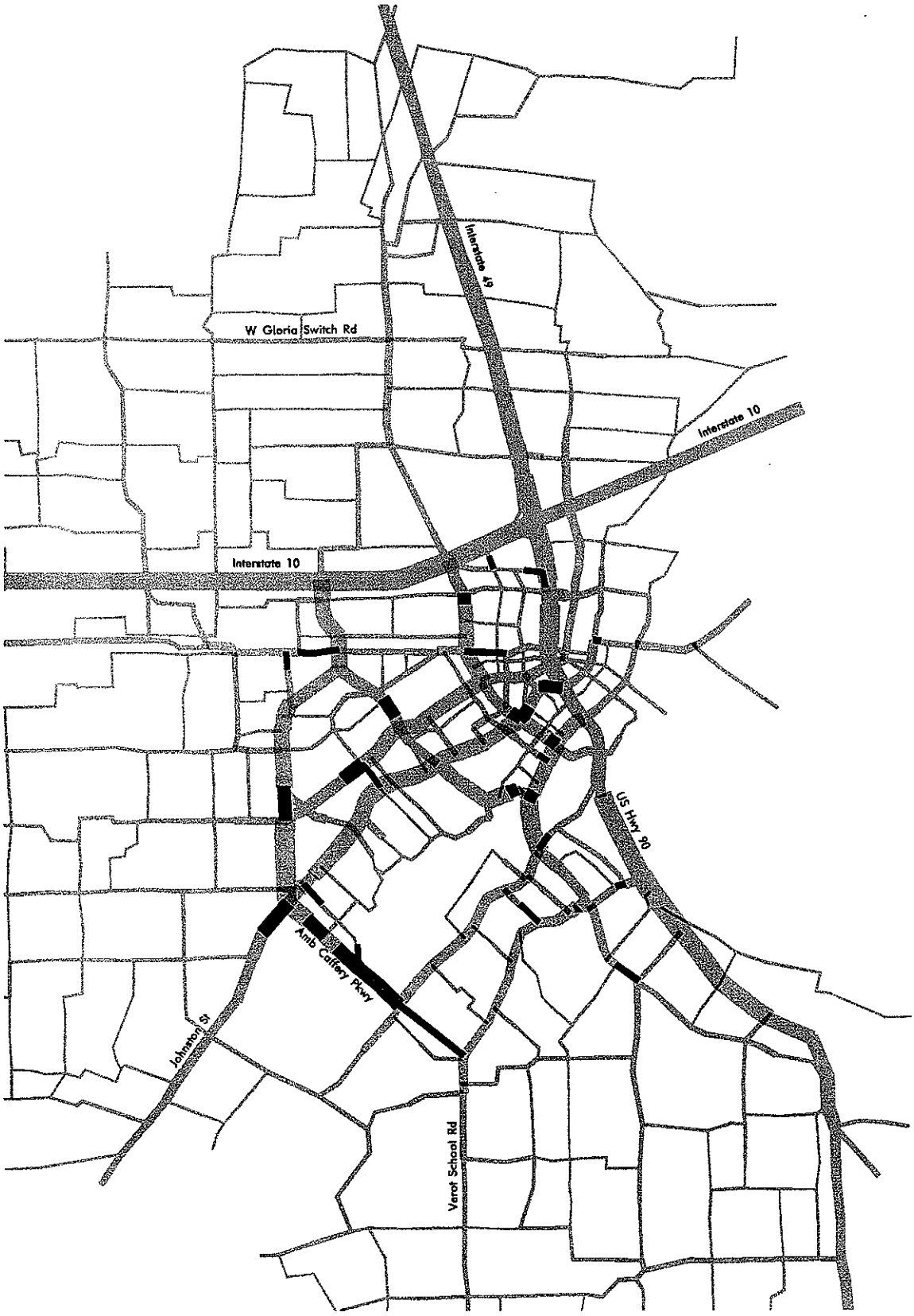
Table T-21
1990 TRAFFIC VOLUMES
(in thousands)

LOCATION	Evangeline Thruway	VOL
Evangeline Thwy		
N of I-10	N of I-10	38
S of I-10	S of I-10	38
	Frontage Road	17
S of Willow St	S of Willow	38
	Frontage Road	13
Johnston Street	Johnston St	32
	Frontage Road	17
Vermilion River	Vermilion River	23
	Frontage Road	6
University Ave	University Ave	19
	Frontage Road	26
Ambassador Caffrey Parkway		
S of I-10		32
Congress St		39
Johnston St		34
Vermilion River		25
Verot School Rd		11
South College Rd		
Johnston St		26
Coolidge Blvd		33
University Ave		
Johnston St		27
Evangeline Thwy		15
Pinhook Rd		
Vermilion River		35

* 2.44 miles of frontage roads are proposed from I-10 north to Gloria Switch Road for a total of 7.8 miles of new facility in Alternative No. 3

TRAFFIC VOLUMES: 1990 EVANGELINE THRUWAY MAP

Lafayette Parish, Louisiana



PERCENT CAPACITY:

- 0 – 89%
- 89% – 99%
- Above 100%

TRAFFIC VOLUME

25,000 50,000

(vehicles per day)

Lafayette Areawide Planning Commission

August 1, 1993

NORTH:

SCALE: (miles)

0 0.2 0.4

6. TRAFFIC VOLUMES: EVANGELINE THRUWAY - 2012

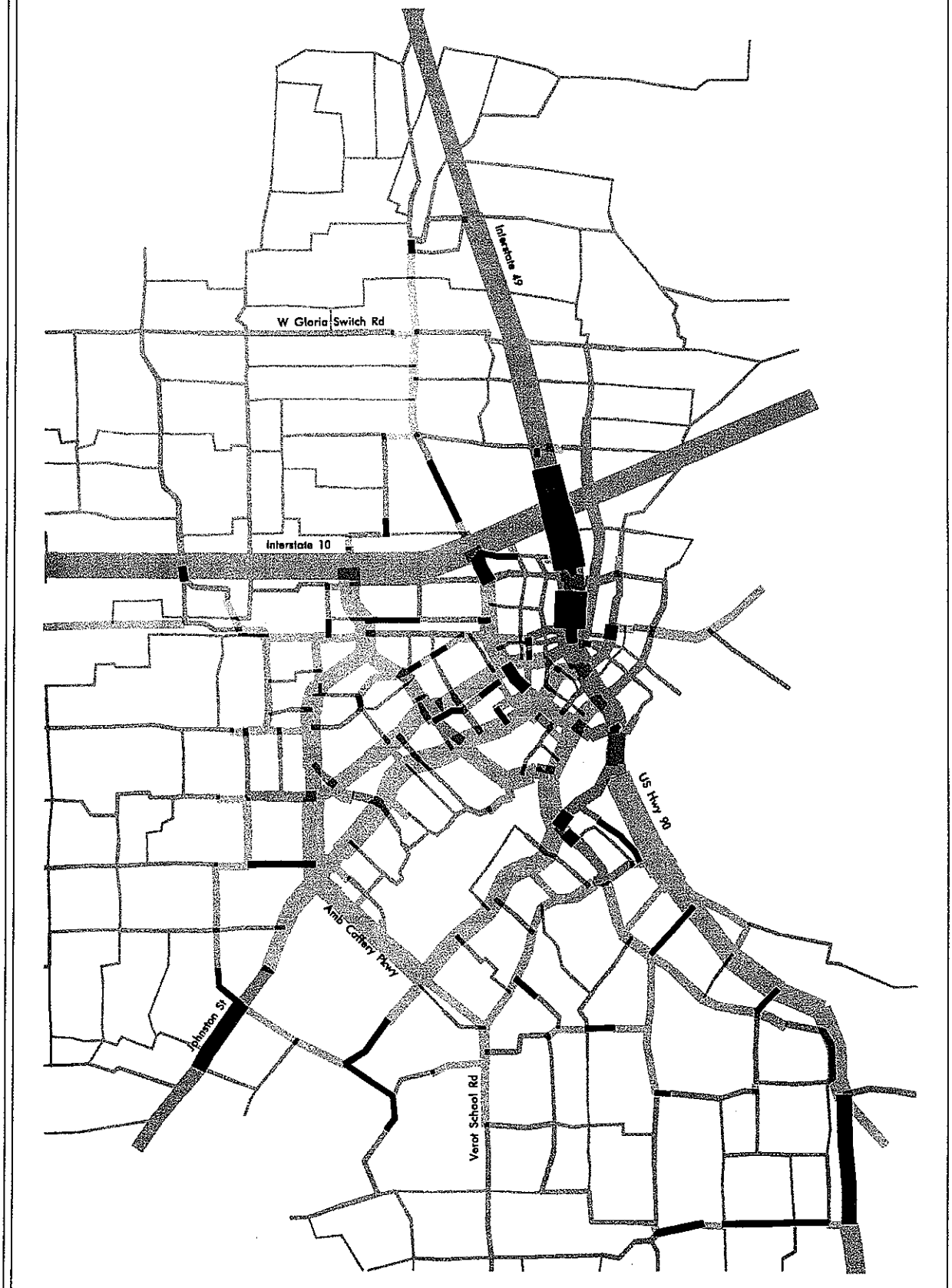
The assumption for the 2012 Evangeline Thruway is a total length of 5.36 miles and a total network vehicle miles figure of 5,380,040. This alternative has an average travel time of 6.43 minutes at 50 miles per hour. The network volume to capacity ratio (V/C) is .171. The following chart shows travel figures for the 2012 existing plus committed (E + C) volume. As demonstrated in the chart, the improvements on the Thruway accommodate an increase in through and local traffic.

Table T-22
2012 TRAFFIC VOLUMES
(in thousands)

LOCATION	Evangeline Thruway	VOL
Evangeline Thwy		
N of I-10	N of I-10	62
S of I-10	S of I-10	68
	Frontage Road	21
S of Willow St	S of Willow	67
	Frontage Road	16
Johnston Street	Johnston St	42
	Frontage Road	35
Vermilion River	Vermilion River	43
	Frontage Road	10
University Ave	University Ave	33
	Frontage Road	43
Ambassador Caffrey Parkway		
S of I-10		45
Congress St		45
Johnston St		44
Vermilion River		38
Verot School Rd		14
South College Rd		
Johnston St		31
Coolidge Blvd		42
University Ave		
Johnston St		30
Evangeline Thwy		25
Pinhook Rd		
Vermilion River		46

TRAFFIC VOLUMES: 2012 EVANGELINE THRUWAY MAP

Lafayette Parish, Louisiana



PERCENT CAPACITY:

- 0 - 89%
- 89% - 99%
- Above 100%

TRAFFIC VOLUME

25,000 50,000

(vehicles per day)

Lafayette Areawide Planning Commission

August 1, 1993

NORTH:

SCALE: (miles)

0 0.2 0.4

7. TRAFFIC VOLUMES: EASTERN BYPASS - 1990

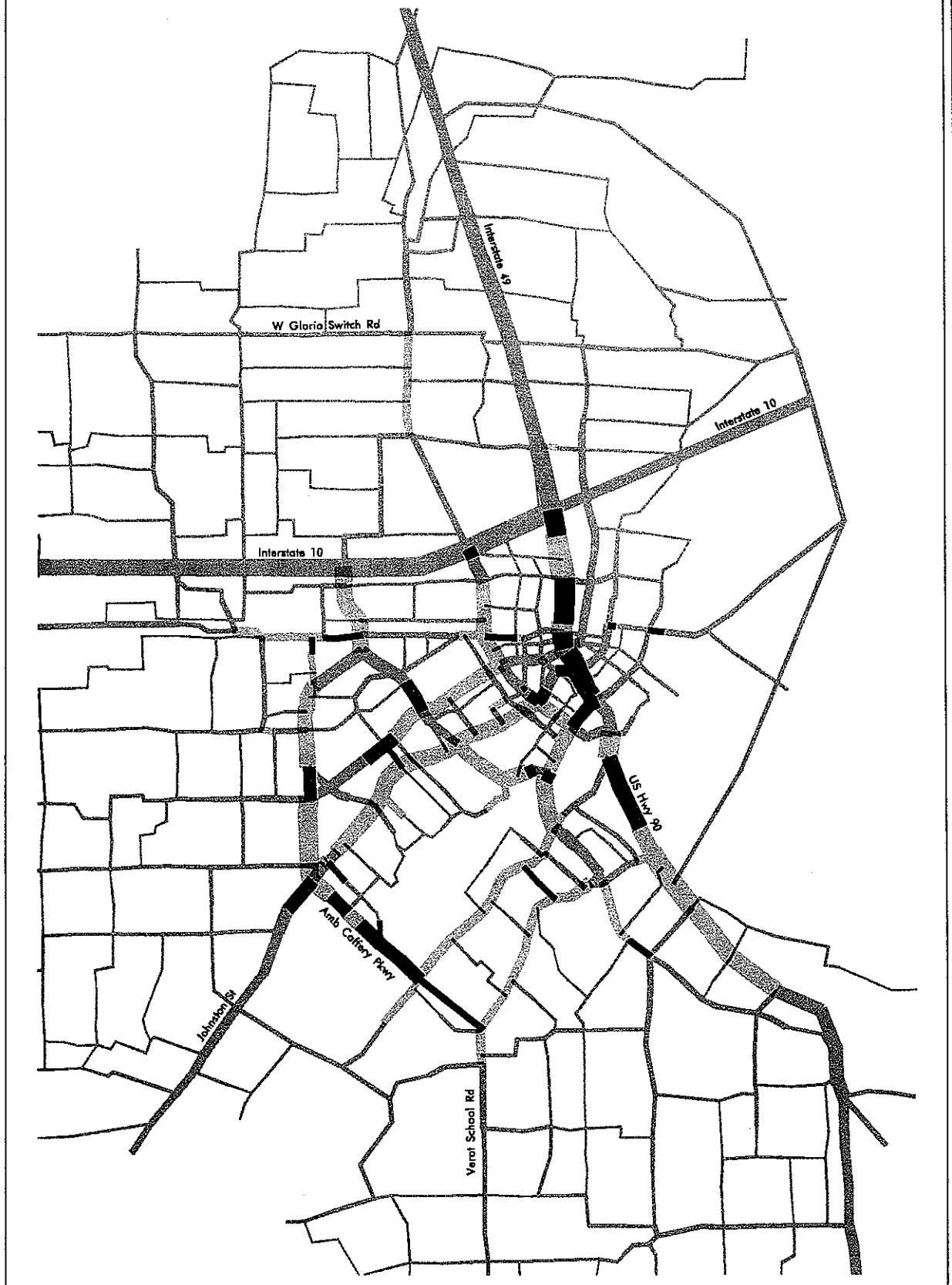
The assumption for the Eastern Bypass is a total length of 16 miles and a total network vehicle trip miles figure of 3,420,154. This alternative has an average travel time of 15.28 minutes at an average speed of 65 mph. There are no significant changes in volume along Ambassador Caffery Parkway, South College Road, University Avenue, or Pinhook Road. Traffic volumes along Evangeline Thruway remain relatively unaffected.

Table T-23
1990 TRAFFIC VOLUMES
(in thousands)

LOCATION	Eastern Bypass	VOL
New Freeway	North	4
	I-10	7
	South	5
Ambassador Caffrey Parkway		
S of I-10		36
Congress St		39
Johnston St		34
Vermilion River		26
Verot School Rd		12
South College Rd		
Johnston St		26
Coolidge Blvd		33
University Ave		
Johnston St		28
Evangeline Thwy		18
Pinhook Rd		
Vermilion River		35
Evangeline Thwy		
N of I-10		37
S of I-10		39
S of Willow St		49
Johnston St		41
Vermilion River		23
University Ave		41

TRAFFIC VOLUMES: 1990 EASTERN BYPASS MAP

Lafayette Parish, Louisiana



PERCENT CAPACITY:

- 0 – 89%
- 89% – 99%
- Above 100%

TRAFFIC VOLUME

25,000 50,000

(vehicles per day)

Lafayette Areawide Planning Commission

August 1, 1993

NORTH:

SCALE: (miles)

0 0.2 0.4

8. TRAFFIC VOLUMES: EASTERN BYPASS - 2012

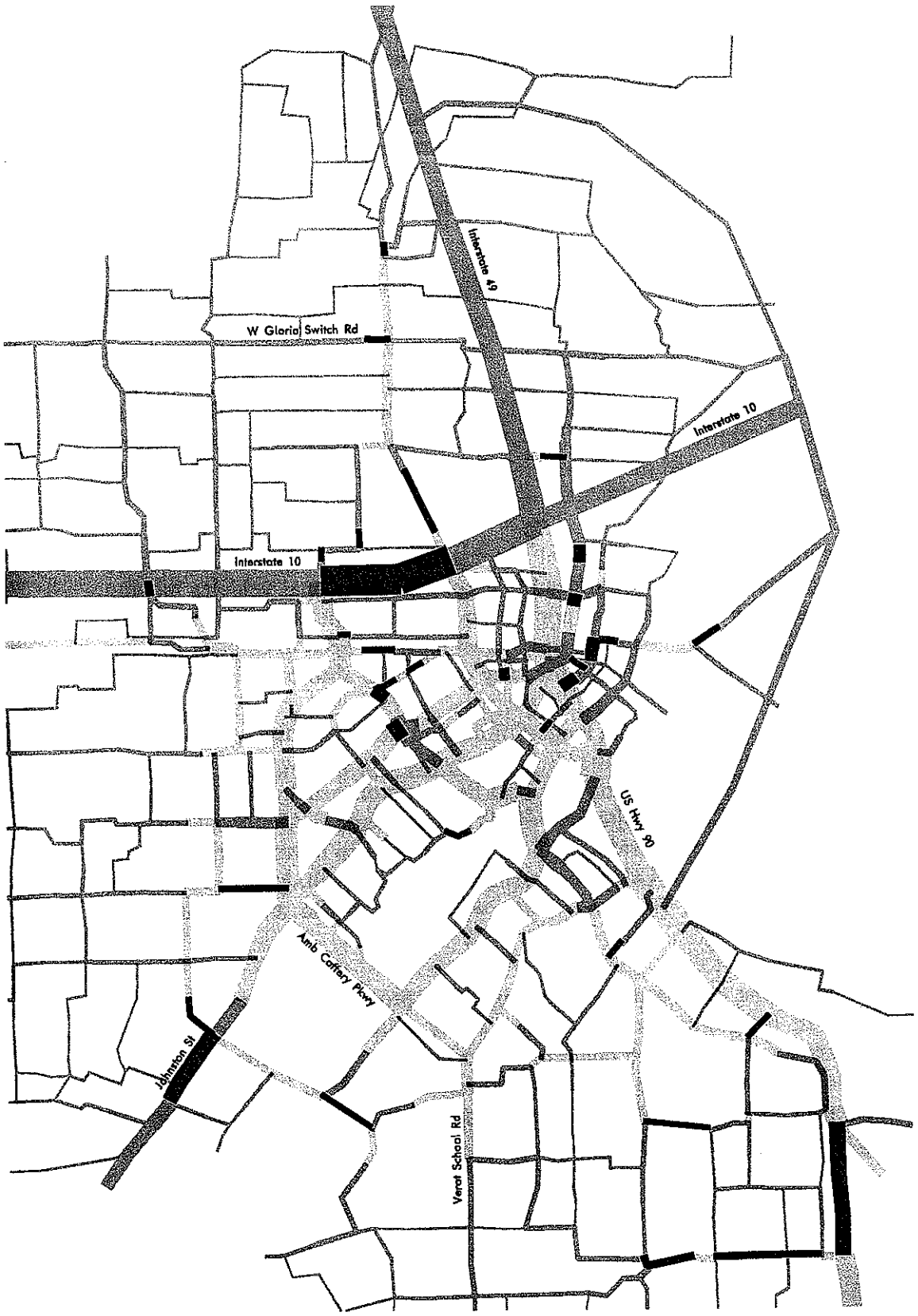
The assumption for the Eastern Bypass in 2012 is a total length of 16 miles and a total network vehicle miles figure of 5,393,496. The average travel time of the corridor is 15.23 minutes at an average speed of 65 miles per hour. This alternative has very little effect on traffic volumes throughout Lafayette Parish.

Table T-24
2012 TRAFFIC VOLUMES
(in thousands)

LOCATION	Eastern Bypass	VOL
New Freeway	North	7
	I-10	5
	South	11
Ambassador		
Caffrey Parkway		
S of I-10		47
Congress St		44
Johnston St		43
Vermilion River		39
Verot School Rd		14
South College Rd		
Johnston St		32
Coolidge Blvd		43
University Ave		
Johnston St		33
Evangeline Thwy		28
Pinhook Rd		
Vermilion River		47
Evangeline Thwy		
N of I-10		51
S of I-10		52
S of Willow St		57
Johnston St		52
Vermilion River		34
University Ave		62

TRAFFIC VOLUMES: 2012 EASTERN BYPASS MAP

Lafayette Parish, Louisiana



PERCENT CAPACITY:

- 0 - 89%
- 89% - 99%
- Above 100%

TRAFFIC VOLUME

25,000 50,000

(vehicles per day)

Lafayette Areawide Planning Commission

August 1, 1993

NORTH:

SCALE: (miles)

0 0.2 0.4

D. HURRICANE EVACUATION

The underlying purpose of the alternative corridors will be to aid in the evacuation of coastal, southwestern and south-central Louisiana in the event of a hurricane. As such, the true merit of the roadway will be measured through its ability to maintain a safe and steady movement of vehicles, even under a higher than normal volume. General measures of the safe and steady flow of traffic along a roadway corridor are in terms of Volume to Capacity (V/C) ratios and Average Daily Traffic (ADT) volume. As a roadway reaches the outer limits of either the V/C ratio or the ADT, the result will be congestion and delays.

The general coastal evacuation prior to Hurricane Andrew's landfall in south central Louisiana in August 1992 highlighted the inadequacy of the current Evangeline Thruway. According the City of Lafayette Department of Public Works, an estimated 25,900 additional vehicles joined Evangeline Thruway's average daily volume of 45,794 (1991 Count) vehicles. The total volume on the corridor, an estimated 76,000+ vehicles, was well beyond Evangeline Thruway's design capacity of 42,000 vehicles. The resulting delays and congestion exacerbated the anxiety felt by individuals fleeing one of nature's most powerful storms.

To prevent congestion under a full or partial evacuation of coastal Louisiana through Lafayette Parish, the ideal corridor would need to absorb the additional vehicles moving north and provide enhanced connection to population centers to the south and southeast of Lafayette. All four of the corridor alternatives must meet the need to connect to other population centers, also provide the needed roadway capacity to absorb the high volume.

For comparison, the Western Bypass, the longest of the corridor alternatives, will provide at-grade or grade-separated connections to U.S. Highway 90, U.S. Highway 167, Interstate 10 and Interstate 49. These connections will also be accomplished by the Evangeline Thruway, the shortest of the corridor alternatives. While the Eastern Alignment, Eastern Bypass and Evangeline Thruway corridors will enhance efforts to move a large volume of vehicles from areas southeast of Lafayette Parish, which include St. Martin, Iberia and St. Mary Parishes, the Western Bypass corridor would assist with an evacuation of Vermilion Parish.

In terms of V/C ratios, the each corridor alternative will provide the necessary design capacity to minimize congestion and maximize safety under a general evacuation. However, as these ratios approach the range of .90 to less than 1.0, the roadway would be reaching its design capacity. The proposed V/C ratios, expressed in 1990 and 2012 traffic counts, are provided in Table T-25. For comparison, the V/C ratio on Evangeline Thruway during the 1992 evacuation was 1.8.

Table T-25
Volume to Capacity Ratios, North-South Corridor Alternatives
1990 and 2012 Traffic Volumes

Corridor Alternative	1990 Volume/Capacity Ratio	2012 Volume/Capacity Ratio
Western Bypass	0.69	0.9
Eastern Alignment	0.54	0.6
Evangeline Thruway	0.57	0.8
Eastern Bypass	0.54	0.6

Source: Lafayette Areawide Planning Commission, 1993

E. TRAFFIC CIRCULATION AND ACCESS

Implementation or construction of one of the corridor alternatives in Lafayette Parish would expand the local roadway system by providing a north-south route to complement the existing east-west Interstate 10. An I-49/I-10 connector would also function well with the proposed perimeter roadways in the southwest, northwest and northeast quadrants. Some of the alternative roadways and ground level parallel roadways are compatible with Metropolitan Planning Organization's working Strategic Thoroughfare Plan Map and with repeated calls by city government for transportation improvements in the Evangeline Thruway corridor.

A north-south corridor is also compatible with statewide goals to upgrade to freeway standards U.S. Highway 90 south from Lafayette to New Orleans. On a national basis, construction of one of the north-south corridor alternatives would also be compatible with an expanded Interstate 49 system that could ultimately extend from New Orleans to Kansas City, Missouri.

A constructed or "build freeway" is expected to capture more traffic than if no improvement is made. As currently conceived, the north-south corridor has excess capacity to accommodate projected traffic volumes. By capturing traffic from other roadways, a north-south corridor would function to improve traffic operations throughout the local traffic network. In combination with the continuous one-way land service parallel roadways, the corridor project would provide improved service to both through and local traffic throughout the Parish.

F. TRAFFIC ACCIDENTS

Any evaluation of transportation alternatives should include an analysis of public safety features. Here is what is known about accidents along the existing Evangeline Thruway from Interstate 10 to the Lafayette Regional Airport. (The other 3 corridors do not exist at present, therefore no accident statistics exist). Table T-26 shows the accident statistics for Evangeline Thruway from Interstate 10 to the Lafayette Regional Airport for 1992.

- Approximately 615 accidents occur along this segment of the Evangeline Thruway annually.[1]
- Approximately 8% of all accidents in Lafayette Parish and 12% of all accidents in the City of Lafayette occur along this segment.[2]
- This segment of the Evangeline Thruway handles approximately 3% of all the vehicle miles traveled in Lafayette Parish.[3]
- Accidents along the Evangeline Thruway resulted in $4,725,000 of lost wages, medical expenses, insurance administration and motor vehicle property damage.[4]

Table T-26
Traffic Accident Statistics

	Accidents Per Year	Fatal Accidents Per Year	Millions of Vehicle Miles Traveled Annually	Accidents Per Millions of Vehicle Miles of Travel	Fatal Accidents Per 100 Million Vehicle Miles Traveled
State of Louisiana	140,000	862	34,710	4.0	2.5
Lafayette Parish	7,247	25	1,335	5.4	1.9
Evangeline Thruway	615	3	52	11.8	5.8
US Interstates	N/A	N/A	N/A	N/A	0.8

Source: Lafayette Metropolitan Area Transportation Plan (1992-2012), Wilbur Smith and Associates, 1992; Louisiana Highway Safety Commission, 1993; Lafayette Areawide Planning Commission, 1993; City of Lafayette, 1993.

[1] City of Lafayette - Traffic Accident Data for 1992

[2] Derived from City of Lafayette and Lafayette Areawide Planning Commission traffic accident data.

[3] Derived from LMATS (Lafayette Metropolitan Area Transportation Study)

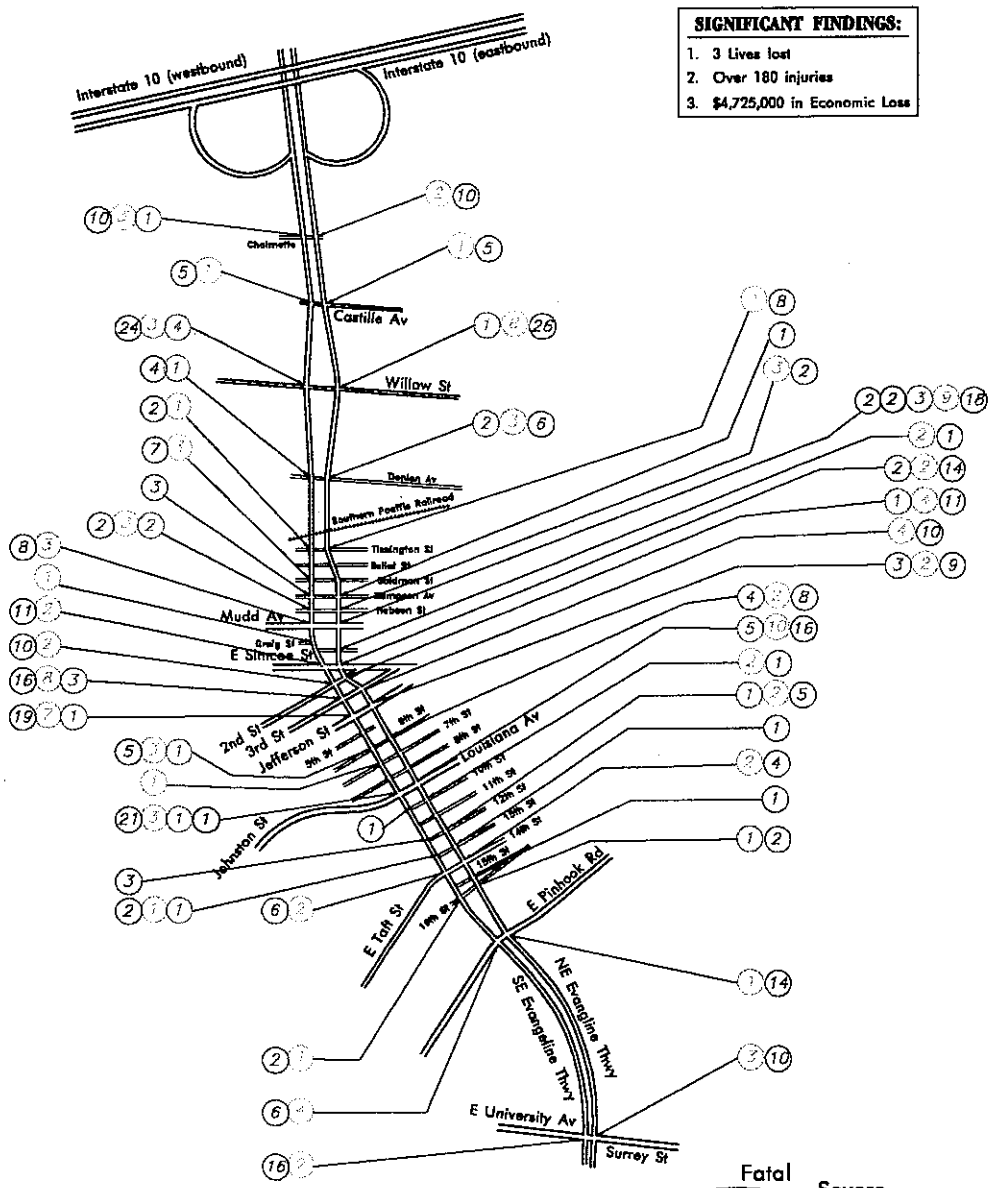
[4] Derived from The National Safety Council. Estimating the Cost of Accidents, 1990.

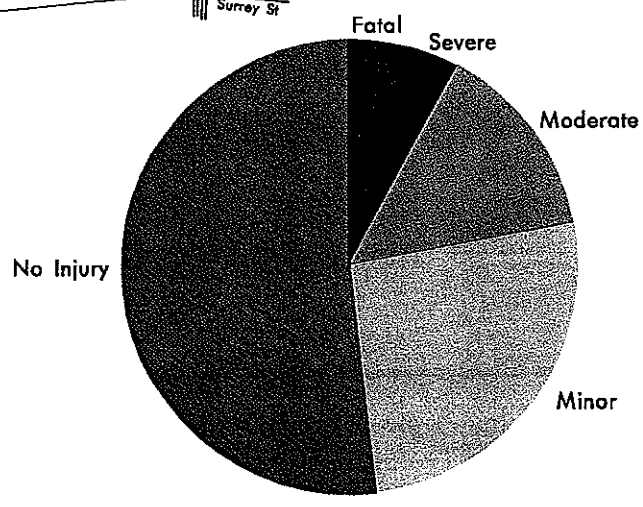
1992 ACCIDENT STATISTICS FOR EVANGELINE THROUGHWAY

Lafayette Parish, Louisiana

SIGNIFICANT FINDINGS:

1. 3 Lives lost
2. Over 180 injuries
3. $4,725,000 in Economic Loss





1992 INJURIES AT INTERSECTIONS (TOTALS):	
Fatal	2
Severe	3
Moderate	34
Minor	117
No Injury	358
INTERSECTIONS TOTAL	516
MID-BLOCKS TOTAL	89

LEGEND:

- Fatal Injuries
- Minor Injuries
- Moderate Injuries
- No Injuries
- Severe Injuries
- Interstate 49
- Local Streets
- Railroads

Lafayette Areawide Planning Commission

August 1, 1993

NORTH:

SCALE: (miles)

0 0.25 0.5

F. SUMMARY

An evaluation was also made of the effect of each alternate on the volume/capacity (V/C) ratios for all links in the networks. These V/C ratios, depicted by ban widths of 1/8 inch = 50,000 and 1/4 inch = 100,000, indicate location and magnitude of capacity deficiencies within three ranges: 0 -.89, .90 - .99, and 1.00+. Exhibits E-33 through E-40 provide maps based on the V/C ratio ranges for the original networks and each alternative.

The results of these corridor tests indicate that Alternative No. 1, 2, and 4 will not have a significant impact on the traffic volumes and V/C ratios on major arterials in the urban area. The implementation of Alternative No. 1, 2, or 4 would still require improvements in the Evangeline Thruway corridor. Alternative No. 3 also does not significantly impact other arterials in the area, but appears to provide a smoother traffic flow in the central area of the City of Lafayette.

IX. COST ESTIMATES

A. GENERAL

The Task Force sub-committee consisting of engineers from the Parish, City and private sector prepared the generalized cost estimates using construction unit prices from the Draft Environmental Impact Statement (EIS) for the I-49 Connector for similar types of construction. Additionally, actual construction costs for the I-310 project in the New Orleans area were used for the elevated twin bridges being considered for the Eastern Bypass and Eastern Alignment. Estimated costs for right-of-way and relocations (residential or commercial), where available, were taken from the LMATS Plan or the Draft EIS.

For the various alternates to be more comparative, additional costs estimates were prepared for major arterial improvements that would be necessary to link the traffic generating areas to each alternative being considered. In addition, cost estimates were prepared for improvements to the existing Evangeline Thruway that would be necessary to correct current traffic deficiencies of this roadway should one of the other alternates be selected.

B. ALTERNATE CORRIDORS CONSIDERED

Four corridors for the Alternate North-South Corridor were considered. They included:

Alternative No. 1 - Western Bypass
Alternative No. 2 - Eastern Alignment
Alternative No. 3 - Evangeline Thruway (Evangeline Thruway)
Alternative No. 4 - Eastern Bypass

C. MITIGATION

With the aid of U.S. Fish and Wildlife Service (USF&WS) personnel, one of the agencies that would play a major role in determining the amount of mitigation required, preliminary figures were determined for impacts to wetlands, based upon the following criteria:

1) End-on construction methods would be required for the elevated portions of roadway over wetlands.

2) Design elements, such as collecting the storm water runoff on the elevated portions and transporting it back to the at-grade sections for disposal, would be required and other design elements scrutinized.
3) The costs are based on what it presently would cost USF&WS to do the work, the figure being $1000.00/acre minimum.

1. Western Bypass

The Western Bypass intersects a multitude of drainage corridors, which would most likely be considered wetlands. Although USF&WS did not comment on the impacts of this alternative, it is not anticipated that this route would have a lot of mitigation associated with its construction. It should be understood that there will be mitigation, but it is not known at this time how much land along the route would be considered prior-converted croplands and thus non-jurisdictional. A conservative estimate for this route would be approximately $30,000.00 to mitigate impacts to wetlands.

2. Eastern Alignment

The Eastern Alignment intersects two wetland areas. The primary wetland area affected is the Bayou Tortue Swamp and the secondary area is the section from the Acadiana Nature Station to the interchange at Interstate 10. USF&WS calculates 55.8 habitat units (minimal) would be lost which converts to 93 acres. The present cost to mitigate is $1000.00/acre, which could total $93,000.00 for this alternative.

3. Evangeline Thruway

The Evangeline Thruway alignment has very little wetlands for which to mitigate. If mitigation is required to offset any impacts from construction, it is possible that the mitigation could be done onsite. It is proposed that several large 8" caliper Bald Cypress be planted along the route of the decked area.

4. Eastern Bypass

The Eastern Bypass crosses approximately 13,500 lineal feet of the Bayou Tortue Swamp area, another 5,000 lineal feet in the Coulee Lantier area and another 500 lineal feet in between. It is estimated that 78.1 habitat units would be lost due to the construction of the roadway, which converted equals 130 acres. With the present cost to mitigate at $1000.00/acre, this would equate to $130,000.00.

C. COSTS

1. Alternative No. 1 - Western Bypass: This alignment consists of approximately 26.8 miles of roadway constructed to freeway standards. It loops the western portion of Lafayette Parish, commencing at the north at I-49 north of Carencro approximately 1.5 miles south of the I-49/LA Highway 182 interchange, and terminating at the south at US Highway 90 approximately 1.4 miles south of the Billeaud-LA Highway 96 overpass. The estimated cost of this alternative is as follows:

DESCRIPTION	COST IN MILLIONS	
Roadway (26.8 miles)	$ 84.942	
Interchange (13 each)	163.000	
Overpasses (16 each)	26.500	
Bridges Over Streams (23 each)	17.030	
Sub-Total Construction		$ 291.472
Engineering & Contingencies		$ 43.720
Land Acquisition (1,430 acres)	$ 31.145	
Relocations: Residential (163 each)	12.225	
Mobile Homes (33 each)	0.660	
Commercial (14 each)	3.500	
Sub-Total R/W & Relocations		$ 47.53
Major Pipeline Modifications	2.70	
Environmental Costs	3.769	
Wetlands Mitigation	.030	
Sub-Total Other		$ 6.499
Arterial Improvements in Support of Alternative # 1:		
Bernard/Ira St. (2.5 miles)	$ 12.910	
Gloria Switch Rd. (5.0 miles)	19.230	
Cameron St. (6.5 miles)*	59.400	
West Congress St. (0.56 miles)	2.595	
Kaliste Saloom Rd. (1.7 miles)	6.610	
Verot School Rd. (5.4 miles)	19.900	
LA Highway 89 (3.8 miles)	14.950	
Sub-Total of Arterial Improvements		$ 135.595
TOTAL COST OF ALTERNATIVE NO. 1:		**$ 524.816**

*Cost taken from Cameron St. Study dated April, 1985

2. **Alternative No. 2 - Eastern Alignment**: This alignment consists of approximately 10.33 miles of roadway constructed to freeway standards. It would begin on the north at I-49 at a point near Butcher Switch Road and traverse the eastern end of Lafayette Parish crossing the wetlands of the Bayou Tortue Swamp just east of the Lafayette Regional Airport, and terminate at the US Highway 90 intersection near LA Highway 89 (South Park). This alignment would require that approximately 4.61 miles through the Bayou Tortue Swamp area be constructed on twin elevated structures. Because of sensitive environmental concerns in this area, the cost estimates were based on "end-on" construction method, such as was required for the I-310 roadway in St. Charles Parish near New Orleans. The estimated cost of this alternative is as follows:

DESCRIPTION	**COST IN MILLIONS**	
At-grade roadway (5.74 miles)	$ 18.12	
Elevated roadway (4.61 miles)	73.05	
Interchanges (6 each)	104.00	
Overpasses (2 each)	4.50	
Bridges Over Streams (5 each)	1.60	
Sub-Total Construction		$ 201.27
Engineering & Contingencies		$ 30.19
Land Acquisition (211 acres)	$ 11.565	
Relocations: Residential (31 each)	2.325	
Commercial(20 each)	5.000	
Sub-Total R/W & Relocations		$ 18.890
Major Pipeline Modifications	$ .600	
Environmental Costs	$ 3.475	
Wetlands Mitigation	$ .093	
Sub-Total Other		$ 4.168
Arterial Improvements in Support of Alternative 2:		
Willow St. (0.75 miles)	$ 3.20	
LA Highway 94 (1.98 miles)	7.718	
Sub-Total of Arterial Improvements:		$ 10.918
TOTAL COST OF ALTERNATIVE NO. 2:		**$265.436**

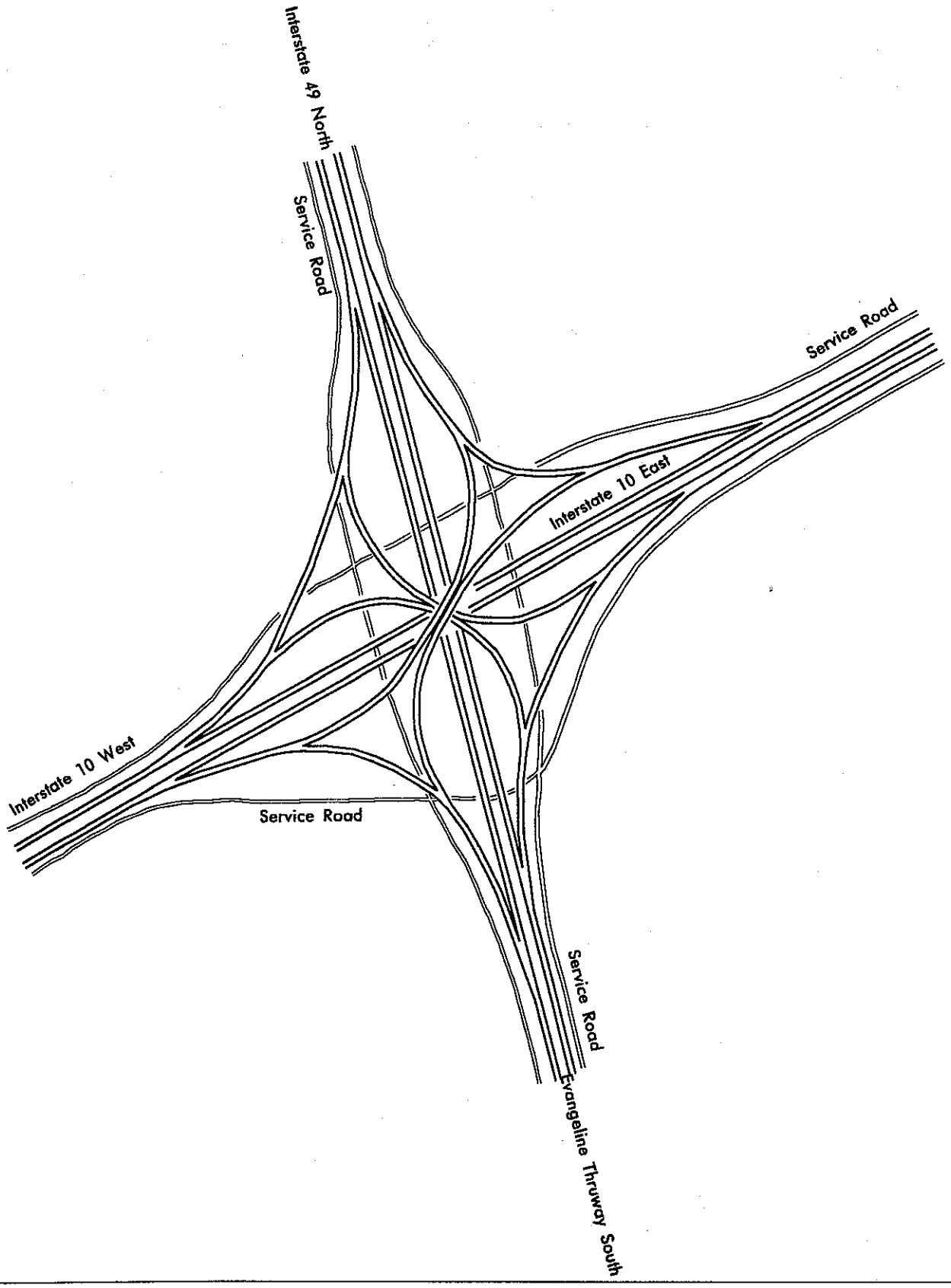
3. **Alternative No. 3 - Evangeline Thruway**: This alignment follows the Evangeline Thruway from the I-10/I-49 interchange at the northern limits to US Highway 90 just south of the Lafayette Regional Airport. To be more comparative in this study, costs taken from the HNTB Draft EIS for the EA-1 Depressed Alternate with subalternates B, D and F will be considered. Additionally, costs have been considered to cover .4 mile of the freeway in the vicinity of St. Genevieve Church, and for modifications to the I-10/I-49 interchange allowing for connecting frontage roads. The estimated cost of this alternative is as follows:

DESCRIPTION	**COST IN MILLIONS**	
Max. Cost of EA-1 Depressed*	$ 171.000	
(Includes 6 Overpasses, 1 Interchange and 1 Bridge)		
Cost For Cut & Cover (5 blocks)	$ 14.050	
Cost for Interstate 10/Interstate 49 Interchange	$ 46.000	
Environmental Cost	$ .700	
TOTAL COST OF ALTERNATIVE NO. 3		**$ 232.750**

* Cost developed from Draft Environmental Impact Statement for the I-49 Corridor, developed by HNTB of Baton Rouge, Louisiana

INTERSTATE 10 - INTERSTATE 49 INTERCHANGE 2012 MAP

Lafayette Parish, Louisiana



LEGEND:

— Interstates

— Service Roads

Lafayette Areawide Planning Commission

August 1, 1993

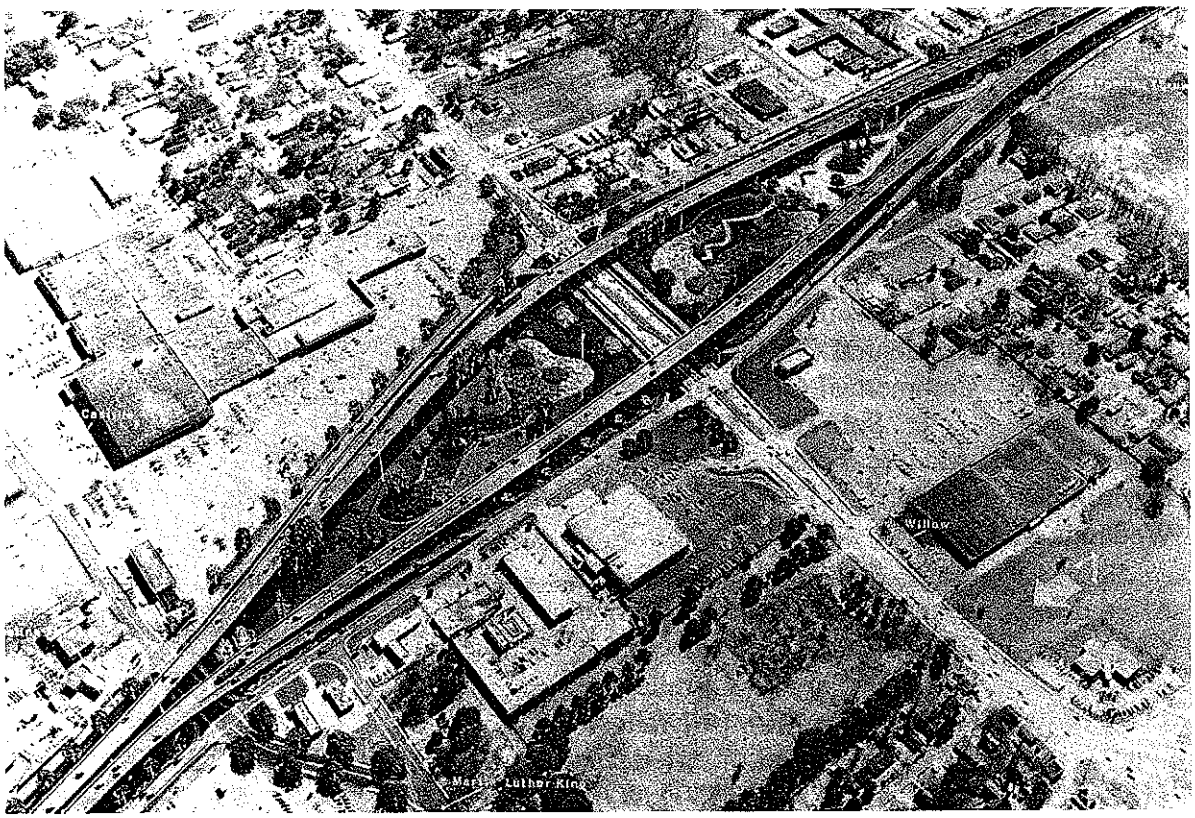
NORTH:

SCALE: (miles)

0 0.05 0.1

WILLOW STREET-EVANGELINE THRUWAY 2012 AERIAL

Lafayette Parish, Louisiana



LEGEND:

Lafayette Areawide Planning Commission

August 1, 1993

NORTH:

SCALE: (miles)

4. **Alternative No. 4 - Eastern Bypass**: This alignment consists of approximately 16.5 miles of roadway constructed as an eastern bypass to interstate standards. It would loop the eastern portion of Lafayette Parish, as well as the western portion of St. Martin Parish. This alignment commences at the northern limits at I-49 approximately 1.5 miles south of the I-49/LA Highway 182 interchange and ties into US Highway 90 near the LA Highway 89 intersection. Similar to the Eastern Alignment, this corridor would require approximately 6.5 miles of roadway to be constructed on twin elevated structures through the Bayou Tortue Swamp area and through a section of wetlands east of the Vermilion River, in the northern portion of Lafayette Parish. The estimated cost of this alternative is as follows:

DESCRIPTION	**COST IN MILLIONS**	
At-Grade roadway (10.1 miles)	$ 31.860	
Elevated roadway (6.5 miles)	102.300	
Interchanges (6 each)	94.000	
Overpasses (1 each)	3.000	
Bridges Over Streams (10 each)	4.560	
Sub-Total Construction		$ 235.720
Engineering & Contingencies		35.358
Land Acquisition (535 acres)	$ 11.650	
Relocations: Residential (38 each)	2.850	
Commercial (10 each)	2.500	
Sub-Total R/W & Relocations		$ 17.000
Major Pipeline Modifications	1.650	
Environmental Costs	3.055	
Wetlands Mitigation	.130	
Sub-Total Other		$ 4.835
Arterial Improvements in Support of Alternative No. 4:		
Willow St. (1.1 miles)	$ 4.800	
LA Highway 94 (3.4 miles)	13.313	
Gloria Switch Rd. (4.1 miles)	17.079	
Sub-Total of Arterial Improvements		$ 35.192
TOTAL COST OF ALTERNATIVE NO. 4:		**$ 328.105**

D. EVANGELINE THRUWAY IMPROVEMENTS

According to the I-49 Draft EIS, current traffic volumes for Evangeline Thruway are approaching the generalized roadway capacity. Alternatives 1, 2, and 4 did not address the improvements that would be required if any of these alternates would be selected. It has been previously reported that improvements to Evangeline Thruway would cost approximately $100.884,000. Costs included in the Alternative No. 3 would take into consideration improvements necessary for current projected traffic volumes for Evangeline Thruway.

E. INTERSTATE 10 FRONTAGE ROADS

The Lafayette Metropolitan Area Transportation Plan 1992-2012 listed the construction of frontage roads along Interstate 10 in the short-range program (1992-1996). Frontage roads along Interstate 10 are also listed in the 1992 Transportation Plan (TIP) for the Lafayette Metropolitan Area. If either Alternatives No. 2 or 3 are selected for the Hurricane Evacuation Route/I-49 Connector, the need for frontage roads along Interstate 10 becomes more apparent in order to provide access to property along Interstate 10. With this in mind, cost estimates were prepared for the frontage roads from the proposed Interstate 10 - Louisiana Avenue interchange east of Interstate 49 to Ambassador Caffery Parkway west of Interstate 49. The cost estimate was prepared assuming the minimum design standards for arterial roads and streets.

Estimated costs are as follows:

DESCRIPTION		COST IN MILLIONS	
Roadway (9.28 miles)		$ 9.8	
Bridges (6 each)		1.156	
Drainage Channel Relocation		.120	
	Sub-total Construction		$ 11.076
	Engineering & Contingencies		1.661
Land Acquisition - 68 Acres		$ 2.940	
Relocations:	Residential (35 each)	2.625	
	Mobile Homes (10 each)	0.200	
	Commercial (9 each)	2.750	
	Damages to Commercial Businesses	$11.000	
	Sub-Total R/W, Relocation & Damages		$19.515
Total Costs for Frontage Roads			$32.252

X. COST BENEFIT ANALYSIS

A. Introduction

The essential questions for cost benefit analysis are directed at analyzing the economic desirability of mutually exclusive alternatives. The term mutually exclusive implies that one and only one of the alternatives can be undertaken. Importantly, when the list of mutually exclusive alternatives has been specified for analysis, the null or "do-nothing" alternative should always be part of the analysis process. The null alternative is simply the no-build scenario. More precisely, it is providing no new services or facilities and thus incurring no new costs, but accruing no new benefits either.

The list of alternatives for the Lafayette North-South Corridor Study includes the following:

- Null Alternative: the No-Build Alternative
- Alternative No. 1: The Western Bypass
- Alternative No. 2: The Eastern Alignment
- Alternative No. 3: The Evangeline Thruway
- Alternative No. 4: The Eastern Bypass

The cost benefit analysis principles are designed to determine whether a set of mutually exclusive alternatives is economically worthwhile and, if so, which of the alternatives is the most desirable in an economic sense. Cost benefit analysis methods are used to ensure that (1) no project will be considered economically acceptable unless its total net benefits are positive and (2) the project having the highest non-negative total benefits is selected as the best.

The analysis methods are designed to take into account the time period in which the cost commitments are made or benefits accrued, and to ensure that costs or benefits accrued during different time periods are placed on a similar value scale. The time period for this study represents a 22 year period from 1990-2012. Cost benefit analysis recognizes the time value of money and the fact that money or resources committed in the present are worth more than those committed in the future. Cost benefit analysis shows the present values of future spending alternatives. The analysis establishes a discount rate or Minimum Attractive Rate of Return, which is applied to the project investment dollars and benefit dollars over the study period to obtain a base-year, or current-year value for all the elements within the project.

Having identified the various corridor alternatives, projections have been made of the year-by-year volumes that will be experienced and, in turn, the year-by-year costs and benefits associated with each particular pattern of usage. The generalized relationship

between total costs and total benefits can then be evaluated as a ratio of benefits divided by costs, the B/C Ratio. A B/C ratio of greater than 1.0 indicates a project whose benefits outweigh its costs. A B/C ratio equal to 1.0 indicates a project whose benefits exactly equal costs. A B/C ratio of less than 1.0 would indicate a project whose costs outweigh its benefits.

B. Methodology

The calculations for this study use data and equations from several sources. An effort has been made to specify the source or format of the data and equations.

The calculation of benefit/cost ratios used the annualized values of all costs and benefits for the various alternatives. Costs were computed using construction and maintenance costs for each corridor (ancillary arterial improvements, which are shown elsewhere in this report as additional costs for each corridor, were not included in this analysis). The annualized values of all costs and benefits are derived by applying a discounting factor to each present and future cost or benefit value. Once total benefits and total costs have been computed on an annualized basis they can be compared in two ways: (1) as benefits less costs (B-C= net benefits), and (2) as benefits over costs (the B/C ratio). Both comparisons show whether the alternative will provide benefits that are greater than its costs. The following charts and tables provide the basic results of the analysis.

The travel times for each corridor have been computed using each corridor's V/C ratios and Figure 5-2 from the ITE Handbook (ITE, 1992), which shows the relationship between volume/capacity ratios and average travel speed for a given roadway design speed. For this study, the calculation of travel time used the average travel speed from Fig. 5-2, if it was less than the design speed or less than the speed limit for that corridor. If the average travel speed from Fig. 5-2 was greater than the design speed or speed limit, then the speed limit was used to compute the travel time. The attached table, showing Volumes of Traffic with Volume/Capacity Ratios and the table of Projected Travel Times, presents the results of these calculations. For the existing corridor, the travel time in 1990 is taken from the HNTB Draft EIS and the 2012 travel time is taken from materials supplied to HNTB by Domingue, Szabo & Associates.

The following table of Annualized Cost Elements presents the annual worth of all construction and maintenance costs. The calculations require application of a discounting factor, which accounts for the change in value of money over time. Two categories of construction costs were used. These were 50-year items and 22-year items. The rationale

behind these categories comes from the fact that certain investments will have a longer useful lifetime than others. Notably, land acquisitions will retain value longer than roadways, which must be replaced periodically.

The grand total of Annual Worth of all cost elements for each alternative is presented in millions of dollars. These costs are $23.018 for the Western Bypass, $13.748 for the Eastern Alignment, $16.008 for the Evangeline Thruway, and $15.483 for the Eastern Bypass.

Table T-27
Projected Travel Times For Corridor Alternatives

	No-Build (Null)	Alternative 1	Alternative 2	Alternative 3	Alternative 4	
Corridor Length (Miles)	5.36	25.8	10.33	5.36	16.5	
Design Speed (MPH)	45	70	70	70	70	**From ITE Handbook**
Speed Limit (MPH)	45	55	55	50	55	
Travel Time Ideal (Minutes)	7.15	28.14	8.85	4.59	18.00	**Computed using design speed**
Projected Travel Time (Minutes)						
1990	8.95 (HNTB)	28.14	12.4	6.43	18.00	**Computed using operating speed or limit**
2012	21.0 (HNTB)	28.14	12.4	6.43	18.00	**Computer using operating speed or limit**

Source: Lafayette Areawide Planning Commission, 1993

Table T-28
Volumes of Traffic and the Volume Capacity Ratio

	No-Build	Alternative 1	Alternative 2	Alternative 3	Alternative 4	
1990 ADT	38,000	21,000	6,000	24,700	7,000	Corridor Volumes/ Day
Volume on Thruway or Frontage Rd		[17,000]	[32,000]	[13,300]	[31,000]	Traffic remaining on Thruway or Frontage
2012 ADT	68,000	39,000	13,000	65,000	15,000	Corridor Volumes/ Day
Volume on Thruway or Frontage Rd		[29,000]	[55,000]	[3,000]	[53,000]	Traffic remaining on Thruway or Frontage
Design ADT Capacity	42,000**	96,000*	96,000*	144,000*	96,000*	From ITE Handbook*
		Volume	**Capacity**	**Ratio (V/C)**		
1990	.904	.220	.062	.171	.073	V/C Ratio for Corridor
1990 Volume on Thruway or Frontage Rd		[.404]	[.762]	[.316]	[.738]	V/C for traffic remaining on Thruway or Frontage Rd
2012	1.62	.406	.135	.451	.156	V/C Ratio for Corridor
2012 Volume on Thruway or Frontage Rd.		[.690]	[1.309]	[.071]	[1.26]	V/C for traffic remaining on Thruway or Frontage Rd

* Design ADT computed as (PCPHPL) x (24 hours) x (# lanes) where PCPHPL is defined as Passenger Cars per Hour per Lane. From ITE Handbook (ITE, 1992) PCPHPL = 2,000 for freeways.

** From City of Lafayette Department of Public Works.

Source: Lafayette Areawide Planning Commission, 1993.

Table T-29
Annualized Cost Elements

Cost Element	Alternative 1	Alternative 2	Alternative 3	Alternative 4
50 Year Items	(Data are in $ Million)	(Data are in $ million)	(Data are in $ million)	(Data are in $ million)
Land Acquisition	47.53	18.89	18.00	17.00
Bridges	17.030	1.60	10.0	4.560
Elevated Structures		73.05		102.3
Relocations	Combined with land acquisition	Combined with land acquisition	Combined with land acquisition	Combined with land acquisition
Pipeline Modifications	2.7	.60	4.00	1.65
Environmental	3.769	3.475	.700	3.055
Sub-Total 50-year Items	71.029	97.615	32.700	128.565
Discount Factor [A|P,50,3%] x Sub-Total	.0389 x 71.029	.0389 x 97.615	.0389 x 32.700	.0389 x 128.565
Annual Worth of 50-year Items Sub-Total	**2.763**	**3.797**	**1.275**	**5.001**
22 Year Items				
Roadway	84.942	18.120	54.100	31.860
Interchanges and Ramps	163.00	104.00	126.750	94.00
Overpasses	26.50	4.50	18.00	3.00
Engineering and Contingencies	43.720	30.190	34.730	35.358
Sub-Total 22-year Items	318.162	156.810	233.580	164.218
Discount Factor [(A|P,22,3%) x Sub-Total]	.0627 x 318.162	.0627 x 156.810	.0627 x 233.580	.0627 x 164.218
Annual Worth of 22-Year Items Sub-Total	**19.948**	**9.832**	**14.645**	**10.296**
Maintenance Cost Items				
Corridor Costs	.299	.107	.0904	.173
Thruway Costs	.008	.008	-	.008
Sub-Total Maintenance Costs	**.298**	**.115**	**.0904**	**.181**
Grand Total of Annual Worth of all Cost Elements	**23.018**	**13.748**	**16.008**	**15.483**

Source: Lafayette Areawide Planning Commission, 1993

Sample Calculations

Annualized user costs for time and vehicle operation are based on the following formula:

User Time Costs $/Day =	($/Veh Hr*) x (Trip Time in Minutes/Veh) x (ADT) x (1 Hr/60 Minutes)
Vehicle Operating Costs $/Day =	($/1,000 Veh Miles**) x (ADT in Veh/Day) x (Miles of Corridor)

* From HNTB Draft EIS a figure of $6.31 per hour was used and is continued in this analysis.

** From A Manual on User Benefit Analysis of Highway and Bus Transit Improvements. AASHTO, 1977.

Calculations were performed on both the corridor itself and the residual volumes still travelling the existing Evangeline Thruway or frontage road. This combined total represents the total user costs for time and vehicle operating expense for each of the alternatives. Daily operating costs have been annualized using a discount factor, which accounts for the value of money over time and multiplying by 365 days per year. The following formula illustrates the calculations for the No-Build Alternative:

No-Build (Null) Annual Worth =	[(Discount Factor x G) + 1990 Cost/Day] x 365
Discount Factor =	[A|G, 22 yrs, 3%]* = 9.32
G Factor in $/Day =	(2012 Cost/Day - 1990 Cost/Day) ÷ 21 yrs = $7,288
No-Build (Null) Annual Worth in $ million	[(9.32 x $7,288) + $74,087] x 365 = $51.834

* A|G, 22 yrs, 3% from Economic Evaluation Tables defined as A given G (Annualized given Gradient), 22 year time frame, and a 3 percent discount rate.

Table T-30
User Costs for Each Alternative

No-Build (Null) Annual User Costs (Annual Worth in $ million)	$51.834
Western Bypass (Alt 1) Annual User Costs (Annual Worth in $ million)	$94.442
Eastern Alignment (Alt 2) Annual User Costs (Annual Worth in $ million)	$53.911
Evangeline Thruway (Alt 3) Annual User Costs (Annual Worth in $ million)	$32.219
Eastern Bypass (Alt 4) Annual User Costs (Annual Worth in $ million)	$60.102

Source: Lafayette Areawide Planning Commission, 1993

From these calculations it is evident that user costs for time and vehicle operation are higher for Alternatives 1, 2, and 4 than they are for the Null, or No-Build Alternative. Only Evangeline Thruway provides costs which are less than the No-Build User Costs. The difference between User Costs for the No-Build Alternative and User Costs for the Evangeline Thruway are defined as cost savings, or *user benefits*, since using the Evangeline Thruway would cost less than using the existing thruway. The annualized cost savings, or user benefit, amounts to $19.615 million.

The final cost benefit calculation for this alternative involves dividing benefits by costs to calculate the benefit/cost ratio (B/C).

$$B / C = \$19.615 \div \$16.008 = 1.22$$

This alternative has positive net annualized benefits (B/C) and a positive benefit to cost ratio (B/C) thus satisfying the two most important criteria for evaluating projects as to economic effectiveness and desirability. The project will produce benefits in excess of costs on the order of $79.354 million over the life of the initial 22-year study period.

C. Summary of Results of Cost Benefit Analysis

The central questions for a cost benefit analysis are directed at finding the economic desirability of a project from among several alternatives. Usually, these alternatives are mutually exclusive and the decision-makers must choose only one project to implement. The results of an economic analysis may show that the most economically desirable alternative is to build no new facilities; that the existing, or no-build alternative provides the most benefits. However, such is not the case with this study. The savings in time and savings in vehicle operating expenses are quite significant for alternative 3 when compared to the existing travel characteristics of the thruway. The other alternatives do not afford the same positive benefits.

Yearly user costs for this study included both the cost of time and the cost of vehicle operation. These costs amounted to $51.8 million for the existing Evangeline Thruway. In comparison, the user costs for the Western Bypass amounted to $94.4 million, the Eastern Alignment amounted to $53.9 million, the Evangeline Thruway amounted to $32.2 million, and the Eastern Bypass amounted to $60.1 million. Positive benefits occur if the user costs of an alternative are less than the user costs for the existing, or no-build alternative. Negative user benefits (considered cost) arise when the proposed alternative has costs which are greater than the existing thruway user costs. Such is the case for the Western Bypass, the Eastern Alignment, and the Eastern Bypass, which all have user costs greater than the existing thruway. Only the Evangeline Thruway alternative provides user costs which are significantly lower than the user costs for the existing thruway user costs and thus afford positive user benefits which offset construction and maintenance costs.

Annual construction and maintenance costs for each alternative amounted to $23.0 million for the Western Bypass, $13.7 million for the Eastern Alignment, $16.0 million for the Evangeline Thruway, and $15.4 million for the Eastern Bypass. The difference remaining after the construction and maintenance costs are subtracted from the user benefits represents the net benefits of the alternative.

The benefit to cost (B/C) ratio places the user benefits over the construction/maintenance costs to determine if benefits will outweigh costs and to what degree. A cost benefit ratio of one (1) indicates costs are equal to benefits. A ratio of less than one (1) indicates costs outweigh benefits. A ratio greater than one (1) indicates benefits outweigh costs. This last situation is represented by the Evangeline Thruway with a B/C ratio of 1.22. The remaining alternatives show a relationship where costs significantly outweigh benefits as a result of the fact that no positive user cost savings are available to offset construction/maintenance costs.

The following graphic presents the relationship between user costs, user benefits, construction costs, net benefits, and the corresponding benefit/cost ratios for the alternatives 1 through 4. Comparing these figures reveals that only alternative 3 provides positive net benefits in excess of construction and maintenance costs. Alternative 3 fulfills the two most important criteria for economic evaluation, (1) it provides positive net benefits, and (2) it has the highest benefit/cost ratio greater than 1 from among the alternatives being evaluated.

Table T-31
Summary of Benefits and Costs

	A	B	C	B/C	B - C
	User Costs* (Million $/yr)	User Benefits** (Million $/yr)	Construction Costs* (Million $/year)	Benefit to Cost Ratio B/C	Net Benefits (Million $/yr) B - C
No-Build	51.834	0	0	----	----
Alternative 1	94.442	-42.608	23.018	0	-65.626
Alternative 2	53.911	-2.077	13.748	0	-15.825
Alternative 3	32.219	19.615	16.008	1.22	3.607
Alternative 4	60.102	-8.216	15.483	0	-23.751

* All Costs have been annualized to 1990 dollar values.

** User Benefits have been computed as the User Costs for the No-Build Alternative, less the User Costs for each of the proposed alternatives.

Source: Lafayette Areawide Planning Commission, 1993

XI. REFERENCES

American Association of State Highway and Transportation Officials. A Manual on User Benefit Analysis of Highway and Bus-Transit Improvements. Washington, DC: AASHTO, 1977.

Dickey, John W. Metropolitan Transportation Planning. Washington, DC: Hemisphere Publishing Corp., 1983.

Diute, Robert J. Economic Highway Planning. West Trenton, NJ: Chandler-Davis Publishing, 1970.

Garber, Nicholas J. and Lester A. Hoel. Traffic and Highway Engineering. St. Paul, MN: West Publishing Co., 1988.

Homburger, W.S., Louis E. Keefer, and William R. McGrath. Transportation and Traffic Engineering Handbook. Englewood Cliffs, NJ: Prentice-Hall, Inc., 1982.

Howard Needles Tammen and Bergendoff, United States Department of Transportation, Federal Highway Administration and the State of Louisiana Department of Transportation and Development. I-49 Connector, Lafayette, Louisiana, Draft Environmental Impact Statement. Baton Rouge, LA: Howard Needles Tammen and Bergendoff, 1992.

Institute of Transportation Engineers, J.L. Pine, Ed. Traffic Engineering Handbook. Englewood Cliffs, NJ: Prentice-Hall, Inc., 1992.

Klein, G.E., Curry, A., Ellis, H.B., Fratessa, C.L., McGillivray, R.G., Moon, A.B., Thompson, G.I., and Tilton, P. Methods of Evaluation of the Effects of Transportation Systems on Community Values. Washington, D.C.: U.S. Department of Housing and Urban Development, 1971.

Louisiana. Louisiana Administrative Code Volume 14 Title 33. Environmental Quality, Solid Waste, Water Quality, Underground Storage Tanks.

Louisiana Department of Wildlife. Atlas and Census of Wading Bird and Seabird Colonies in Louisiana. Baton Rouge, LA: Louisiana Department of Wildlife, 1990.

May, Adolf D. Traffic Flow Fundamentals. Englewood Cliffs, NJ: Prentice-Hall, Inc., 1990.

Shaheen, Donald. Contributions of Urban Roadway Usage to Water Pollution. Washington, D.C.: Office of Research and Development, U.S. Environmental Protection Agency (Protection Technology Series, 1975.

United State Department of Agriculture, Soil Conservation Service. Soil Survey of Lafayette Parish, Louisiana. Washington, D.C.: Soil Conservation Service, 1977.

United States Environmental Protection Agency. Guidelines of Review of EIS's subject to Section 1424(e) of The Safe Water Drinking Act. Washington, D.C.: Environmental Protection Agency, 1977.

United States Government, Committee on Highway Capacity, Department of Traffic and Operations, Highway Research Board. Highway Capacity Manual. Washington, D.C.: U.S. Government Printing Office, 1950.

United States Fish and Wildlife Service, Endangered and Threatened Species of the Southeast United States. Washington, D.C.: US Fish and Wildlife Service, 1992.

University of New Orleans, College of Business Administration, Division of Business and Economic Research. Louisiana Fact Book. New Orleans, LA: University of New Orleans, 1993.

Winfrey, Robley. Economic Analysis for Highways. Scranton, PA: International Textbook Company, 1969.

Wohl, Martin and Chris Hendrickson. Transportation Investment and Pricing Principles. New York, NY: John Wiley and Sons, 1984.

A special thank you is extended to Premier Bank for the printing of this report and to Mona Fitgerald Design for the report cover and logo.

Lafayette Areawide
Planning Commission