# U.S. Highway 49 Corridor Study Gulfport, Mississippi







Submitted to:

## **Gulf Regional Planning Commission**

November 2008

**FINAL REPORT** 









### **Contents**

1.0	Introd	duction	1	
	1.1	Background	1	
	1.2	Project Description	1	
	1.3	Study Area	1	
2.0	Data Collection			
	2.1	Traffic Data	2	
	2.2	Signal Timing Data	4	
	2.3	Travel Time Data	4	
	2.4	Base Map	4	
	2.5	Existing Conditions	16	
3.0	Traffi	ic Volume Forecast	20	
	3.1	Historical Growth Rates	20	
	3.2	Traffic Projections	20	
4.0	Evalu	uation of Existing Corridor	22	
	4.1	Methodology	22	
	4.2	Year 2008 Traffic Analysis	23	
	4.3	Year 2020 Traffic Analysis	28	
	4.4	Capacity and Safety Issues	30	
5.0	Alterr	nate Development	34	
	5.1	Short Term Corridor Improvements	34	
	5.2	Short Term Intersection Improvements	47	
	5.3	Long Term Corridor Improvements	58	
6.0	Reco	ommendations and Conclusions	70	
		LIST OF TABLES		
No.	Title		Page	
3.1	His	storical Average Daily Traffic Volumes	<del>-</del>	
4.1		ear 2008 Level-of-Service Data		
4.2		ear 2008 Arterial AM Level-of-Service		
4.3	Year 2008 Arterial PM Level-of-Service			
4.4	Year 2008 AM Travel Time Results			
4.5		ear 2008 PM Travel Time Results		
4.6		ear 2020 Level-of-Service Data		
4.7		ear 2020 Arterial AM Level-of-Service		

4.8	Year 2020 Arterial PM Level-of-Service30	
5.1	Year 2020 Improved Level-of-Service Data54	
5.2	Year 2020 Improved Arterial AM Level-of-Service56	
5.3	Year 2020 Improved Arterial PM Level-of-Service57	
5.4	Year 2020 Long Term Improved Level-of-Service Data	
No.	LIST OF FIGURES  Title  Page	
NO. 1.1	Title Page Project Location Map2	•
2.1	Year 2008 Existing Traffic	
2.2	Existing Conditions – Creosote Rd & Three Rivers Rd	
2.3	Existing Conditions – Creosote Nd & Three Nivers Nd	
2.4	Existing Conditions – 28 <sup>th</sup> Street & Hwy 49	
2.5	Existing Conditions – 23 Street & Hwy 49	
2.6	Existing Conditions – 64 Street & Hwy 49	
2.7	Existing Conditions – Middle Drive & Hwy 49	
2.8	Existing Conditions – Creosote Rd & Hwy 49	
2.9	Existing Conditions – Landon Rd & Hwy 49	
2.10	Existing Conditions – Community Rd & Hwy 49	
2.11	Existing Conditions – Dedeaux Rd & Hwy 49	
2.12	Existing Conditions – St. Charles Street & Hwy 49	
3.1	Year 2020 Projected Traffic	
4.1	Corner Clearance 32	
4.2	Driveway Throat Length	
4.3	Median Opening Conflict Points	
5.1	Barrier Island Concept	
5.2	Barrier Island Concept	
5.3	Barrier Island Concept	
5.4	Barrier Island Concept	
5.5	Barrier Island Concept39	
5.6	Barrier Island Concept	
5.7	Barrier Island Concept41	
5.8	Barrier Island Concept42	
5.9	Barrier Island Concept43	
5.10	Barrier Island Concept44	
5.11	Barrier Island Concept45	

5.12	Intersection Improvements – Creosote Rd & Three Rivers Rd	48
5.13	Intersection Improvements – Pass Road & Hwy 49	49
5.14	Intersection Improvements – 28 <sup>th</sup> Street & Hwy 49	50
5.15	Intersection Improvements – 34 <sup>th</sup> Street & Hwy 49	51
5.16	Intersection Improvements – Dedeaux Rd & Hwy 49	52
5.17	Intersection Improvements – St. Charles Street & Hwy 49	53
5.18	Raised Median Concept	59
5.19	Raised Median Concept	60
5.20	Raised Median Concept	61
5.21	Raised Median Concept	62
5.22	Raised Median Concept	63
5.23	Raised Median Concept	64
5.24	Raised Median Concept	65
5.25	Raised Median Concept	66
5.26	Raised Median Concept	67
5.27	Raised Median Concept	
5.28	Raised Median Concept	69

#### 1.0 Introduction

#### 1.1 Background

The Gulf Regional Planning Commission (GRPC) initiated a work assignment for Neel-Schaffer to provide traffic and transportation engineering services related to the evaluation of the U.S. Highway 49 Corridor in Gulfport, Mississippi. This corridor serves as a major north-south arterial route. The assignment, which primarily addresses capacity related issues along the corridor, was initiated in March of 2008.

#### 1.2 Project Description

The work assignment was executed to help the City of Gulfport to assess the traffic congestion along U.S. Highway 49 and to make recommendations for short term and long term projects that would help ease traffic congestion. The scope of work included attending project meetings with the project team and governing agencies, collecting field data related to perceived traffic problem areas, evaluating existing conditions and potential improvements, and providing graphic illustrations of data and proposed solutions.

#### 1.3 Study Area

The City of Gulfport identified ten intersections on U.S. Highway 49 and one intersection east of the corridor on Creosote Road as the most critical intersections affecting the safe, efficient flow of traffic. The study area is shown graphically in Figure 1.1. The study area include the following intersections:

- Creosote Road and Three Rivers Road
- U.S. Highway 49 and Pass Road
- U.S. Highway 49 and 28<sup>th</sup> Street
- U.S. Highway 49 and 34<sup>th</sup> Street
- U.S. Highway 49 and Airport Road
- U.S. Highway 49 and Middle Drive
- U.S. Highway 49 and Creosote Road
- U.S. Highway 49 and Landon Road
- U.S. Highway 49 and Community Road
- U.S. Highway 49 and Dedeaux Road
- U.S. Highway 49 and St. Charles Street

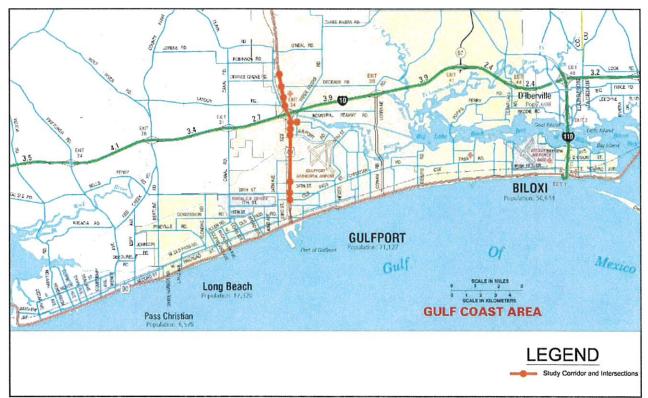


Figure 1.1 – Project Location Map

Source - Mississippi Department of Transportation

#### 2.0 Data Collection

Several pieces of data were collected to document the existing conditions and to help forecast future conditions along the U.S. Highway 49 corridor. The data collection efforts included gathering information from GRPC, Mississippi Department of Transportation (MDOT), and the City of Gulfport. Also, Neel-Schaffer staff provided field data collection efforts for data not readily available. The following sections summarize the data collection efforts.

#### 2.1 Traffic Data

GRPC received 12-hour turning movement counts at all signalized intersections along U.S. Highway 49 from MDOT and Neel-Schaffer staff collected a 12-hour turning movement count at the intersection of Creosote Road and Three Rivers Road. The counts were collected in the Spring of 2008 using the PETRA software. Reports were run to identify the traffic volumes present during the morning and afternoon peak hours of the day. These volumes were used when evaluating the existing conditions and for evaluating potential solutions for each location. Summary sheets for the intersection traffic counts are provided in the Appendix. The AM and PM peak hour traffic counts for the intersections are shown graphically in Figure 2.1.