



APPENDIX A: PURPOSE & NEED SUPPORT

The five-parish Baton Rouge Loop Project area has shown significant development and growth since 1990. Population in the five-parishes increased 13.7% between 1990 and 2000. It is estimated to increase by 21.0% between 2000 and 2010 for an overall projected growth of 37.6% between 1990 and 2010.

According to the US Census Bureau, from April 1, 2000 to July 1, 2007, the five-parish Baton Rouge Loop Project area had a 10.2% population increase. Four of the five – parishes were in the top thirteen parishes for growth in the state during this period. Of the five – parishes Ascension Parish experienced the highest population growth in the state. The Census Bureau estimates a population growth of 29.6% during this period, placing Ascension as the 83rd fastest growing county nationwide. Similarly, Livingston Parish had the second highest growth rate in the state with an estimated population growth of 26.97% in the same period. Ascension Parish has become a bedroom community for individuals who work and shop in East Baton Rouge Parish to the north, but sleep in Ascension Parish just as Livingston Parish has become a bedroom community for individuals who work and shop in East Baton Rouge Parish to the west, but sleep in Livingston.

Population Estimates April 1, 2000 - July 1, 2007	July 1, 2007 Estimate	April 1, 2000 Census Estimate Base	% Change 2000 - 2007	2000 - 2007 State Growth Rank
Louisiana	4,293,204	4,468,958	-3.93%	-
BR Loop Project Area				
Ascension Parish	99,056	76,408	29.64%	1
East Baton Rouge Parish	430,317	412,852	4.23%	13
Iberville Parish	32,501	33,320	-2.46%	44
Livingston Parish	116,580	91,810	26.98%	2
West Baton Rouge Parish	22,625	21,601	4.74%	12
	701,079	635,991	10.23%	
Source:				
Annual Estimates of the Population for Counties of Louisiana: April 1, 2000 to July 1, 2007 (CO-EST2007-01-22), Population Division, U.S. Census Bureau				
Release Date: March 20, 2008				

With this growth has come an increase in traffic and traffic demand. In 2000, 294,667 daily work trips ended in the five-parish Baton Rouge Loop Project area and 267,537 or 90.8 % of them were generated from the five-parish region. It is estimated that in 2000, 205,706 work trips into or within East Baton Rouge Parish originated from the Baton Rouge Loop study area. Of these total work trips 123,142 were from the Baton Rouge Loop study area outside the City of Baton Rouge. In addition, 18,843 daily work trips into and out of EBR parish originated from outside the Baton Rouge Loop study area.



Using the ratio of population to work trips in 2000 and applying them to the 2010 population projections, it is estimated there would be 300,007 daily work trips from the five-parish Baton Rouge Loop Project area ending in the five-parish Baton Rouge Loop Project area in 2010. Of these 300,007 work trips, approximately 217,052 would end in East Baton Rouge Parish. This amounts to a 12.14% increase in work trips generated and ending in the five-parish Baton Rouge Loop Project area and a 5.52% increase in work trips ending in East Baton Rouge Parish from the five-parish Baton Rouge Loop Project area. Applying a similar growth rate estimate to trips into East Baton Rouge Parish from outside of the five-parish Baton Rouge Loop Project area, there would be an estimated 236,935 work trips ending in East Baton Rouge Parish in 2010.

In addition to the daily work trips, traffic and traffic demand is affected by non – work trips, pass through passenger vehicle travel, truck delivery, and truck pass through travel.

Based on information from the LADOTD Estimated Annual Average Daily Traffic Sites the five-parish Baton Rouge Loop Project area has shown an increase in Average Daily Traffic (ADT) over the LA DOTD reported roadway segments during the three-year span between the last two periods reported as shown in the table.

Parish	Reporting Year		No. of Reported Roadway Segments	Average Roadway Segment ADT % Change Over 3 Year Period
	1st	2nd		
Ascension	2007	2004	76	13.33%
East Baton Rouge	2005	2002	194	5.53%
Iberville	2006	2003	70	-1.69%
Livingston	2006	2003	96	10.95%
West Baton Rouge	2007	2004	51	8.05%
Five Parish BR Loop Project Area			487	7.04%

Source: LA DOTD Estimated Annual Average Daily Traffic Sites Spreadsheet

Further analysis of the LADOTD ADT data concentrating on I-10, I-12, and I – 110, shows that the three interstate routes have shown increased ADT. Both I-12 in Livingston Parish and I-10 in West Baton Rouge Parish had ADT increases in excess of 35%.

Parish	Reporting Year		No. of Reported Roadway Segments			Average Roadway Segment ADT % Change Over 3 Year Period		
	1st	2nd	I - 10	I - 12	I - 110	I - 10	I - 12	I - 110
Ascension	2007	2004	6	-	-	12.1%	-	-
East Baton Rouge	2005	2002	11	6	11	8.7%	2.3%	9.4%
Iberville	2006	2003	2	-	-	15.7%	-	-
Livingston	2006	2003	-	6	-	-	35.3%	-
West Baton Rouge	2007	2004	2	-	-	35.4%	-	-

Source: LA DOTD Estimated Annual Average Daily Traffic Sites Spreadsheet



In addition to the LADOTD traffic data, information was reviewed from the 2003 National I-10 Freight Corridor Study. The National I-10 Freight Corridor Study was a joint effort by eight state Departments of Transportation (DOT's) to analyze multimodal transportation needs and develop a plan for improving the Interstate 10 (I-10) Corridor.

The National I-10 Freight Corridor Study, Technical Memorandum No. 2 – Description of Existing Conditions, February 2002, provided information on existing conditions on I-10 as shown in the following tables.

From the excerpted tables it can be seen that I-10 in Baton Rouge had high ADT, high Average Daily Truck Traffic, and a peak period Volume/Capacity ratio of 0.91 with a corresponding peak period Level – of – Service of E/F. The study also showed that eastbound I-10, east of the Mississippi River Bridge was a known problem section.

Traffic Volumes on Interstate 10			
Location	Average Daily Traffic	Traffic	Percentage of Trucks
Lake Charles	51,000	10,000	19%
Baton Rouge	131,000	19,000	14%
New Orleans	161,000	21,000	13%

Excerpted from:
 The National I-10 Freight Corridor Study, Technical Memorandum 2 - Description of Existing Conditions, Exhibit 2 - 4, National Traffic Volumes on Interstate 10, February 2002.
 Sources: FHWA Freight Analytical Framework, 2001; State DOTs 1999-2000

Peak Period Level of Service (LOS) on Interstate 10			
Location	Volume/Capacity Ratio	Area Type	Peak Period Level-of-Service
Lake Charles	0.53	Urban	C/D
Baton Rouge	0.91	Urban	E/F
New Orleans	1.12	Urban	E/F

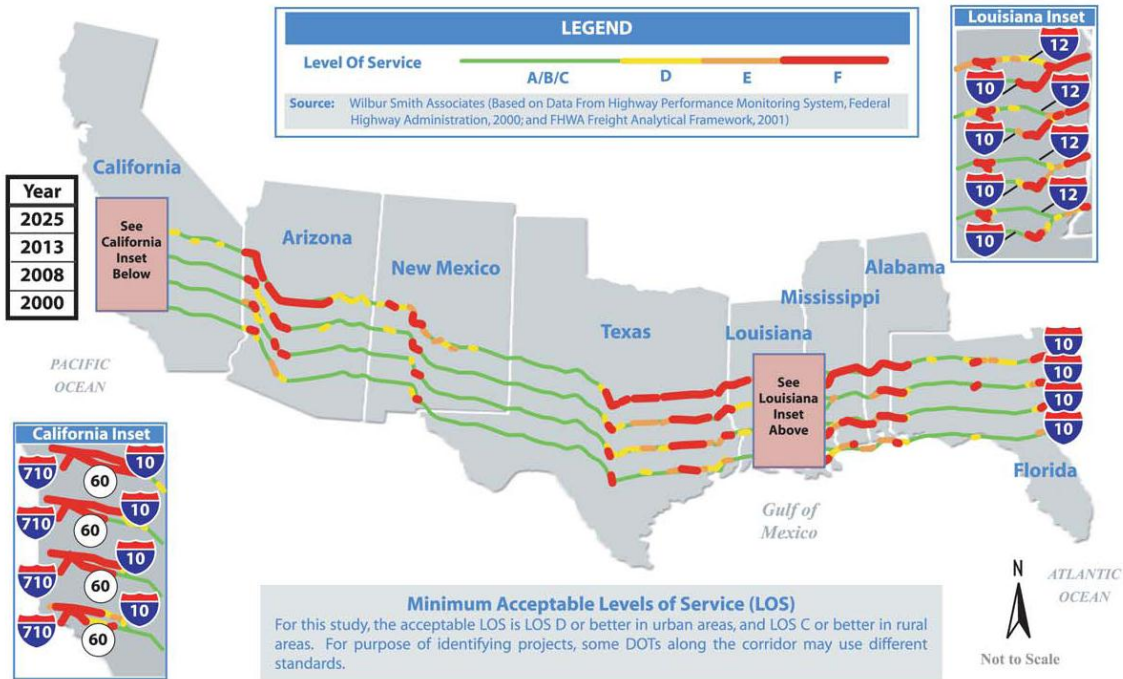
Excerpted from:
 The National I-10 Freight Corridor Study, Technical Memorandum 2,
 Source: FHWA Freight Analytical Framework, 2001; Wilbur Smith Associates

Problem Intersections and Roadway Sections	
Louisiana	
Location	Intersection/Roadway Issue
Eastbound I-10, East of Mississippi River Bridge, Baton Rouge	Lane Balance and Merge/Weave Problem

Excerpted from:
 The National I-10 Freight Corridor Study, Technical Memorandum 2 - Description of Existing Conditions, Exhibit 2-10, Problem Intersections and Roadway Sections, February 2002
 Source: State Departments of Transportation

The National I-10 Freight Corridor Study, Executive Summary, February 2003, also showed that existing conditions on I-10 and I-12 in the Baton Rouge Loop study area would continue to deteriorate through 2025 as shown in the Level – of – Service exhibit.

LEVEL OF SERVICE ALONG I-10 CORRIDOR - CURRENT AND FUTURE



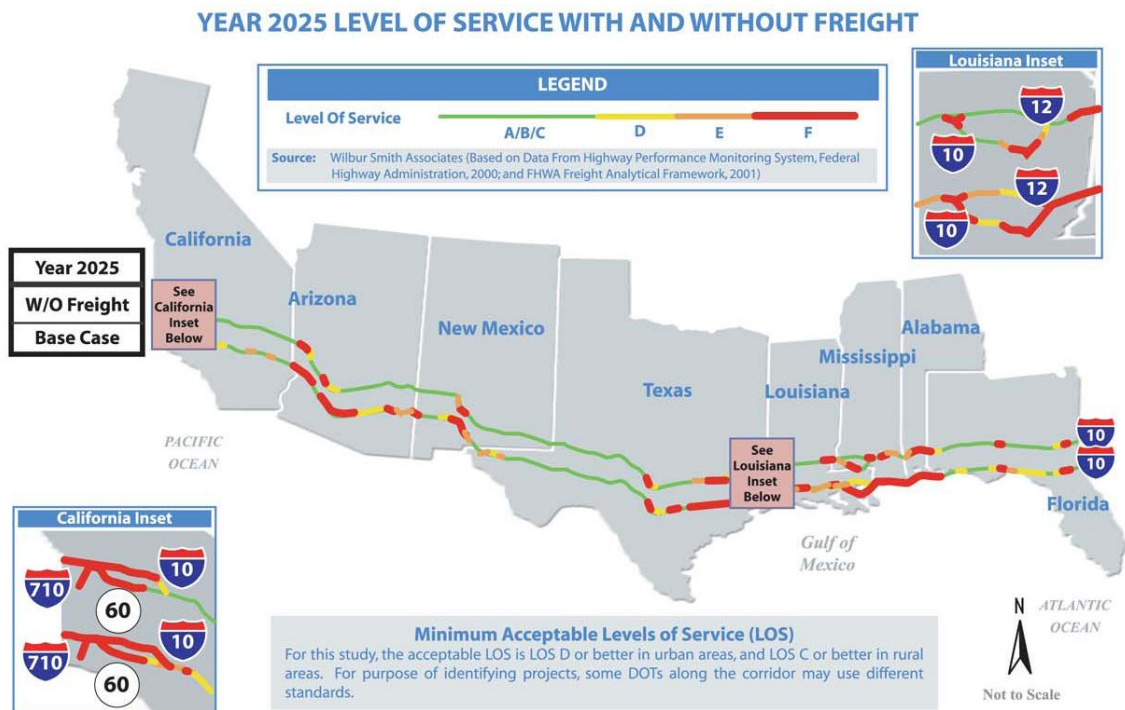
Source: The National I-10 Freight Corridor Study, Executive Summary, February 2003.

Another conclusion drawn from the Executive Summary, regarding the contribution of freight to congestion, illustrates that freight and thus truck traffic do contribute heavily to congestion on I-10 and I-12 in the Baton Rouge Loop study area. What is of particular interest is that even without freight traffic in 2025, I –10 and I-12 in the Baton Rouge Loop study area would operate at an unacceptable Level – of Service as shown in the Year 2025 Level – of Service exhibit.

At a National I-10 Freight Corridor Study Public Meeting held in Baton Rouge on February 27, 2002, some of the comments received were as follows:

- Local commuter traffic was cited as a major problem. I -10 has turned into a virtual parking lot in Baton Rouge. The narrowing of I-10 to one lane at the bridge is a major problem.
- Traffic weaves between Acadia and College, coming from LSU (Louisiana State University), are causing a bottleneck. Eastbound traffic is stopped at the bridge and upstream to Acadian and College exits. A lot of truck traffic originates or stops in the Baton Rouge area, as opposed to moving through. The number of intersections is also an issue.

- Safety is a major issue, especially in terms of hurricane evacuation. I-10 is the only way in or out of southern Louisiana, and only three bridges cross the Mississippi River between Baton Rouge and New Orleans.
- There need to be alternative routes for freight traffic through major urban areas. Consider loops and bypasses around local areas that could be used as alternate truck routes, including Baton Rouge. Change tight loops at US 55/I-12 and at I-12/US 59. Additional lanes in certain areas are needed, including the foot of the bridge on I-10 eastbound in Baton Rouge. Single lane off-ramps and the location and design of the on/off ramps in the area are concerns.



Source: The National I-10 Freight Corridor Study, Executive Summary, February 2003.

What the LADOTD and National I-10 Freight Corridor Study data does not capture is ADT or LOS on parish and city/municipal roads. Consequently, the full picture of traffic movement within the individual parishes and five-parish Baton Rouge Loop Project area is not depicted.

To help illustrate the need for additional Mississippi River crossings in the Baton Rouge area, a comparison has been made of the connectivity of six metropolitan areas within Louisiana across the major river within each area. These areas include:

- Baton Rouge
- New Orleans
- Shreveport
- Lake Charles
- Alexandria



- Monroe

All six metropolitan areas contain a formidable river, with the widest and deepest crossings at the Mississippi River in Baton Rouge and New Orleans. All six areas also have at least one interstate (controlled-access) route over the river, with the exception of Alexandria. The connectivity across the river compares the:

- Number of crossings in each area
- Number of through travel lanes crossing the river
- Number of future lanes crossing the river (either under construction or planned)
- Number of auxiliary lanes crossing the river
- Total number of lanes crossing the river
- A summary of the comparison is shown in Table A-1 with more detail of each crossing given in Table A-2.

Table A-1 Summary Comparison Major River Crossing Connectivity within Metropolitan Areas of Louisiana						
Metropolitan Area	River	No. of Crossings	Existing Thru Lanes	Future Thru Lanes	No. of Auxiliary Lanes	Total No. of Lanes
Baton Rouge	MS	2	8	0	2	10
New Orleans	MS	4	14	2	4	20
Shreveport	Red	5	16	2	2	20
Lake Charles	Calcasieu	2	8	2	0	10
Alexandria	Red	3	10	0	0	10
Monroe	Ouachita	2	10	0	0	10

This high-level comparison of other metropolitan areas illustrates that Baton Rouge is significantly underserved both in terms of the number of river crossings and total number of lanes crossing the river. In comparison to the higher populated areas of New Orleans and Shreveport, Baton Rouge has half the number of crossings and total number of lanes. Expansions to existing bridges and new river crossings are also either under construction or in the project development process in both New Orleans and Shreveport. No expansions to the existing bridges or new river crossing locations are currently under development within the Baton Rouge area. This impacts congestion on existing bridges; limits alternative routes and emergency evacuation routes; and impacts land use and growth patterns.



Table A-2 Detailed Comparison River Crossing Connectivity within Metropolitan Areas of Louisiana						
Metropolitan Area	River	Crossing Location	Existing Thru Lanes	Future Thru Lanes	Auxiliary Lanes	Total No. of Lanes
Baton Rouge	Mississippi River	I-10	4	0	2	6
		US 190	4	0	0	4
		Total Lanes	8	0	2	10
New Orleans	Mississippi River	I-310	4	0	0	4
		US 90	4	2	0	6
		Bus US 90 WB	3	0	3	6
		Bus US 90 EB	3	0	1	4
		Total Lanes	14	2	4	20
Shreveport*	Red River	I-220	4	0	0	4
		US 80	4	0	0	4
		I-20	4	0	2	6
		LA 3032	2	2	0	4
		LA 511	2	0	0	2
		Total Lanes	16	2	2	20
Lake Charles	Calcasieu	I-10	4	2	0	6
		I-210	4	0	0	4
		Total Lanes	8	2	0	10
Alexandria	Red	US 167	6	0	0	6
		US 165	2	0	0	2
		US 71	2	0	0	2
		Total Lanes	10	0	0	10
Monroe	Ouachita	I-20	6	0	0	6
		Louisville Ave.	4	0	0	4
		Total Lanes	10	0	0	10

*Future I-69 (assumed 4 lanes) is not included in this list.