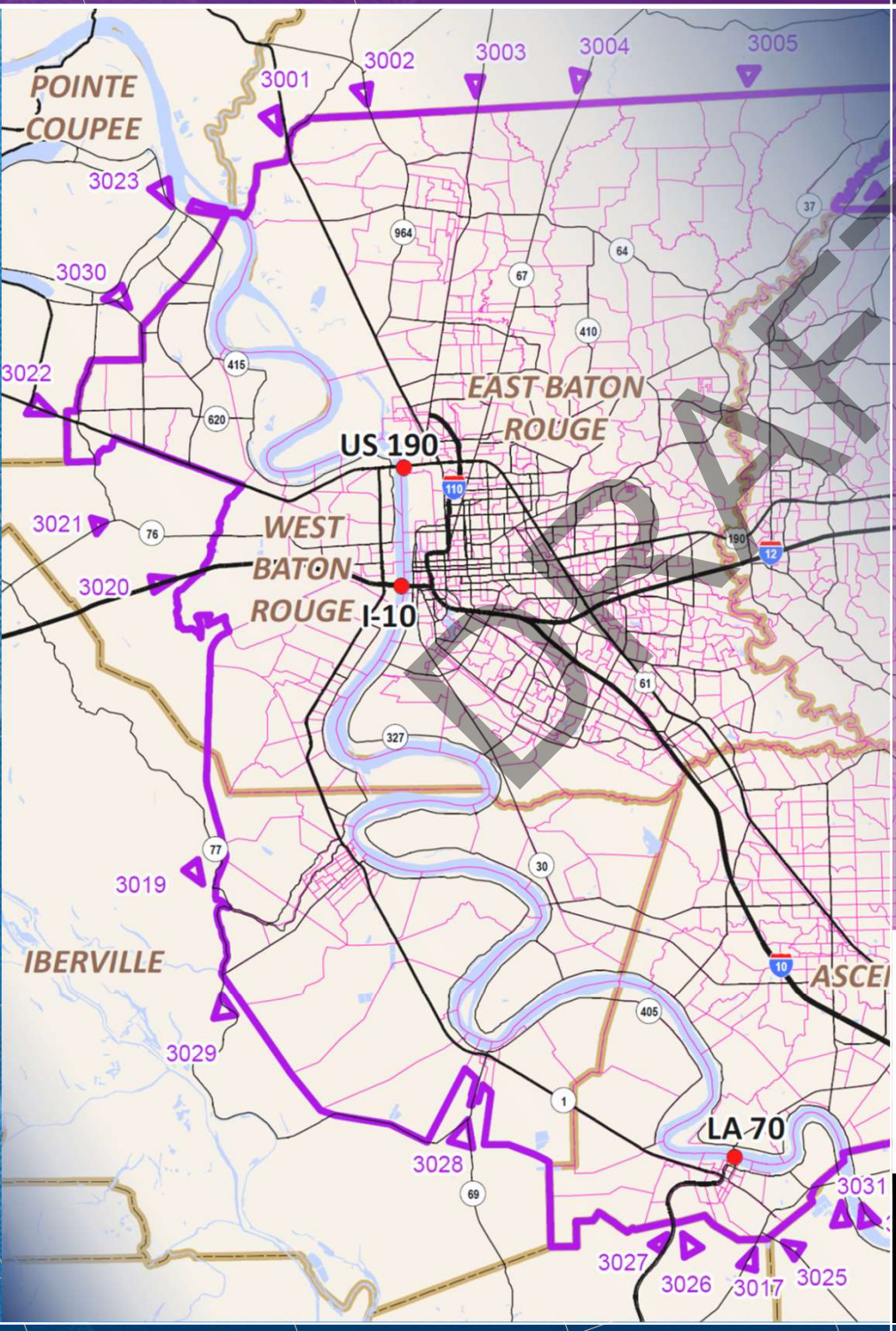
H.013284 – MRB South GBR: LA 1 to LA 30 Connector



No-Build MRB Models Technical Memorandum

December 2021

Revised Final

LA 1

LA 30

MRB SOUTH

LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT | CAPITAL AREA ROAD AND BRIDGE DISTRICT

CDM Smith

Table of Contents

List of Figures

List of Tables

List of Acronyms

AADT	Annual Average Daily Traffic
ACS	American Community Survey
BLS	Bureau of Labor Statistics
CAGR	Compound Annual Growth Rate
CRPC	Capital Region Planning Commission
DOTD	Louisiana Department of Transportation and Development
E+C	Existing and Committed
E-E	External-External
E-I	External-Internal
GBR	Greater Baton Rouge
MPO	Metropolitan Planning Organization
MRB	Mississippi River Bridge
O-D	Origin-Destination
PD&E	Project Development and Environment
SE	Socioeconomic
TAZ	Traffic Analysis Zone
T&R	Traffic and Revenue
V/C Ratio	Volume-over-Capacity Ratio
VHT	Vehicle Hours Traveled
VMT	Vehicle Miles Traveled

H.013284 – MRB South GBR: LA 1 to LA 30 Connector

No-Build MRB Models Technical Memorandum

The Louisiana Department of Transportation Development (DOTD) is conducting an enhanced planning investigation for a potential new bridge across the Mississippi River, south of the I-10 Horace Wilkinson Bridge in Baton Rouge and north of the Sunshine Bridge (LA 70) near Donaldsonville. In concept, the new Mississippi River Bridge (MRB) will connect LA 1 in the west to LA 30 in the east. The enhanced planning investigation includes several types of traffic analyses, beginning with the development of a project-specific travel demand model followed by the application of that model in support of the initial screening process. This screening process is designed to identify a limited number of environmentally and physically viable alternatives, after considering the full range of alternative river crossings. Subsequent traffic analyses will include the development and application of a mesoscopic model of traffic operations and the development of a traffic and revenue (T&R) model with the production of T&R estimates in a Level 1 Toll Study.

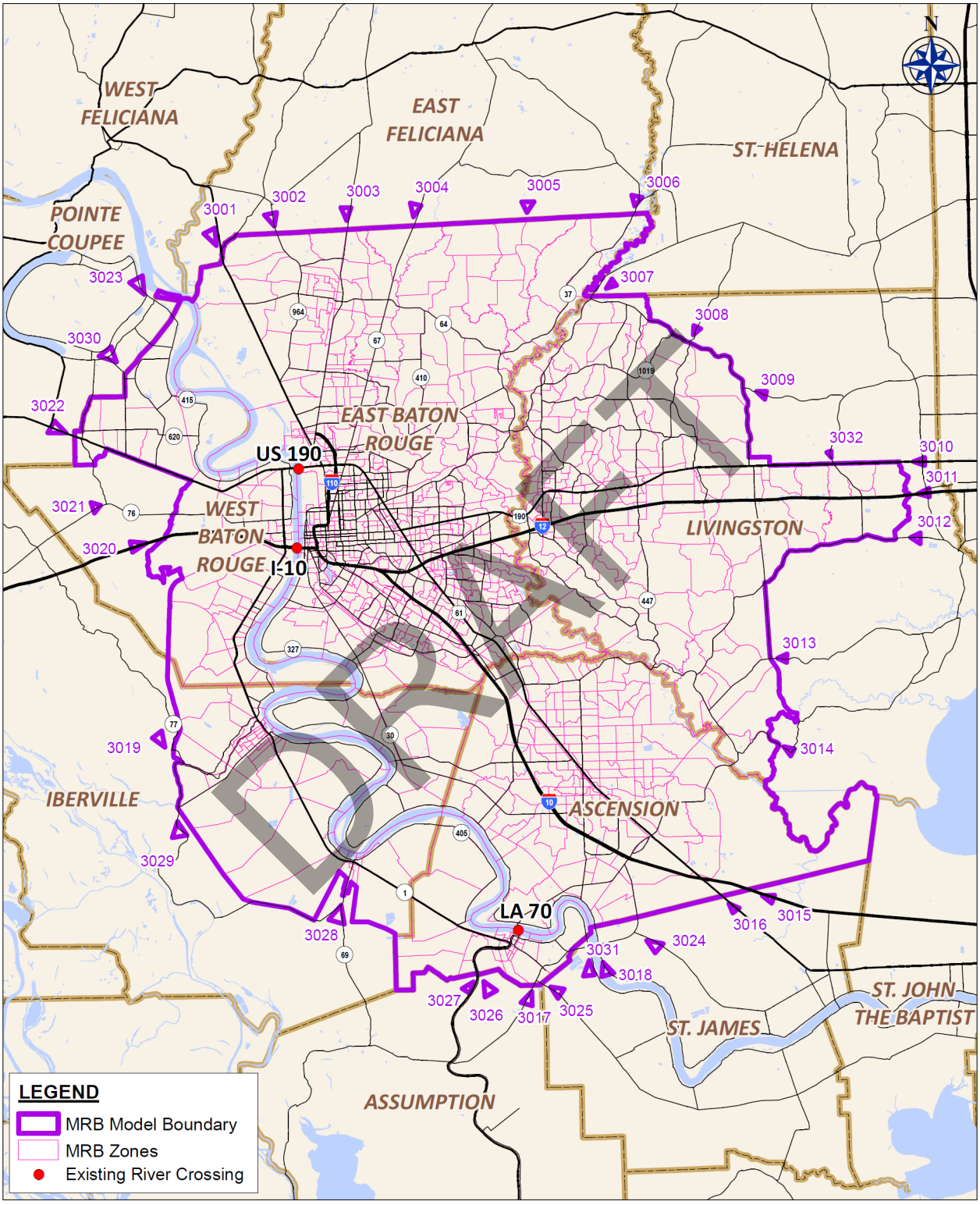
1. Introduction and Purpose

As part of the overall study effort, CDM Smith has developed a model specific to the proposed MRB for use in the analysis of the various project alternatives. The MRB Model will serve as the foundation for travel demand forecasts for each of the proposed alternative river crossings, as well as the T&R projections. The new, project-specific MRB Model is based on the latest version of the regional travel demand model developed and maintained by the Capital Regional Planning Commission (CRPC), which is the Metropolitan Planning Organization (MPO) for Baton Rouge. The CRPC Model was used in the development of the **MOVE2042 Metropolitan Transportation Plan** (2018). CDM Smith updated and revalidated the existing regional travel demand model within the project study area against 2019 traffic counts, inter-parish movements, travel pattern information, and other measures. The model development process was documented in the report titled **Base Year Model Validation Technical Memorandum**, dated April 2021.

As shown in **Figure 1-1**, the overall MRB Model area is outlined in purple, with the external access points indicated by the purple triangles. The focus of the MRB Model is the present and future traffic crossing the Mississippi River and traffic traveling along I-10, LA 1, and LA 30. The three bridges crossing the Mississippi River within the model and study areas are the Huey P. Long Bridge (US 190), the Horace Wilkinson Bridge (I-10), and the Sunshine Bridge (LA 70). These three facilities are indicated in **Figure 1-1** by red dots.

Following the validation of the Base Year MRB Model, CDM Smith began the development of the future-year No-Build models. This was done by reviewing the existing 2032 and 2042 travel demand models developed by CRPC. The underlying socioeconomic (SE) data forecasts were reviewed and compared against historical trends for reasonableness. The highway improvement assumptions included in the original CRPC Model networks were reviewed and modified based on the latest Long Range Transportation Plan, **MOVE2042 Metropolitan Transportation Plan** (2018). Lastly, the calibration adjustments incorporated into the Base Year MRB Model were carried forward into

Figure 1-1
Study Area Map with MRB Model Coverage



the future-year (2032 and 2042) No-Build Models. This technical memorandum documents the development of the No-Build MRB Models and presents results in terms of traffic forecasts for the existing Mississippi River bridges.

It should be noted that CRPC was not involved in the development of the MRB Model and is therefore not responsible for its contents. Additionally, due to the project-specific nature of the validation effort, the MRB Model has limited applicability only to the MRB enhanced planning investigation for assessing relative traffic shares of the existing river crossings and the proposed new river crossing.

Lastly, the MRB Model was validated against pre-COVID-19 pandemic traffic volumes, travel patterns, and speeds, as will be summarized later in this technical memorandum. The impacts of the COVID-19 pandemic are not included in the base year or the future-year No-Build MRB Models. Therefore, any traffic estimates developed using these models that need to incorporate the impacts of the COVID-19 pandemic will need to do so through a separate post-processing adjustment.

This Page Left Intentionally Blank

2. Future-Year Socioeconomic Forecasts

SE data serves as one of the major model inputs and the primary basis for developing trip productions and attractions. The SE data forecasts for the CRPC Model included information about population, households, occupied dwelling units, employment, and schools. The population and household data for the CRPC Model Base Year (2015) were developed by Traffic Analysis Zone (TAZ) by the MPO based on the 2010 Census. Occupied dwelling units in each TAZ were classified based on household size, number of workers, auto ownership, and school age population. Total employment, developed from InfoUSA data, was differentiated into five industry sectors: Agriculture-Mining-Construction, Manufacturing-Transportation-Communication-Utilities-Wholesale Trade, Retail Trade, Government-Office-Services, and Other. Lastly, school attendance was included by TAZ for public and private elementary, middle and high schools, as well as for colleges, universities, and vocational/business schools. Future-year SE forecasts were developed for each of these variables by CRPC for the interim years 2022, 2032, and future year 2042.

In addition to the 2019 Base Year, CDM Smith developed two future years for the MRB Model consistent with the CRPC Model: an interim year of 2032 and a future year of 2042. The socioeconomic forecasts included in the original CRPC Model for these years were reviewed and compared against historical growth trends. That review is presented in this section. Ultimately, CDM Smith decided that the forecasts developed by the MPO were reasonable for the current application and incorporated them directly into the future-year No-Build Models without any changes or adjustments. Given the limited scope of the model development effort, it should be noted that the MRB Model has limited applicability only to the MRB enhanced planning investigation.

2.1. Historical Growth

CDM Smith reviewed historical population, employment, and occupied dwelling unit data by parish between 2010 and 2019. Population and occupied dwelling unit data were obtained for 2010 through 2018 (the latest available year) from the American Community Survey (ACS), published by the U.S. Census Bureau. Employment data were obtained from the Bureau of Labor Statistics (BLS) between 2010 and 2019. The MRB Model includes only parts of Iberville, Livingston, and West Baton Rouge Parishes. However, the historical socioeconomic data between 2010 and 2019 were reviewed on a total parish basis. This was done to simplify the analysis since the review of historical socioeconomic data was performed as a way to check the reasonableness of the growth in future-year forecasts. All growth rates are expressed as compound annual growth rates (CAGRs).

Historical population, employment, and occupied dwelling unit data are presented in **Table 2-1**. The average growth rate between 2015 and 2018 was used to develop the estimated 2019 population by parishes. Population for the combined parishes increased by an average of 0.8 percent per year between 2010 and 2019, based on data from ACS. Livingston Parish grew the fastest, at an average of 2.2 percent per year, while the population of East Baton Rouge grew the slowest, with slight declines in recent years.

Table 2-1
Historical Total Parish Population, Employment, and Occupied Dwelling Unit Trends, 2010-2019

	Total Parish Population [1]						
Parish	2010	2015	2018	Est. 2019 [2]	2010-2015 CAGR	2015-2019 CAGR	2010-2019 CAGR
Ascension	102,501	114,738	121,176	123,116	2.3%	1.8%	2.1%
East Baton Rouge	435,815	444,690	444,094	439,127	0.4%	-0.3%	0.1%
Iberville	33,513	33,229	32,956	35,919	-0.2%	2.0%	0.8%
Livingston	122,798	133,949	138,111	149,268	1.8%	2.7%	2.2%
West Baton Rouge	23,274	24,669	25,860	26,159	1.2%	1.5%	1.3%
Total	**717,901**	**751,275**	**762,197**	**773,590**	**0.9%**	**0.7%**	**0.8%**

	Total Parish Employment [3]					
Parish	2010	2015	2019	2010-2015 CAGR	2015-2019 CAGR	2010-2019 CAGR
Ascension	34,207	45,071	46,953	5.7%	1.4%	4.0%
East Baton Rouge	253,130	269,042	265,287	1.2%	-0.5%	0.6%
Iberville	13,783	15,424	15,369	2.3%	-0.1%	1.4%
Livingston	30,507	46,831	60,655	8.9%	9.0%	9.0%
West Baton Rouge	22,131	25,723	29,415	3.1%	4.6%	3.6%
Total	**353,758**	**402,091**	**417,679**	**2.6%**	**1.3%**	**2.1%**

	Total Parish Occupied Dwelling Units [1]						
Parish	2010	2015	2018	Est. 2019 [2]	2010-2015 CAGR	2015-2019 CAGR	2010-2019 CAGR
Ascension	35,640	40,110	42,649	43,332	2.4%	2.0%	2.2%
East Baton Rouge	166,543	169,120	165,939	164,083	0.3%	-0.8%	-0.2%
Iberville	11,118	11,191	10,918	11,900	0.1%	1.5%	0.8%
Livingston	42,962	47,608	48,859	52,806	2.1%	2.6%	2.3%
West Baton Rouge	8,386	9,179	9,599	9,710	1.8%	1.4%	1.6%
Total	**264,649**	**277,208**	**277,964**	**281,831**	**0.9%**	**0.4%**	**0.7%**

Note: MRB Model includes only portions of Acsension, East Baton Rouge, and Iberville Parishes.
Totals shown above represent the total population, employment and dwelling units for the entire parish.
Measurement methodologies for employment and dwelling units within the MRB Model differ from those used by the U.S. Census Bureau and Bureau of Labor Statistics.
(1) Source: 2010-2018 American Community Survey, U.S. Census Bureau. 2019 Data Not Available.
(2) 2019 population and occupied delling unit estimates were developed by applying the average 2015 to 2018 growth rates to the 2018 estimates.
(3) Source: 2010-2019 Bureau of Labor Statistics.

Data from BLS between 2010 and 2019 indicates an average annual increase in employment of 2.1 percent. It should be noted that the estimates from BLS use a different measurement methodology for counting employment than the MRB Model, but are reasonable to perform these growth rate checks. Employment growth was strongest in Livingston Parish, with a relatively consistent growth rate of about 9.0 percent per year between 2010 and 2019. Most employment growth occurred in Livingston Parish. By contrast, employment in East Baton Rouge grew by an average of 1.2 percent per year between 2010 and 2015, but then declined by an average of 0.5 percent per year over the next four years.

The number of occupied dwelling units generally followed population trends, with slightly lower growth since 2015. This caused the average number of people per household to slightly increase from 2.71 in 2010 and 2015 to 2.74 in 2018. It should be noted that the estimates from ACS use a different measurement methodology for counting occupied dwelling units than the MRB Model, but are reasonable to perform these growth rate checks.

2.2. Forecasted Growth

The MRB Model SE dataset is based on the data produced by the MPO. The primary socioeconomic inputs to the model include population, employment, and occupied dwelling units. As part of the Base Year MRB Model development, CDM Smith updated the base year TAZ level socioeconomic dataset from the 2015 conditions included in the original CRPC model to 2019 conditions in the MRB Model based on data from ACS and BLS. As previously noted, the MRB Model includes only parts of Iberville, Livingston, and West Baton Rouge Parishes, and also assumes different measurement methodologies for employment and occupied dwelling units based on those used by the MPO. For this reason, the initial straight-line 2019 estimates of population, employment, and dwelling units based on the 2015 and 2022 model socioeconomic inputs were adjusted proportionally based on the 2015, 2018, and 2019 data from ACS and BLS.

The scope of the current study did not include the development of original socioeconomic forecasts. Instead, CDM Smith reviewed the MPO forecasts for reasonableness against historical trends and expected growth rates for a typical Project Development and Environment (PD&E) Study. Ultimately, CDM Smith decided to use the MPO SE data forecasts for the current application and incorporated them into the future-year No-Build Models without any changes or adjustments. The MRB Model SE data forecasts are presented in **Table 2-2** and compared against the 2019 Base Year assumptions. As previously noted, the MRB Model includes only parts of Iberville, Livingston, and West Baton Rouge Parishes, which is reflected in the forecasts in **Table 2-2.**

Under the MRB Model assumptions, population for the combined parishes is estimated to increase by an average of 1.4 percent annually between 2019 and 2042. Livingston Parish is forecasted to grow the fastest, with lower population growth forecasted in East Baton Rouge and Iberville Parishes. The MRB Model socioeconomic forecasts between 2019 and 2042 indicate an average annual increase in employment of 1.8 percent. Employment growth is forecasted to be strongest in Ascension and Livingston Parishes and slower in East Baton Rouge Parish. As with the historical socioeconomic dataset, the forecasted growth in occupied dwelling units generally follows the forecasts of population.

Lastly, it should be noted that the socioeconomic inputs incorporated into the MRB Model were developed prior to the COVID-19 pandemic. Additionally, the MRB Model itself was validated against pre-COVID-19 pandemic traffic conditions. Thus, the impacts of the COVID-19 pandemic are not included in the base year MRB Model or the future-year MRB No-Build Models.

Table 2-2
Forecasted Population, Employment, and Occupied Dwelling Unit Trends, 2019-2042

Population within MRB Model

Parish	2019	2032	2042	2019-2032 CAGR	2032-2042 CAGR	2019-2042 CAGR
Ascension	123,116	170,424	202,637	2.5%	1.7%	2.2%
East Baton Rouge	439,127	508,929	530,980	1.1%	0.4%	0.8%
Iberville	24,996	28,535	30,100	1.0%	0.5%	0.8%
Livingston	119,825	166,006	202,083	2.5%	2.0%	2.3%
West Baton Rouge	25,974	33,023	38,483	1.9%	1.5%	1.7%
Total	**733,038**	**906,918**	**1,004,283**	**1.7%**	**1.0%**	**1.4%**

Employment within MRB Model

Parish	2019	2032	2042	2019-2032 CAGR	2032-2042 CAGR	2019-2042 CAGR
Ascension	52,138	98,490	131,546	5.0%	2.9%	4.1%
East Baton Rouge	287,694	335,141	360,639	1.2%	0.7%	1.0%
Iberville	14,517	17,178	19,774	1.3%	1.4%	1.4%
Livingston	30,507	46,831	60,655	3.4%	2.6%	3.0%
West Baton Rouge	13,319	18,299	20,941	2.5%	1.4%	2.0%
Total	**398,174**	**515,938**	**593,555**	**2.0%**	**1.4%**	**1.8%**

Occupied Dwelling Units within MRB Model

Parish	2019	2032	2042	2019-2032 CAGR	2032-2042 CAGR	2019-2042 CAGR
Ascension	46,969	65,316	78,074	2.6%	1.8%	2.2%
East Baton Rouge	186,075	217,454	227,904	1.2%	0.5%	0.9%
Iberville	8,783	10,219	10,882	1.2%	0.6%	0.9%
Livingston	45,941	63,354	77,159	2.5%	2.0%	2.3%
West Baton Rouge	10,218	13,157	15,496	2.0%	1.6%	1.8%
Total	**297,986**	**369,500**	**409,514**	**1.7%**	**1.0%**	**1.4%**

Note: MRB Model includes only portions of Acsension, East Baton Rouge, and Iberville Parishes. Totals shown above represent only the population, employment, and dwelling units included in the MRB Model.

3. Highway Improvement Assumptions

The MRB Model has two future years: 2032 and 2042. The highway improvements included in the 2032 and 2042 networks are based on the **MOVE2042 Metropolitan Transportation Plan** (2018), developed by CRPC. In the MOVE2042 Metropolitan Transportation Plan, highway improvements are classified as Existing and Committed (E+C), Stage I, Stage II, or Stage III. Projects listed as E+C were already completed or included in the CRPC five-year work program when the MOVE2042 Metropolitan Transportation Plan was developed in 2018. Thus, they represent projects completed between 2015 (Model Base Year) and 2018 (MOVE2042 Publication Date). Projects planned for completion between 2019 and 2022 (the first CRPC Model Interim Year), were classified as Stage I, while projects planned for completion between 2023 and 2032 (the second CRPC Model Interim Year), were classified as Stage II. Stage III projects represent those highway improvements planned for completion by 2042, the future year of the CRPC Model.

All projects completed by 2019 were included in the 2019 Base Year highway network. In addition to improvements in the 2019 Base Year, Stage I and Stage II improvements were included in the MRB Model 2032 Interim Year highway network. The MRB Model highway networks for 2042 included the Stage III improvements, along with all prior year improvements. CDM Smith reviewed the planned highway improvements and checked to ensure they were properly reflected in the network and in the correct model year.

Based on a review by DOTD, two additional highway improvements were added to the 2032 network:

- **LA 1068 / Drusilla Lane** between LA 73 and LA 426: Add Turning Lane and Sidewalks; and
- **Port Hudson Pride Road** between LA 964 and LA 19: Add Turning Movements, Shoulders, and Drainage.

While these important transportation improvements will be included in other modeling efforts for the overall MRB analysis, these types of improvements do not have a significant impact within the MRB Model, a regional travel demand model.

Table 3-1 presents the highway improvements incorporated into the future-year MRB Models by model year. A map of the highway improvement locations is presented in **Figure 3-1**.

One particular improvement that may impact the new MRB project is the planned widening of I-10 (Projects 2210, 2211, 2710, 2711, 3211, 3212, 4210, and 9910). With this improvement project, on the east side of the Mississippi River, I-10 is assumed to be widened to 6 lanes between Highland Road (just east of the existing I-10 bridge) and Essen Lane (just east of the I-10 / I-12 interchange). West of the Mississippi River, I-10 is assumed to be widened to 6 lanes between LA 415 / Lobdell Highway and LA 1. No widening is planned for the existing I-10 Horace Wilkinson Bridge. The I-10 widening project has been included in the 2032 and 2042 future-year No-Build highway networks. This widening project provides some level of competition to the proposed MRB, but the level of competition is minimal because the actual I-10 river crossing cannot easily be improved. The estimated impacts of the I-10 widening to the existing Mississippi River crossings are provided as a test of model performance later in this technical memorandum.

Table 3-1
MRB Model Highway Improvement Assumptions

CRPC Project ID	Parish	Roadway	From	To	Description	LRTP Project Type	Earliest MRB Model Year
9	Livingston	Cook Rd.	LA 16 / Petes Hwy.	LA 1026 / Juban Rd.	Construct New 4-Lane Road	E+C	2032
10	East Baton Rouge	Dijon Rd. Extension	LA 3064 / Essen Ln.	0.7 mi. E of LA 3064 / Essen Ln.	Construct New 2-Lane Road and Local Connectors - Phase I	E+C	2032
14	Ascension	Edenborne Pkwy.	Ashland Rd.	St. Landry Ave.	Construct New 2-Lane Road	E+C	2032
7	East Baton Rouge	Glen Oaks Dr.	LA 67 / Plank Rd.	McClelland Dr.	Reconstruct Center Turn Lane	E+C	2032
3	East Baton Rouge	I-10	LA 73	Highland Rd.	Widen to 6 Lanes	E+C	2032
26	East Baton Rouge	I-110	Terrace Ave.		New Exit Ramp and Safety Improvements	E+C	2032
21	Livingston	I-12	0.5 mi. W of Satsuma Ramp	Satsuma Ramp	Widen to 6 Lanes	E+C	2032
11	Livingston	LA 1026 / Juban Rd.	I-12	US 190 / Florida Blvd.	Widen to 4 Lanes	E+C	2032
5	East Baton Rouge	LA 3034 / Sullivan Rd.	LA 408 / Wax Rd.	LA 3034 / Hooper Rd.	Widen to 4 Lanes	E+C	2032
1	Ascension	LA 42	US 61	LA 44	Widen to 4 Lanes	E+C	2032
17	East Baton Rouge	LA 73	East Blvd.	Lobdell Ave.	Reduce 4-Lane Undivided Highway to 3 Lanes	E+C	2032
4	East Baton Rouge	N Sherwood Forest Blvd.	LA 37 / Greenwell Springs Rd.	Choctaw Dr.	Widen to 5 Lanes	E+C	2032
15	Ascension	St. Landry Ave.	LA 30	Edenbourne Pkwy.	Reconstruct 2 Lanes	E+C	2032
937	East Baton Rouge	Dijon Rd. Extension	LA 1248 / Bluebonnet Blvd.	LA 3064 / Essen Ln.	Construct New 4-Lane Road - Phase II	Stage I	2032
934	East Baton Rouge	Dijon Rd.-Picardy Ave. Connector	Dijon Rd. Extension	Picardy Ave.	Construct New 2-Lane Road and Local Connectors	Stage I	2032
938	East Baton Rouge	Groom Rd.	LA 19	LA 67 / Plank Rd.	Add Turning Lanes	Stage I	2032
2211	East Baton Rouge	I-10	College Dr.		Construct I-10 Westbound College Dr. Flyover Frontage Road	Stage I	2032
2210	East Baton Rouge	I-10	LA 3064 / Essen Ln.	College Dr.	Widen I-10 Westbound Mainline	Stage I	2032
932	East Baton Rouge	LA 427 / Perkins Rd.-Picardy Ave. Connector	LA 427 / Perkins Rd.	Picardy Ave.	Construct New 4-Lane Road	Stage I	2032
551	Ascension	LA 44 / N Burnside Ave.	I-10	Loosemoore Rd.	Widen to 4 Lanes and Construct Roundabout	Stage I	2032
917	East Baton Rouge	MacHost Rd.	LA 64 / Main St.	Port Hudson Pride Rd.	Add Safety Improvements and Turning Lanes	Stage I	2032
917	East Baton Rouge	McHugh Rd.	Groom Rd.	Lower Zachary Rd.	Pave and Add Shoulders	Stage I	2032
926	East Baton Rouge	Antioch Rd.	LA 73 / Jefferson Hwy.	Tiger Bend Rd.	Add Turning Lanes	Stage II	2032
927	East Baton Rouge	Ardenwood Dr.-Lobdell Blvd. Connector	Ardenwood Dr.	Lobdell Blvd.	Construct New 3-Lane Road	Stage II	2032
612	East Baton Rouge	Cedarcrest Ave.	US 61 / Airline Hwy.	LA 426 / Old Hammond Hwy.	Widen to 4 Lanes	Stage II	2032
941	East Baton Rouge	Claycut Rd.	LA 73 / Jefferson Hwy.	Forster Rd.	Convert Access Signal Turning Lane to 3 Lanes	Stage II	2032
N/A	East Baton Rouge	LA 1068 / Drusilla Ln.	LA 73 / Jefferson Hwy.	LA 426 / Old Hammond Hwy.	Add Turning Lane and Sidewalks	Stage II	2032
927	Ascension	Duplessis Rd.	US 61 / Airline Hwy.	LA 73 / Jefferson Hwy.	Widen from 10 ft. Lane to 12 ft. Lane	Stage II	2032
927	East Baton Rouge	Gardere Ln.	Burbank Dr.	LA 30 / Nicholson Dr.	Widen to 4 Lanes	Stage II	2032
628	East Baton Rouge	Groom Rd. Extension	US 61 / Samuels Rd.	LA 964 / Old Scenic Hwy.	Construct New 2-Lane Road	Stage II	2032
930	East Baton Rouge	Hoo Shoo Too Rd.	LA 73 / Jefferson Hwy.	Tiger Bend Rd.	Widen to 3 Lanes	Stage II	2032
3211	East Baton Rouge	I-10	Dalrymple Dr.		Roundabouts @ Dalrymple, Frontage Rd.	Stage II	2032
3212	East Baton Rouge	I-10	Dalrymple Dr.		Close and Open Ramps	Stage II	2032
9910	East Baton Rouge	I-10	Highland Rd.	LA 3064 / Essen Ln.	Widen to 6 Lanes	Stage II	2032
9910	West Baton Rouge	I-10	LA 415 / Lobdell Hwy.	LA 1 / Louisiana Scenic Bayou Byway	Widen to 6 Lanes	Stage II	2032
502 / 927	Ascension	I-10	LA 73 / Old Jefferson Hwy.	LA 22	Widen to 6 Lanes	Stage II	2032
2710	East Baton Rouge	I-10	Terrace Ave.	I-12	Widen I-10 Mainline	Stage II	2032

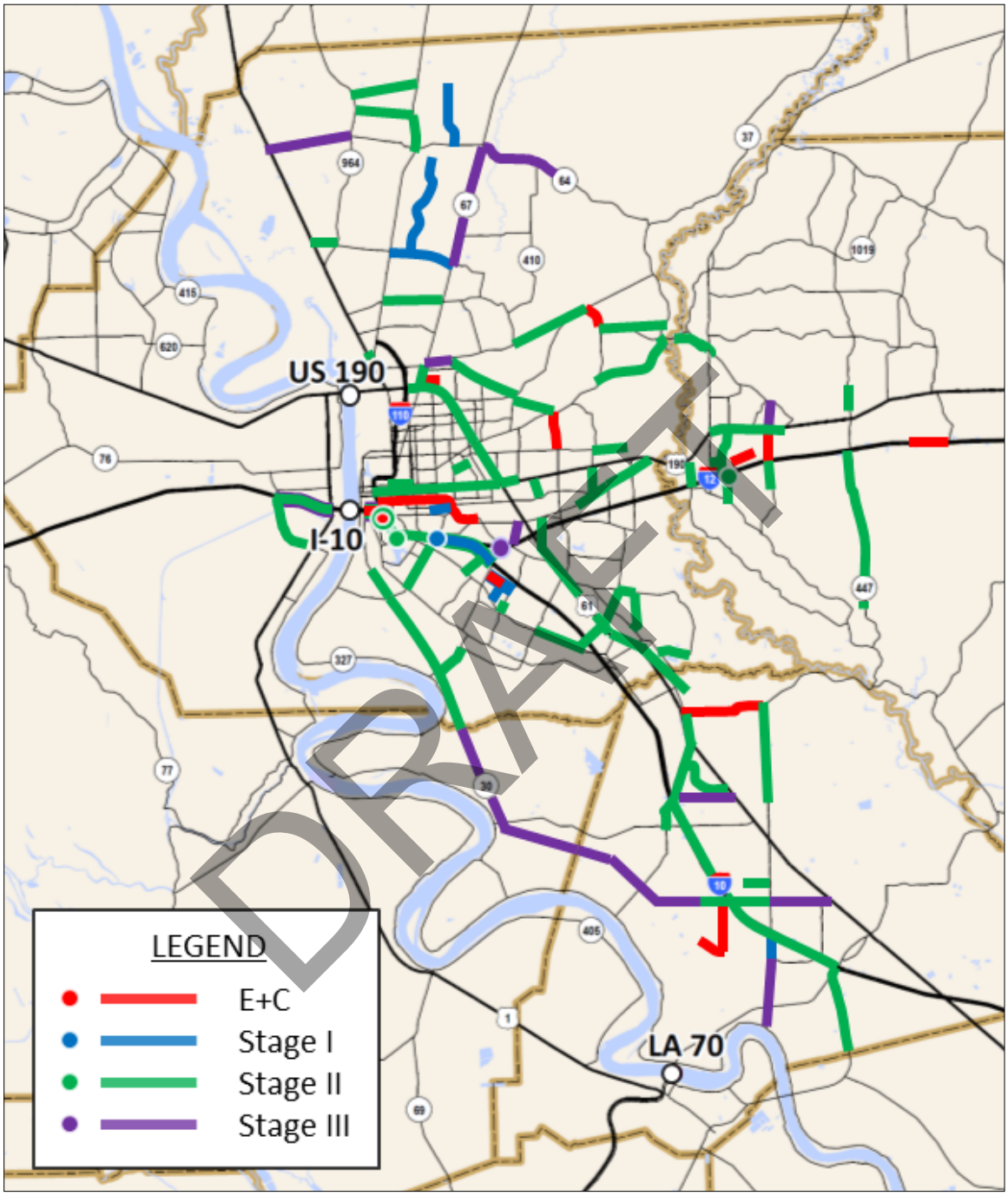
Table 3-1 (Continued)
MRB Model Highway Improvement Assumptions

CRPC Project ID	Parish	Roadway	From	To	Description	LRTP Project Type	Earliest MRB Model Year
2711	East Baton Rouge	I-10	Washington Rd. and Terrace Ave.		Construct Roundabouts to Coordinate with I-10 Ramps	Stage II	2032
642	Livingston	I-12	LA 16 / Petes Hwy.		New Interchange	Stage II	2032
927	East Baton Rouge	Jones Creek Rd. Extension	US 61 / Airline Hwy.	Tiger Bend Rd.	Construct New 4-Lane Road	Stage II	2032
714	West Baton Rouge	LA 1/I-10 Connector	LA 415 / Lobdell Hwy.	LA 1 / Louisiana Scenic Bayou Byway	Construct New 2-Lane Road	Stage II	2032
634	Livingston	LA 1026 / Juban Rd.	Wax Rd.	I-12	Widen to 4 Lanes	Stage II	2032
641	Livingston	LA 1032 / 4H Club Rd.	US 190 / Florida Blvd.	Vincent Rd.	Widen to 4 Lanes	Stage II	2032
927	East Baton Rouge	LA 1248 / Bluebonnet Blvd.	LA 427 / Perkins Rd.	Picardy Ave.	Widen to 6 Lanes	Stage II	2032
637	Livingston	LA 16 / Petes Hwy.	Centerville St.	Vincent Rd.	Widen to 4 Lanes	Stage II	2032
927	East Baton Rouge	LA 19	LA 64 / Main St.	Sunset Blvd.	Widen to 5 Lanes	Stage II	2032
927	Ascension	LA 22 / LA 70	I-10	St. James Parish Line	Widen to 4 Lanes	Stage II	2032
927	Ascension	LA 30 / Nicholson Dr.	Ashland Rd to Burnside Ave	Ashland Rd to Burnside Ave	Widen to 5 Lanes	Stage II	2032
902	East Baton Rouge	LA 30 / Nicholson Dr.	Brightside Dr.	Iberville Parish Line	Widen to 4/5 Lanes	Stage II	2032
927	East Baton Rouge	LA 30 / Nicholson Dr.	Gourrier Ave.	Brightside Dr.	Widen to 5 Lanes	Stage II	2032
636	Livingston	LA 3003 / Rushing Rd.	LA 16 / Petes Hwy.	0.5 mi. W of S Range Ave.	Widen to 4 Lanes	Stage II	2032
627	East Baton Rouge	LA 37 / Greenwell Springs Rd.	Sullivan Rd.	Magnolia Bridge Rd.	Widen to 5 Lanes	Stage II	2032
927	East Baton Rouge	LA 408 / Hooper Rd.	Blackwater Rd.	Sullivan Rd.	Widen to 4 Lanes	Stage II	2032
904	East Baton Rouge	LA 426 / Old Hammond Hwy.	Blvd. De Provence	Millerville Rd.	Widen to 5 Lanes	Stage II	2032
927	East Baton Rouge	LA 426 / Old Hammond Hwy.	Millerville Rd.	O'Neal Ln.	Widen to 4 Lanes	Stage II	2032
906	East Baton Rouge	LA 426 / Old Hammond Hwy.	O'Neal Ln.	US 190 / Florida Blvd.	Widen to 4 Lanes	Stage II	2032
927	East Baton Rouge	LA 427 / Perkins Rd.	Siegen Ln.	Pecue Ln.	Widen to 4 Lanes	Stage II	2032
927	East Baton Rouge	LA 427 / Perkins Rd.-Hennessy Blvd. Connector	LA 427 / Perkins Rd.	Hennessy Blvd.	Construct New 4-Lane Road	Stage II	2032
701	Ascension	LA 44 / N Burnside Ave.	LA 621 / Cante Rd.	LA 42 / Oak Grove-Port Vincent Hwy.	Widen to 4 Lanes	Stage II	2032
638	Livingston	LA 447 / Walker Rd.	Hodges Rd.	Burgess Ave.	Widen to 4 Lanes	Stage II	2032
713	Livingston	LA 447 / Walker Rd.	I-12	Hood Rd.	Widen to 4 Lanes	Stage II	2032
633	Livingston	LA 64 / Magnolia Beach Rd.	Amite River	LA 16 / N Range Ave.	Widen to 4 Lanes	Stage II	2032
943	East Baton Rouge	LA 67 / Plank Rd.	US 190 / Airline Hwy.	LA 408 / Hooper Rd. / Harding Blvd.	Widen to 6 Lanes	Stage II	2032
601	Ascension	LA 73 / Old Jefferson Hwy.	I-10	US 61 / Airline Hwy.	Widen to 4 Lanes	Stage II	2032
602	Ascension	LA 73 / Old Jefferson Hwy.	LA 74	I-10	Widen to 4 Lanes	Stage II	2032
704	Ascension	LA 73 / Old Jefferson Hwy.	US 61 / Airline Hwy.	LA 42	Widen to 4 Lanes	Stage II	2032
606	Ascension	LA 940 / Orice Roth Rd.	E Ascension School Rd.	LA 44 / Burnside Ave.	Widen to 4 Lanes	Stage II	2032
912	East Baton Rouge	Lee Dr.	Duplanier, Bayou	LA 427 / Perkins Dr.	Widen to 3 Lanes	Stage II	2032
911	East Baton Rouge	Lee Dr.	Highland Rd.	Duplanier, Bayou	Widen to 4 Lanes	Stage II	2032
913	East Baton Rouge	Lee Dr. / College Dr.	LA 427 / Perkins Dr.	I-10	Widen to 6 Lanes	Stage II	2032
915	East Baton Rouge	Mickens Rd.	LA 408 / Hooper Rd.	LA 946 / Joor Rd.	Widen to 4 Lanes	Stage II	2032

Table 3-1 (Continued)
MRB Model Highway Improvement Assumptions

CRPC Project ID	Parish	Roadway	From	To	Description	LRTP Project Type	Earliest MRB Model Year
914	East Baton Rouge	N Sherwood Forest Dr. Extension	LA 37 / Greenwell Springs Rd.	LA 946 / Joor Rd.	Construct New 2-Lane Road	Stage II	2032
945	East Baton Rouge	North St.	N 18th St.	N Forester Dr.	Widen to 5 Lanes	Stage II	2032
927	East Baton Rouge	Pecue Ln.	LA 427 / Perkins Dr.	US 61 / Airline Hwy.	Widen to 4 Lanes	Stage II	2032
918	East Baton Rouge	Port Hudson Pride Rd.	LA964 / Old Scenic Highway	LA19 / Zachary-Slaughter Hwy.	Add Turnning Lanes	Stage II	2032
N/A	East Baton Rouge	Port Hudson Pride Rd.	LA 964 / Old Scenic Hwy.	LA 19	Add Turning Movements, Shoulders, and Drainage	Stage II	2032
919	East Baton Rouge	Rollins Rd.	LA964 / Old Scenic Highway	LA19 / Zachary-Slaughter Hwy.	Add Turnning Lanes	Stage II	2032
927	East Baton Rouge	S Choctaw Rd.	N Flannery Rd.	Central Thwy.	Widen to 4 Lanes	Stage II	2032
922	East Baton Rouge	S Flannery Rd.	LA 426 / Old Hammond Hwy.	US 190 / Florida Blvd.	Widen to 3 Lanes / Realign with Millerville Rd.	Stage II	2032
944	East Baton Rouge	Sharp Rd.	LA 426 / Old Hammond Hwy.	US 190 / Florida Blvd.	Widen to 3 Lanes	Stage II	2032
920	East Baton Rouge	Thomas Rd.	LA 19 / Scotland Ave.	LA 67 / Plank Rd.	Add Turnning Lanes	Stage II	2032
929	East Baton Rouge	Tiger Bend Rd.	Jones Creek Rd.	Antioch Rd.	Widen to 4 Lanes	Stage II	2032
946	East Baton Rouge	US 190 / Florida Blvd.	I-110	US 61 / Airline Hwy.	Convert Access Signal Turning Lane to Divided Highway	Stage II	2032
631	Livingston	US 190 / Florida Blvd.	LA 16 / Petes Hwy.	Burgess Ave.	Widen to 4 Lanes	Stage II	2032
617	East Baton Rouge	US 190 / Florida Blvd.	US 61 / Airline Hwy.	Monterey Blvd.	Widen to 8 Lanes	Stage II	2032
927	East Baton Rouge	US 61 / Airline Hwy.	Ascension Parish Line	Bluebonnet Blvd.	Widen to 6 Lanes	Stage II	2032
927	East Baton Rouge	US 61 / Airline Hwy.	Florline Blvd.	LA 37 / Greenwell Springs Rd.	Widen to 6 Lanes	Stage II	2032
927	East Baton Rouge	US 61 / Airline Hwy.	LA 37 / Greenwell Springs Rd.	I-110	Widen to 6 Lanes	Stage II	2032
927	East Baton Rouge	US 61 / Airline Hwy.	US 190 / Florida Blvd.	Florline Blvd.	Widen to 6 Lanes	Stage II	2032
939	East Baton Rouge	US 61 / Scenic Hwy.	LA 408 / Harding Blvd.	Swan Ave.	Intersection Improvement	Stage II	2032
925	East Baton Rouge	Wax Rd. / Magnolia Bridge Rd.	Sullivan Rd.	LA 37 / Greenwell Springs Rd.	Widen to 4 Lanes	Stage II	2032
4210	East Baton Rouge	I-10	E of Mississippi River	LA 30 / Nicholson Dr.	Widen to 6 Lanes	Stage III	2042
4210	West Baton Rouge	I-10	LA 415	W of Mississippi River	Widen to 6 Lanes	Stage III	2042
623	East Baton Rouge	I-12	LA 3064 / Essen Ln.		New Westbound Exit Ramp	Stage III	2042
632	Livingston	Juban Rd. Extension	US 190 / Florida Blvd.	LA 1026 / Lockhart Rd.	Construct New 4-Lane Road	Stage III	2042
613	East Baton Rouge	LA 1068 / Drusilla Ln.	LA 73 / Jefferson Hwy.	LA 426 / Old Hammond Hwy.	Widen to 4 Lanes	Stage III	2042
847	Iberville	LA 30 / Nicholson Dr.	East Baton Rouge Parish Line	Ascension Parish Line	Widen to 5 Lanes	Stage III	2042
809	Ascension	LA 30 / Nicholson Dr.	Iberville Parish Line	Ashland Rd.	Widen to 5 Lanes	Stage III	2042
810	Ascension	LA 30 / Nicholson Dr.	LA 44 / Burnside Ave.	US 61 / Airline Hwy.	Widen to 5 Lanes	Stage III	2042
625	East Baton Rouge	LA 408 / Hooper Rd.	LA 67 / Plank Rd.	Mickens Rd.	Widen to 6 Lanes	Stage III	2042
431	Ascension	LA 44 / N Burnside Ave.	Loosemoore Rd.	LA 942 / River Rd.	Widen to 4 Lanes	Stage III	2042
702	Ascension	LA 621	LA 73 / Old Jefferson Hwy.	US 61 / Airline Hwy.	Widen to 4 Lanes	Stage III	2042
707	East Baton Rouge	LA 64 / Greenwell Springs-Port Hudson Rd.	LA 67 / Plank Rd.	Joor Rd.	Widen to 4 Lanes	Stage III	2042
464	East Baton Rouge	LA 64 / Rockport St.	US 61 / Samuels Rd.	LA 964 / Old Scenic Hwy.	Widen to 4 Lanes	Stage III	2042
709	East Baton Rouge	LA 67 / Plank Rd.	Groom Rd.	LA 64 / Main St.	Widen to 4 Lanes	Stage III	2042

Figure 3-1
MRB Model Highway Improvement Assumptions



This Page Left Intentionally Blank

4. Future-Year Model Development

In addition to the socioeconomic and highway improvement inputs to the model, CDM Smith incorporated several adjustments to the future-year No-Build MRB Models. These included carrying forward the trip distribution adjustments included in the Base Year Model, revising the external trip matrices, and applying the final calibration adjustments to the future-year trip tables. This section details those adjustments to the No-Build MRB Models.

4.1. External Trips

External trips have one trip end or both trip ends outside the model area. External-Internal (EI) trips have one trip end (origin or destination) outside of the model area. External-External (EE) trips have both ends outside of the model area. The sum of these external trips is determined by traffic counts at the external locations. The four external trip purposes included in the MRB Model are:

- External-Internal Auto Trips (EIAUTO)
- External-Internal Truck Trips (EITRK)
- External-External (Through) Auto Trips (EEAUTO)
- External-External (Through) Truck Trips (EETRK)

The external trips in the Base Year MRB Model were updated with 2019 counts, separated by vehicle class (auto and truck). In addition, travel pattern information from StreetLight Data, Inc. was used to reset the proportion of external trips that are EE trips and the pattern of EE trips from each location, both auto and truck.

In light of these changes, adjustments were made to the future-year external trip matrices in order to carry forward the adjustments made in the base year. In general, these adjustments involved developing traffic growth rates for the external points and then applying those growth rates to the adjusted volumes and trip distributions included in the Base Year MRB Model. This was done by first reviewing the Annual Average Daily Traffic (AADT) volumes at external access points in the base year. Then CDM Smith reviewed the average annual growth rate in external AADT volumes between 2019 and 2042 for each external access point and capped the growth rate at 1.5 percent. Volumes at 2032 levels were developed for the external access points through interpolation between volumes in the base year of 2019 and volumes in the future year of 2042. This process allowed CDM Smith to capture the StreetLight trip distribution incorporated into the Base Year MRB Model. The resulting volumes and growth rates at the external access points are presented in **Table 4-1**.

CDM Smith then used the revised AADT volumes presented in **Table 4-1** to develop the distribution of trips at the external points by TAZ. For EE trips, CDM Smith applied the same adjustments to the external trip matrix as part of the model validation to the 2032 and 2042 matrices in the No-Build MRB Models. The resulting EE trips were then subtracted from the external AADT volumes to determine the EI trip ends. These EI trip ends were matched with internal TAZs using a FRATAR growth factor procedure in TransCAD using the 2019 trip table, which incorporated actual Origin-Destination (O-D) data from StreetLight. In this manner, the distribution of the external trips from StreetLight was carried forward into the future years.

Table 4-1
Distribution of External Trips by Zone, 2019-2042

External TAZ No.	Road Name	Model Edge	Total AADT at External			Compound Average Growth Rate (CAGR)		
			2019	2032	2042	2019-2032	2032-2042	2019-2042
3001	US 61 / Samuels Rd.	North	23,258	25,643	27,477	0.8%	0.7%	0.7%
3002	Old Scenic Highway	North	5,633	6,934	7,934	1.6%	1.4%	1.5%
3003	LA 19	North	6,543	8,053	9,215	1.6%	1.4%	1.5%
3004	LA 67 / Plank Rd.	North	8,363	9,509	10,391	1.0%	0.9%	0.9%
3005	LA 409	North	544	596	637	0.7%	0.7%	0.7%
3006	LA 37	North	3,323	3,677	3,950	0.8%	0.7%	0.8%
3007	LA 16	North	8,000	9,254	10,219	1.1%	1.0%	1.1%
3008	LA 449	North	2,581	2,745	2,871	0.5%	0.4%	0.5%
3009	LA 442	East	1,326	1,454	1,551	0.7%	0.7%	0.7%
3010	US 190 / Florida Blvd.	East	6,868	7,593	8,151	0.8%	0.7%	0.7%
3011	I-12	East	87,434	100,143	109,919	1.0%	0.9%	1.0%
3012	LA 42	East	3,390	4,173	4,775	1.6%	1.4%	1.5%
3013	LA 444	East	4,882	5,110	5,286	0.4%	0.3%	0.3%
3014	LA 22	East	3,646	4,020	4,308	0.8%	0.7%	0.7%
3015	I-10	Southeast	45,655	56,193	64,299	1.6%	1.4%	1.5%
3016	US 61	Southeast	17,330	21,330	24,407	1.6%	1.4%	1.5%
3017	LA 70	South	9,462	11,646	13,326	1.6%	1.4%	1.5%
3018	LA 44	South	3,506	4,132	4,613	1.3%	1.1%	1.2%
3019	LA 77	West	1,994	2,350	2,623	1.3%	1.1%	1.2%
3020	I-10	West	52,810	59,641	64,895	0.9%	0.8%	0.9%
3021	LA 76 / Rosedale Rd.	West	1,974	2,230	2,428	0.9%	0.9%	0.9%
3022	US 190	West	19,743	23,266	25,976	1.3%	1.1%	1.2%
3023	LA 415	Northwest	1,357	1,670	1,910	1.6%	1.4%	1.5%
3024	LA 3125	South	4,519	5,562	6,364	1.6%	1.4%	1.5%
3025	LA 3127	South	2,309	2,842	3,252	1.6%	1.4%	1.5%
3026	LA 308	South	1,312	1,546	1,726	1.3%	1.1%	1.2%
3027	LA 1	South	4,366	5,105	5,673	1.2%	1.1%	1.1%
3028	LA 69	Southwest	4,377	5,158	5,759	1.3%	1.1%	1.2%
3029	LA 75	West	2,489	2,537	2,574	0.1%	0.1%	0.1%
3030	LA 983	Northwest	2,116	2,605	2,981	1.6%	1.4%	1.5%
3031	LA 18	South	4,154	5,112	5,850	1.6%	1.4%	1.5%
3032	LA 441	East	3,357	4,066	4,612	1.5%	1.3%	1.4%
	Total		**348,622**	**405,895**	**449,951**	**1.2%**	**1.0%**	**1.1%**

4.2. Trip Distribution Adjustments

As detailed in **Base Year Model Validation Technical Memorandum**, dated April 2021, several updates were made to the trip distribution step during the development of the MRB Model. These included adjustments to the friction factors, K-factors, and time penalties employed during the gravity model component of the trip distribution step. The same adjustments were carried forward and applied in the 2032 and 2042 No-Build MRB Models.

5. No-Build MRB Model Results

CDM Smith developed No-Build MRB Models for 2032 and 2042 conditions within the study area. Using the No-Build MRB Models, traffic assignments were performed at 2032 and 2042 levels. This section provides a summary of the future-year model results.

5.1. Modeled Traffic Growth

Total traffic growth within the MRB Model is captured by comparing the vehicle miles traveled (VMT) and vehicle hours traveled (VHT) on all links in each of the model years. The sum-product of modeled daily traffic volumes and link lengths on all network links is the VMT. The sum-product of modeled daily traffic volumes and link travel times on all network links is the VHT. While VMT provides a basic measure of the overall traffic level within the model, VHT tends to provide an estimate of the level of congestion within the model.

Table 5-1 contains a comparison of modeled daily VMT at 2019, 2032, and 2042 levels by parish and by functional class. Total daily VMT is estimated to increase by an average annual rate of 1.3 percent between 2019 and 2042 for the full MRB Model. As is typically observed in travel demand models, the VMT growth estimates closely follow the socioeconomic inputs, particularly those of population. For this reason, CDM Smith deems the overall traffic growth within the MRB future-year No-Build Model to be reasonable.

Table 5-1
Modeled Daily Vehicles Miles Traveled by Parish and Functional Class, 2019, 2032, and 2042

	Modeled Daily Vehicle Miles Traveled (VMT)			Compound Annual Growth Rate (CAGR)		
Parish	2019	2032	2042	2019 to 2032	2032 to 2042	2019 to 2042
Ascension	4,074,000	5,562,000	6,537,000	2.4%	1.6%	2.1%
East Baton Rouge	10,742,000	12,583,000	13,459,000	1.2%	0.7%	1.0%
Iberville	556,000	680,000	865,000	1.6%	2.4%	1.9%
Livingston	4,579,000	5,620,000	6,380,000	1.6%	1.3%	1.5%
West Baton Rouge	1,542,000	1,807,000	2,015,000	1.2%	1.1%	1.2%
Total	**21,493,000**	**26,252,000**	**29,256,000**	**1.6%**	**1.1%**	**1.3%**
	Modeled Daily Vehicle Miles Traveled (VMT)			**Compound Annual Growth Rate (CAGR)**		
Functional Class	2019	2032	2042	2019 to 2032	2032 to 2042	2019 to 2042
Interstate	7,734,000	8,988,000	9,695,000	1.2%	0.8%	1.0%
Ramp	340,000	403,000	439,000	1.3%	0.9%	1.1%
Principal Arterial	6,535,000	7,900,000	8,486,000	1.5%	0.7%	1.1%
Minor Arterial	3,587,000	4,758,000	5,726,000	2.2%	1.9%	2.1%
Collector	2,627,000	3,282,000	3,757,000	1.7%	1.4%	1.6%
Local	670,000	921,000	1,153,000	2.5%	2.3%	2.4%
Total	**21,493,000**	**26,252,000**	**29,256,000**	**1.6%**	**1.1%**	**1.3%**

Table 5-2 contains a comparison of modeled daily VHT at 2019, 2032, and 2042 levels by functional class. Total daily VHT is estimated to increase by an average annual rate of 1.6 percent between 2019 and 2042 for the full MRB Model. The higher rate of growth (VHT over VMT) indicates an expected reduction in overall travel speeds and an increase in congestion within the modeled network.

Table 5-2
Modeled Daily Vehicles Hours Traveled by Functional Class, 2019, 2032, and 2042

	Modeled Daily Vehicle Hours Traveled (VHT)			Compound Annual Growth Rate (CAGR)		
Parish	2019	2032	2042	2019 to 2032	2032 to 2042	2019 to 2042
Interstate	157,200	187,500	212,200	1.4%	1.2%	1.3%
Ramp	11,100	13,900	15,900	1.7%	1.4%	1.6%
Principal Arterial	175,000	216,500	242,600	1.7%	1.1%	1.4%
Minor Arterial	99,700	135,800	166,000	2.4%	2.0%	2.2%
Collector	68,600	86,800	102,200	1.8%	1.6%	1.7%
Local	17,200	24,100	30,800	2.6%	2.5%	2.6%
Total	**528,800**	**664,600**	**769,700**	**1.8%**	**1.5%**	**1.6%**

5.2. Modeled Mississippi River Crossing Traffic

Table 5-3 contains a summary of modeled trips crossing the Mississippi River at 2019, 2032, and 2042 levels. Modeled daily traffic volumes, represented as AADTs, have been rounded. Average traffic growth using all the Mississippi River bridges is 1.1 percent annually between 2019 and 2042. This is consistent with the overall VMT growth for the full MRB Model and the level of congestion associated with the I-10 Bridge. Of the three bridges, traffic on LA 70 is estimated to increase at the fastest rate (average of 2.3 percent annually). This is likely due to the lower starting volume of the Sunshine Bridge, as compared to the other Mississippi River crossings, and the higher socioeconomic growth estimated for the nearby portions of Ascension and Livingston Parishes. For all model years, the majority of traffic crossing the Mississippi River within the study area uses the I-10 Bridge. Present-day traffic volumes on the I-10 Bridge are constrained during congested peak hours. As a result, future growth on this bridge appears as increased volumes during the shoulder hours just prior to and after the peak periods, representing a spreading of the peak periods.

Table 5-3
Modeled Mississippi River Bridge Traffic, 2019, 2032, and 2042

Bridge Name	Modeled Annual Average Daily Traffic Volumes			Compound Annual Growth Rate (CAGR)		
	2019	2032	2042	2019 to 2032	2032 to 2042	2019 to 2042
Huey P. Long Bridge (US 190)	26,200	32,200	35,200	1.6%	0.9%	1.3%
Percent of River Crossing Trips	14.3%	15.0%	14.8%			
Horace Wilkinson Bridge (I-10)	126,400	140,300	151,600	0.8%	0.8%	0.8%
Percent of River Crossing Trips	69.0%	65.4%	63.7%			
Sunshine Bridge (LA 70)	30,700	42,000	51,300	2.4%	2.0%	2.3%
Percent of River Crossing Trips	16.7%	19.6%	21.5%			
Total	**183,300**	**214,500**	**238,100**	**1.2%**	**1.0%**	**1.1%**

5.3. Post-Processing Adjustments to Modeled Mississippi River Crossing Traffic

CDM Smith utilized the MRB Model to develop estimates of future year traffic volumes on the existing Mississippi River crossings and the roadways within the study area. However, as noted in the report titled **Base Year Model Validation Technical Memorandum**, dated April 2021, modeled 2019 traffic volumes traveling across the Mississippi River were in total 15 percent greater than actual 2019 traffic counts. Due to this difference between modeled and actual volumes, an additional post-processing adjustment was applied to the modeled traffic volumes for the three Mississippi River bridges in order to bring them in line with actual data. This approach allowed the trip distribution and assignment elements of the MRB Model to be reflected in the future year traffic volume estimates while also adjusting for the difference between the validated model and actual counts at the three existing Mississippi River crossings. This section describes how that adjustment was developed and applied in order to generate the future year volume estimates for the existing Mississippi River crossings.

As previously noted, modeled 2019 traffic volumes traveling across the Mississippi River were in total greater than actual 2019 traffic counts. Thus, in order to bring 2019 modeled volumes in line with actual counts, overall modeled volumes for the existing Mississippi River bridges needed to be reduced by 13.0 percent. This post-processing adjustment was made by bridge, so that the volumes at each crossing would match the 2019 counts. The modeled volumes for the Huey P. Long Bridge (US 190) were reduced by 0.4 percent, the modeled volumes for the Horace Wilkinson Bridge (I-10) were reduced by 13.1 percent, and modeled volumes on the Sunshine Bridge (LA 70) were reduced by 23.5 percent. These percent reductions were equivalent to nominal reductions in estimated daily volumes of 100 vehicles on US 190, 16,600 vehicles on I-10, and 7,200 vehicles on LA 70. The total nominal reduction for all three existing Mississippi River crossings was 23,900 vehicles per average day.

Future year post-processing adjustments were developed by carrying forward the previously noted nominal differences between modeled 2019 volumes and actual 2019 volumes through to 2032 and 2042. Thus, the reductions of 100 vehicles on US 190, 16,600 vehicles on I-10, and 7,200 vehicles on LA 70 were applied to the modeled volumes in all model years (2019, 2032, and 2042). This approach presumes that any normal growth or estimated impacts from the assumed highway improvements will be adequately reflected in the No-Build MRB Model.

Table 5-4 summarizes the post-processing adjustments applied to each of the three Mississippi River bridges in each of the model years. As already discussed, modeled 2019 volumes were reduced by a total of 23,900 vehicles, or 13.0 percent, in order to match the actual 2019 traffic counted volumes. This same adjustment was applied in 2032 and 2042, resulting in overall reductions of 11.2 percent and 10.0 percent, respectively.

Table 5-4
Modeled Mississippi River Crossing Traffic with Post-Processing Adjustments, 2019, 2032, and 2042

Bridge Name		Annual Average Daily Traffic Volumes 2019	2032	2042	Compound Annual Growth Rate (CAGR) 2019 to 2042
Huey P. Long Bridge (US 190)	Modeled Volume	26,200	32,200	35,200	1.3%
	Adjusted Volume	26,100	32,100	35,100	1.3%
	Nominal Adjustment	-100	-100	-100	
	Percent Adjustment	-0.4%	-0.3%	-0.3%	
Horace Wilkinson Bridge (I-10)	Modeled Volume	126,400	140,300	151,600	0.8%
	Adjusted Volume	109,800	123,700	135,000	0.9%
	Nominal Adjustment	-16,600	-16,600	-16,600	
	Percent Adjustment	-13.1%	-11.8%	-10.9%	
Sunshine Bridge (LA 70)	Modeled Volume	30,700	42,000	51,300	2.3%
	Adjusted Volume	23,500	34,800	44,100	2.8%
	Nominal Adjustment	-7,200	-7,200	-7,200	
	Percent Adjustment	-23.5%	-17.1%	-14.0%	
Total River Crossings	**Modeled Volume**	**183,300**	**214,500**	**238,100**	**1.1%**
	Adjusted Volume	**159,400**	**190,600**	**214,200**	**1.3%**
	Nominal Adjustment	-23,900	-23,900	-23,900	
	Percent Adjustment	-13.0%	-11.1%	-10.0%	

Lastly, as previously mentioned, the impacts of the COVID-19 pandemic are not included in the Base Year MRB Model or the MRB future-year No-Build Model. CDM Smith believes that a full recovery from the impacts of the COVID-19 pandemic will have been achieved prior to the opening year. Therefore, no post-processing adjustments have been made to the MRB future-year No Build Model results to account for the impacts of the COVID-19 pandemic.

Table 5-5 provides a comparison of average daily volumes and average annual growth rates at the three existing Mississippi River crossings under both the MRB Model and the CRPC Model. The base years for both models are provided as well, with a comparison to actual traffic counts. The base year for the CRPC Model is 2015 and the base year for the MRB Model is 2019. For the MRB Model, raw and adjusted volumes are provided in the table. As indicated in the table, the CRPC Model volumes are 31.0 percent higher than actual counts for all three existing Mississippi River crossings in the 2015 base year. By comparison, the raw MRB Model is 15.0 percent higher than actual 2019 counts at the existing Mississippi River crossings. Once the post-processing adjustments previously described are applied to the MRB model volumes, the estimated volumes match the 2019 counts.

Table 5-5
Comparison of Volumes and Growth Rates for MRB Model and CRPC Model

Bridge Name	Actual 2015 Counts	Modeled Percent Diff. from Counts	CRPC Model Annual Average Daily Traffic Volumes 2015	CRPC Model Annual Average Daily Traffic Volumes 2042	CAGR 2015 to 2042
Huey P. Long Bridge (US 190)	26,600	7.5%	28,600	44,900	1.7%
Horace Wilkinson Bridge (I-10)	106,000	32.5%	140,500	187,900	1.1%
Sunshine Bridge (LA 70)	22,700	51.1%	34,300	68,900	2.6%
Total	**155,300**	**31.0%**	**203,400**	**301,700**	**1.5%**

Bridge Name	Actual 2019 Counts	Modeled Percent Diff. from Counts	Raw MRB Model Annual Average Daily Traffic Volumes 2019	Raw MRB Model Annual Average Daily Traffic Volumes 2042	CAGR 2019 to 2042
Huey P. Long Bridge (US 190)	26,100	0.4%	26,200	35,200	1.3%
Horace Wilkinson Bridge (I-10)	109,800	15.1%	126,400	151,600	0.8%
Sunshine Bridge (LA 70)	23,500	30.6%	30,700	51,300	2.3%
Total	**159,400**	**15.0%**	**183,300**	**238,100**	**1.1%**

Bridge Name	Actual 2019 Counts	Modeled Percent Diff. from Counts	MRB Model with Post-Processing Adjustments Annual Average Daily Traffic Volumes 2019	MRB Model with Post-Processing Adjustments Annual Average Daily Traffic Volumes 2042	CAGR 2019 to 2042
Huey P. Long Bridge (US 190)	26,100	0.0%	26,100	35,100	1.3%
Horace Wilkinson Bridge (I-10)	109,800	0.0%	109,800	135,000	0.9%
Sunshine Bridge (LA 70)	23,500	0.0%	23,500	44,100	2.8%
Total	**159,400**	**0.0%**	**159,400**	**214,200**	**1.3%**

Note: CAGR - Compound Annual Growth Rate

As noted previously, the socioeconomic forecasts developed by the MPO and used in the CRPC Model were considered reasonable by CDM Smith for the current application and incorporated directly into the future-year MRB No-Build Models without any changes or adjustments. Therefore, it would be expected that the estimated traffic growth rates between model years would be roughly similar for both the MRB Model and the CRPC Model, with some minor differences due to the adjustments to the trip distribution model, as documented in the report titled **Base Year Model Validation Technical Memorandum**, dated April 2021. The average annual growth rate for the Mississippi River Crossings in the CRPC Model is 1.5 percent between 2015 and 2042. By comparison, the raw MRB Model produces an average annual growth rate of 1.1 percent between 2019 and 2042. This rate of growth is both in line with historical trends and similar to the growth estimated under the CRPC Model, which is consistent with expectations based on the socioeconomic inputs. Comparing the growth rates for the raw and adjusted MRB Models, only minor differences were observed in the average annual growth rates between 2019 and 2042.

5.4. Mississippi River Crossing Traffic Volumes by Time Period

The MRB Model was developed to include four model time periods:

- AM Period – 6:00 AM – 9:00 AM
- Mid-day Period – 9:00 AM – 3:00 PM
- PM Period – 3:00 PM – 6:00 PM
- Night Period – 6:00 PM – 6:00 AM

The purpose of developing the model by time-period is to better represent the variations in travel behavior, network congestion, and speeds during the two peak periods and the two off-peak periods. **Table 5-6** presents the estimated average hourly volumes in 2019 and 2042 for each time period, as well as the share of daily traffic for each time period. The volumes for the MRB Model include the previously described post-processing adjustments, which have been applied at an hourly level. As indicated in the table, the greatest hourly volumes are borne by the Horace Wilkinson I-10 Bridge during the AM and PM Periods.

Table 5-6
Estimated Hourly Volumes and Time Period Shares by Bridge from the MRB Model

		US 190		I-10		LA 70		Total River
	Time Period	EB	WB	EB	WB	EB	WB	**Crossings**
2019 Average Hourly Volumes (1)	AM Period	1,000	600	3,500	2,300	500	800	**8,700**
	Mid-day Period	600	600	3,300	3,200	600	700	**9,000**
	PM Period	1,100	1,400	2,700	4,000	1,000	700	**10,900**
	Night Period	300	300	1,400	1,400	300	300	**4,000**
Time Period as a Percent of Total 2019 Daily Volumes	AM Period	22.1%	14.7%	19.0%	12.7%	13.4%	20.1%	16.4%
	Mid-day Period	27.5%	29.0%	36.1%	35.1%	31.5%	33.6%	33.9%
	PM Period	26.3%	32.2%	14.6%	21.9%	26.6%	17.7%	20.6%
	Night Period	24.1%	24.1%	30.4%	30.4%	28.6%	28.6%	29.1%
	Total Day	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**
2042 Average Hourly Volumes (1)	AM Period	1,200	900	4,300	3,000	1,200	1,400	**12,000**
	Mid-day Period	900	900	4,000	3,900	1,200	1,300	**12,200**
	PM Period	1,500	1,700	3,600	5,000	1,800	1,500	**15,100**
	Night Period	400	400	1,700	1,700	500	500	**5,200**
Time Period as a Percent of Total 2042 Daily Volumes	AM Period	21.3%	15.6%	19.2%	13.5%	16.3%	19.4%	17.0%
	Mid-day Period	29.7%	30.6%	35.4%	35.1%	32.8%	34.1%	34.0%
	PM Period	25.0%	29.6%	16.0%	22.0%	25.0%	20.2%	21.1%
	Night Period	24.0%	24.2%	29.4%	29.4%	25.9%	26.3%	27.8%
	Total Day	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Note: AM Period: 6:00 AM - 9:00 AM; Mid-day Period: 9:00 AM - 3:00 PM; PM Period: 3:00 PM - 6:00 PM; Night Period: 6:00 PM - 6:00 AM.
(1) - Includes Post-Processing Adjustments

The average hourly volumes by time period for the MRB Model were then compared against the estimated hourly capacity for each of the existing Mississippi River Crossings. The estimated hourly capacities for the three Mississippi River crossings are 1,870 vehicles per direction on US 190, 5,250 vehicles per direction on I-10, and 2,120 vehicles per direction on LA 70. In total, the current three crossings can carry 9,240 vehicles per hour in each direction. These estimates were developed by CRPC and included in the CRPC Model based on the number of lanes and other geometric considerations.

By dividing the estimated hourly roadway capacity by the estimated average hourly volume for each time period, the Volume-over-Capacity (V/C) Ratio is determined. The V/C Ratio is a measure of how much congestion is estimated on the roadway, which determines the estimated speeds within the network. This measure can also be used to determine whether the estimated volumes for each time period are too high. The estimated V/C Ratios for the MRB Model are presented by time period for model years 2019 and 2042 in **Table 5-7**. As noted, the values presented in the table are based on the unadjusted raw model volumes in order to better reflect the congestion estimated by the MRB Model. Based on this analysis, no shifts of volume between time periods were deemed necessary for the MRB Model. For the purposes of comparison, **Table 5-7** also presents the comparable V/C Ratios for the CRPC Model for model years 2015 (Base Year) and 2042 (Future Year).

Table 5-7
Volume-over-Capacity Ratios for MRB Model and CRPC Model

		US 190		I-10		LA 70		Total River
	Time Period	EB	WB	EB	WB	EB	WB	Crossings
2019 MRB Model (1)	AM Period	0.44	0.43	0.76	0.70	0.44	0.47	**0.61**
	Mid-day Period	0.38	0.36	0.66	0.67	0.38	0.38	**0.54**
	PM Period	0.55	0.54	0.86	0.91	0.54	0.54	**0.74**
	Night Period	0.16	0.15	0.27	0.27	0.16	0.16	**0.22**
2042 MRB Model (1)	AM Period	0.60	0.58	0.92	0.84	0.76	0.78	**0.79**
	Mid-day Period	0.51	0.51	0.80	0.81	0.66	0.67	**0.71**
	PM Period	0.72	0.72	1.04	1.10	0.92	0.92	**0.96**
	Night Period	0.21	0.20	0.32	0.32	0.25	0.25	**0.28**
2015 CRPC Model	AM Period	0.50	0.54	0.92	0.87	0.55	0.59	**0.74**
	Mid-day Period	0.40	0.38	0.69	0.70	0.42	0.42	**0.57**
	PM Period	0.65	0.58	1.02	1.09	0.64	0.62	**0.87**
	Night Period	0.17	0.15	0.28	0.28	0.17	0.16	**0.23**
2042 CRPC Model	AM Period	0.81	0.84	1.24	1.13	1.17	1.11	**1.10**
	Mid-day Period	0.62	0.59	0.93	0.94	0.85	0.85	**0.85**
	PM Period	1.03	0.93	1.33	1.46	1.23	1.31	**1.28**
	Night Period	0.26	0.24	0.38	0.38	0.32	0.33	**0.34**

Note: AM Period: 6:00 AM - 9:00 AM; Mid-day Period: 9:00 AM - 3:00 PM; PM Period: 3:00 PM - 6:00 PM; Night Period: 6:00 PM - 6:00 AM.
(1) - Excludes Post-Processing Adjustments

5.5. Additional Model Screenlines

CDM Smith developed five screenlines, in addition to the Mississippi River, to assist in the validation of the Base Year MRB Model. These screenlines are identified in **Figure 5-1**. As part of the validation process, CDM Smith obtained available traffic counts for the roadways along these screenlines from DOTD and CRPC. These count locations are identified in **Figure 5-1** with circles. CDM Smith reviewed modeled volumes along each of these screenlines in order to evaluate the traffic growth forecasted by the future-year No-Build Model within the MRB study area. Modeled AADT volumes and CAGRs for each of the total screenlines are provided in **Table 5-8**. As shown in the table, the modeled growth in traffic along each of the five project screenlines reflects the modeled growth in VMT by parish and the modeled growth at each of the Mississippi River crossings.

5.6. Select Link Analysis

As part of effort to evaluate the future-year No-Build Model, a series of select-link assignments were also performed for each of the existing Mississippi River crossings. A select-link analysis reviews all of the modeled trips and their network paths through the "selected" link. This tool allows specific movements and O-D pairs to be isolated, analyzed, and adjusted if necessary.

The select-link analyses conducted as part of the future-year No-Build Model development are illustrated as band-width plots under 2042 conditions for the US 190, I-10, and LA 70 crossings of the Mississippi River in **Figures 5-2, 5-3, and 5-4**, respectively. US 190 is coded in the model network as a two-way link across the Mississippi River. For that reason, **Figure 5-2** shows the select link analysis for both directions combined. Since I-10 and LA 70 are coded in the network as two one-way links across the Mississippi River, only one-way eastbound movements are shown in **Figures 5-3 and 5-4**. Although only eastbound movements are shown in the latter two figures, the westbound movements on I-10 and LA 70 exhibit virtually the same modeled travel patterns,

The figures indicate the pattern of trips leading up to and dispersing away from the bridges. CDM Smith reviewed these plots, and the detailed matrices behind them, and found the modeled trip patterns to be consistent, within tolerable limits, with those included in the Base Year MRB Model. This indicates that overall O-D patterns have generally been preserved between the Base Year Model and future-year No-Build Models.

5.7. Impacts of the I-10 Widening Project

While this enhanced planning investigation is focused on the alternative locations and alignments for the new MRB, the planned widening of I-10 on either side of the Mississippi River Bridge is of particular relevance to the proposed new MRB bridge. Although the I-10 widening itself is not the subject of this study, some sensitivity tests have been included to assess the performance of the No-Build MRB Models description of this improvement project in the 2032 and 2042. The I-10 widening project is clearly part of the No-Build network.

Figure 5-1
MRB Model Screenlines

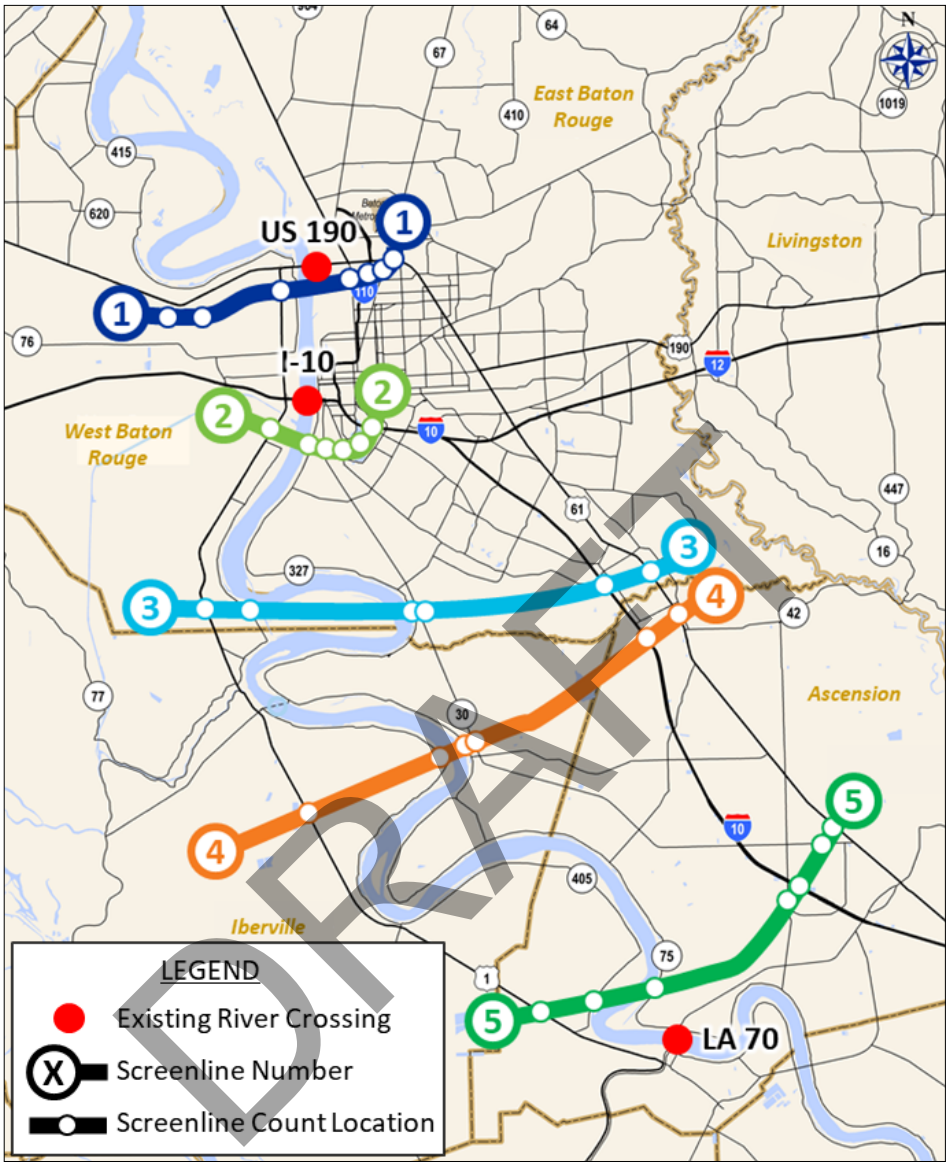


Table 5-8
Total Modeled Volumes along MRB Project Screenlines, 2019, 2032, and 2042

Screenline	Total Modeled Annual Average Daily Traffic Volumes			Compound Annual Growth Rate (CAGR)		
	2019	2032	2042	2019 to 2032	2032 to 2042	2019 to 2042
Screenline 1: S of US 190	180,500	216,700	232,200	1.4%	0.7%	1.1%
Screenline 2: S of I-10	266,600	303,000	322,200	1.0%	0.6%	0.8%
Screenline 3: N of Plaquemine	207,900	277,300	305,700	2.2%	1.0%	1.7%
Screenline 4: S of Plaquemine	191,900	248,900	280,600	2.0%	1.2%	1.7%
Screenline 5: N of Donaldsonville	121,400	164,400	206,600	2.4%	2.3%	2.3%
Total	**968,300**	**1,210,300**	**1,347,300**	**1.7%**	**1.1%**	**1.4%**

Figure 5-2
2042 Select-Link Analysis – US 190 Movements in Both Directions Across the Mississippi River

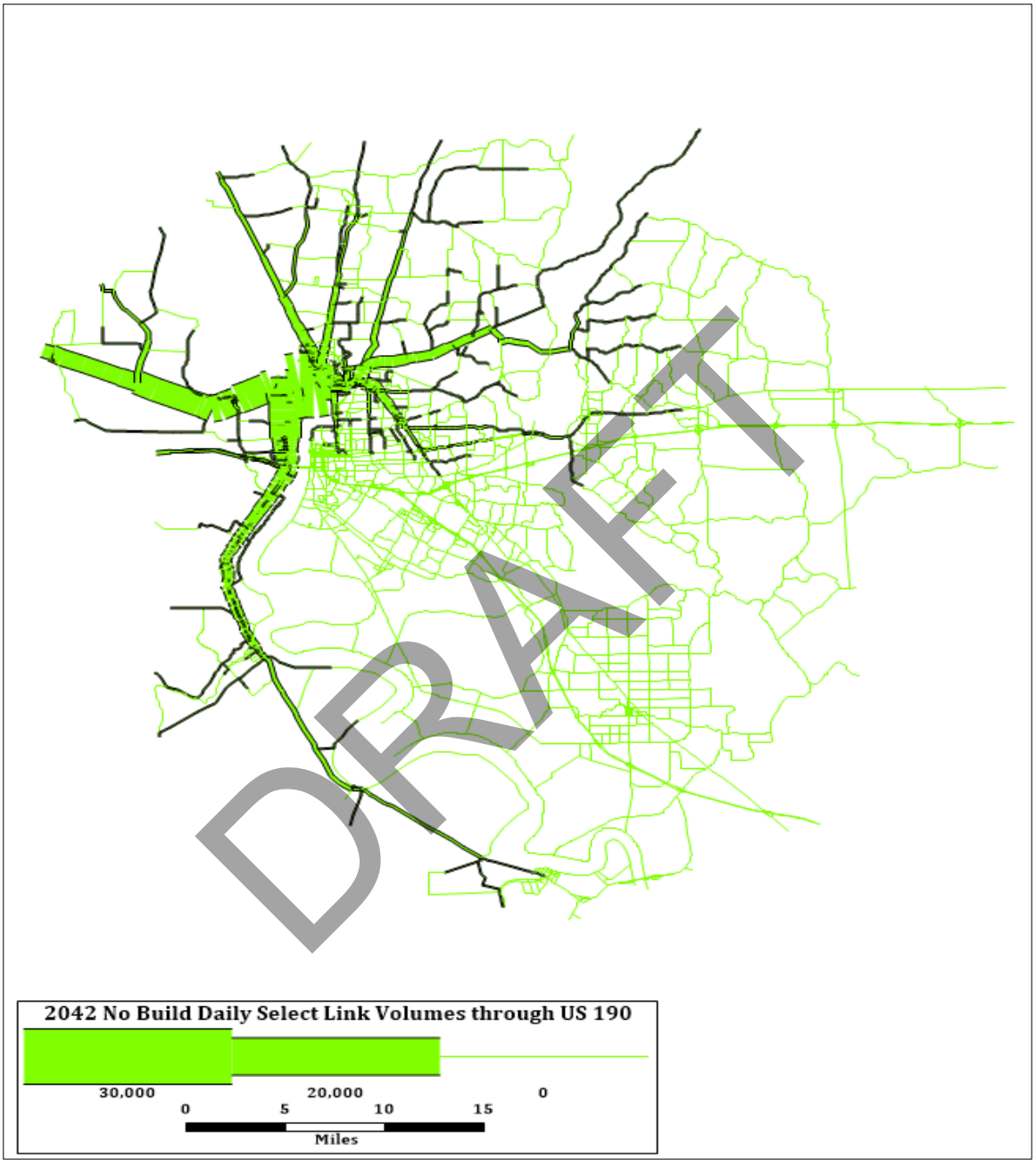


Figure 5-3
2042 Select-Link Analysis – I-10 Eastbound Movements Across the Mississippi River

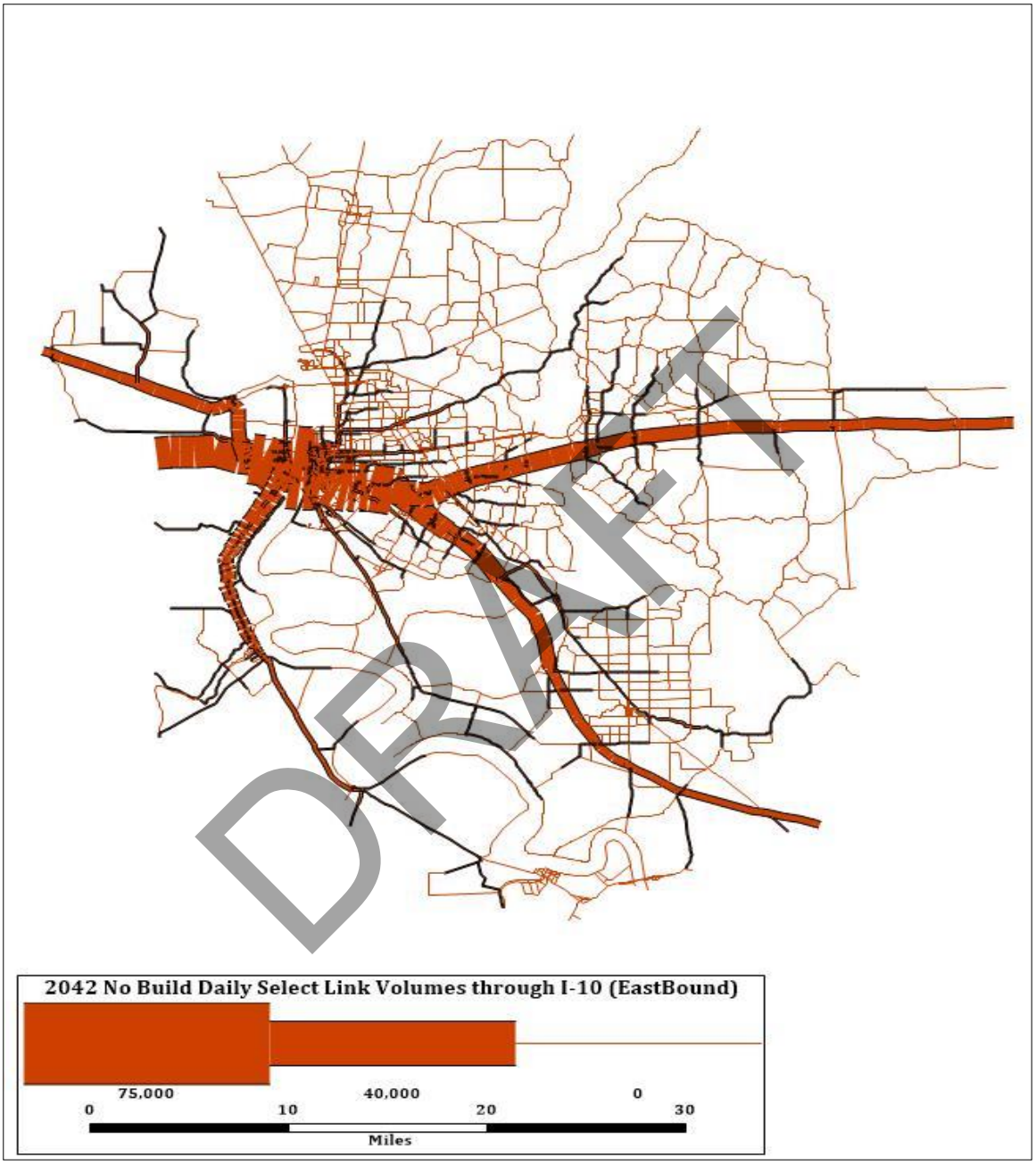
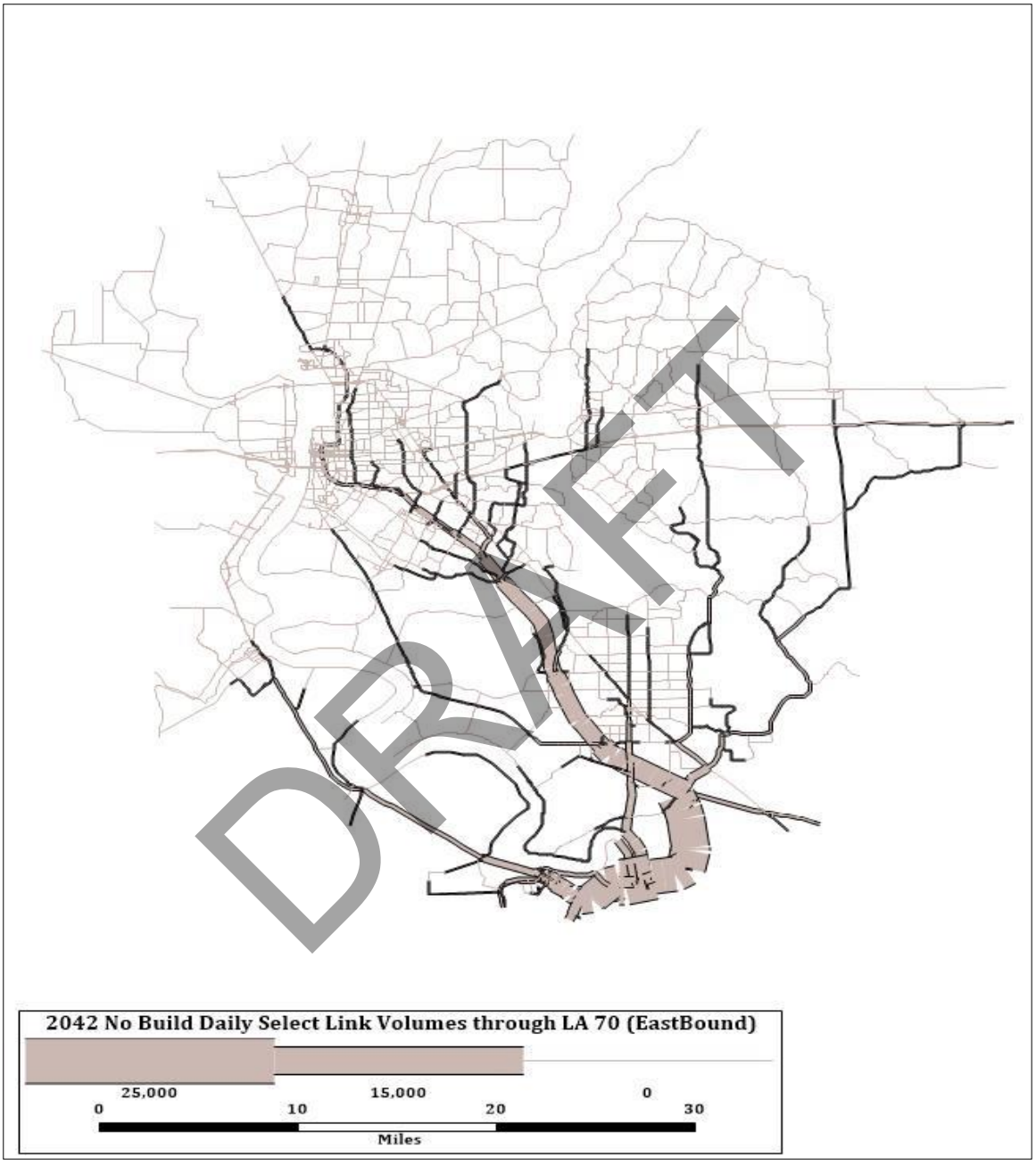
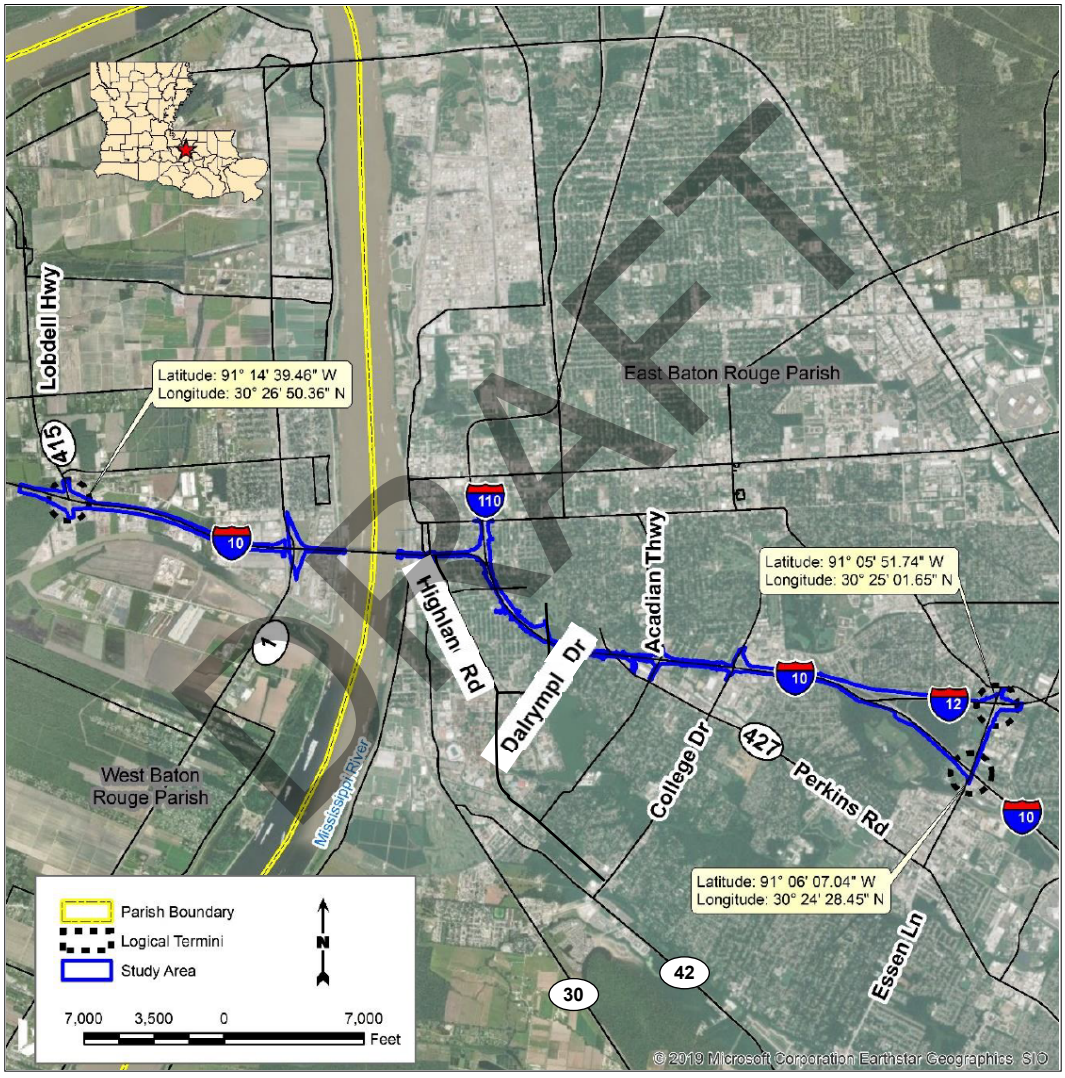


Figure 5-4
2042 Select-Link Analysis – LA 70 Eastbound Movements Across the Mississippi River



As previously described, I-10 is assumed to be widened to 6 lanes on the east side of the Mississippi River between Highland Road (just east of the existing I-10 bridge) and Essen Lane (just east of the I-10 / I-12 interchange). West of the Mississippi River, I-10 is assumed to be widened to 6 lanes between LA 415 / Lobdell Highway and LA 1. No widening is planned for the existing I-10 Horace Wilkinson Bridge. This is because of the physical characteristics of the I-10 Bridge (a continuous steel truss through deck), which does not allow to the bridge itself to be easily widened. Additionally, no widening of I-12 is planned within the study area. A map of the project limits is provided in **Figure 5-5**.

Figure 5-5
I-10 Widening Project



Given the importance of this project, test assignments were performed to develop high-level estimates of the potential impacts of widening I-10 as assumed. **Table 5-9** contains the results of these tests from the No-Build MRB Model at the 2032 and 2042 levels with and without the I-10 widening project. The first column contains results from the No Build Model without the planned I-10 Improvements and the second column contains results from No Build. Overall VMT increased by 0.3 percent both in 2032 and 2042, as a result of the I-10 widening. This increase is due to trips

taking slightly longer but faster routes as they shift from congested local arterials to the improved I-10. Additionally, overall VHT is lower with the I-10 Improvements by 500 hours and 1,100 hours in 2032 and 2042, respectively. This reduction translates into a reduction in congestion on both I-10 and local arterials as a result of the I-10 improvements. As indicated in **Table 5-9**, the congestion relief benefits of the I-10 improvements decrease overall travel time, as travel demand and traffic volumes continue to increase within the region. This is typical of urban interstate widening projects.

Table 5-9
Estimated Impacts of the I-10 Widening Projects, 2032 and 2042

	Without I-10 Improv.'s (Test Assignment)	With I-10 Improv.'s (MRB Model)	Difference	Percent Difference
Modeled 2032 Daily Conditions				
Vehicle Miles Traveled (VMT)	26,186,200	26,252,700	66,500	0.3%
Vehicle Hours Traveled (VHT)	665,000	664,500	-500	-0.1%
Volumes at Horace Wilkinson Bridge (I-10)	139,700	140,300	600	0.4%
Volumes at I-10 E of Dalrymple Dr.	167,400	180,800	13,400	8.0%
Modeled 2042 Daily Conditions				
Vehicle Miles Traveled (VMT)	29,176,800	29,255,600	78,800	0.3%
Vehicle Hours Traveled (VHT)	770,900	769,800	-1,100	-0.1%
Volumes at Horace Wilkinson Bridge (I-10)	149,400	151,600	2,200	1.5%
Volumes at I-10 E of Dalrymple Dr.	175,200	190,300	15,100	8.6%

On I-10 near the widening project, significant traffic volume increases are estimated on either side of the Mississippi River Bridge. Daily traffic volumes on I-10 east of Dalrymple Drive (on I-10 between I-110 and I-12) are estimated to increase by 13,400 in 2032 and by 15,100 in 2042 as a result of the I-10 widening. This represents an increase of 8.0 percent and 8.6 percent in 2032 and 2042, respectively.

On the I-10 Horace Wilkinson Bridge, an additional 600 vehicles per day is estimated in 2032 due to the widening of I-10, representing an increase of 0.4 percent. By 2042, this is estimated to increase to 2,200 vehicles per day, or a 1.5 percent increase. These limited impacts on the I-10 Bridge, as compared to I-10 between I-110 and I-12, are due to the continued capacity constraints of the bridge itself, as previously discussed. Additionally, the increases in traffic volumes on the I-10 bridge resulting from the I-10 widening project are generally forecasted to occur during the Midday and Nighttime Periods. A smaller traffic increase is anticipated during the more congested AM and PM Periods. Minimal impacts are estimated for the US 190 and LA 70 river crossings. As previously noted, the I-10 widening project and the resulting traffic impacts have been incorporated into the 2032 and 2042 future-year MRB Models.

Thus, as a result of the planned widening on either side of the I-10 Bridge, but not the bridge itself, the bridge will still serve as a bottleneck during peak hours within the Baton Rouge area. The result will be some improvement in travel time for trips crossing the Mississippi River, but an even bigger improvement in travel times for trips that use I-10 completely on one side of the River or the other.

The No-Build MRB Model performed well enough in this limited test case.

6. Summary

As part of an enhanced planning investigation for a potential new bridge across the Mississippi River south of Baton Rouge, CDM Smith has developed a model specific to the proposed Mississippi River Bridge (MRB) for use in the analysis of the various project alternatives. The MRB Model is based on the latest version of the regional travel demand model developed and maintained by the Capital Regional Planning Commission (CRPC), which is the Metropolitan Planning Organization (MPO) for Baton Rouge. The focus of the MRB Model is the present and future traffic crossing the Mississippi River and traffic traveling along I-10, LA 1, and LA 30.

This technical memorandum documents the development of the future-year (2032 and 2042) No-Build MRB Models. This was done by reviewing the 2032 and 2042 travel demand models developed by the MPO. The underlying socioeconomic forecasts were reviewed and compared against historical trends for reasonableness. The highway improvement assumptions included in the original CRPC Model networks were reviewed and updated to reflect the latest Long Range Transportation Plan, **MOVE2042 Metropolitan Transportation Plan** (2018). Lastly, the calibration adjustments incorporated into the Base Year MRB Model were carried forward into the future year (2032 and 2042) No-Build Models.

In addition to describing the No-Build MRB Model development, the model results were also presented in terms of vehicle miles traveled (VMT), vehicle hours traveled (VHT), traffic forecasts for the existing Mississippi River bridges, traffic growth along five additional project screenlines, and illustrations of select links analyses performed for each of the river crossings. Average modeled traffic growth for the combined Mississippi River crossings, after post-processing adjustments, is 1.3 percent annually between 2019 and 2042. This is consistent with the overall modeled VMT growth for the full MRB Model. Of the three crossings, traffic on LA 70 is estimated to increase at the fastest rate (average of 2.3 percent annually), likely due to the higher socioeconomic growth estimated for Ascension Parish. For all model years, the majority of traffic crossing the Mississippi River within the study area uses the I-10 Bridge. Based on a review of the future-year No-Build MRB Model results, as detailed in this technical memorandum, CDM Smith believes the model is reasonable for use in producing forecasts of traffic impacts from a new Mississippi River crossing.

It should be noted that CRPC was not involved in the development of the MRB Model and is therefore not responsible for its contents. Additionally, due to the project-specific nature of the work, the MRB Model has limited applicability only to the MRB enhanced planning investigation.

Lastly, the MRB Model was validated against pre-COVID-19 pandemic traffic volumes, travel patterns and speeds. The impacts of the COVID-19 pandemic are not included in the Base Year MRB Model or the future-year MRB Models.

This Page Left Intentionally Blank

Note on the CRPC Model

The Capital Region Planning Commission (CRPC) released the latest version of its regional travel demand model. Developed for the recent **MOVE2042 Metropolitan Transportation Plan** (2018), the travel demand model operates on the TransCAD Version 7.0 software platform. The travel demand model was released to CDM Smith for use in the MRB South GBR: LA 1 to LA 30 Connector PD&E Study (H.013284). The release included copies of computer files with the transportation network, zone system, demographic data set, program control batch files, and other information necessary to operate the travel demand model.

As part of the terms of use of the CRPC travel demand model, CDM Smith acknowledges:

- The travel demand model is the property of CRPC and CRPC retains the right to change, update, or withdraw permission to use the CRPC regional travel model;
- Use of the travel demand model is limited to use by CDM Smith and approved contractors for the current PD&E Study, and use of the model by other parties or for any other projects is prohibited;
- CRPC makes no warranty or representation as to the accuracy or suitability for a particular purpose of the CRPC travel demand model or data sets provided for use with that model, and CRPC disclaims all warranties, specifically the warranties of merchantability and particular purpose; and,
- Any opinions or representations made by the CDM Smith based upon the CRPC regional travel model output data are the sole responsibility of the CDM Smith.

The MRB Model, prepared under the current enhanced planning investigation, was developed with adjustments to model networks, demographic data sets, software and model parameters. The resulting forecasts are the responsibility of CDM Smith and not of CRPC.

This Page Left Intentionally Blank

Disclaimer

CDM Smith used currently-accepted professional practices and procedures in the development of the MRB Model and the resulting traffic estimates. However, as with any forecast, differences between forecasted and actual results may occur, as caused by events and circumstances beyond the control of the forecasters. In formulating the estimates, CDM Smith reasonably relied upon the accuracy and completeness of information provided (both written and oral) by the Louisiana Department of Transportation and Development (DOTD), Capital Region Planning Commission (CRPC) and Neel Schaffer. CDM Smith also relied upon the reasonable assurances of other independent parties and is not aware of any material facts that would make such information misleading.

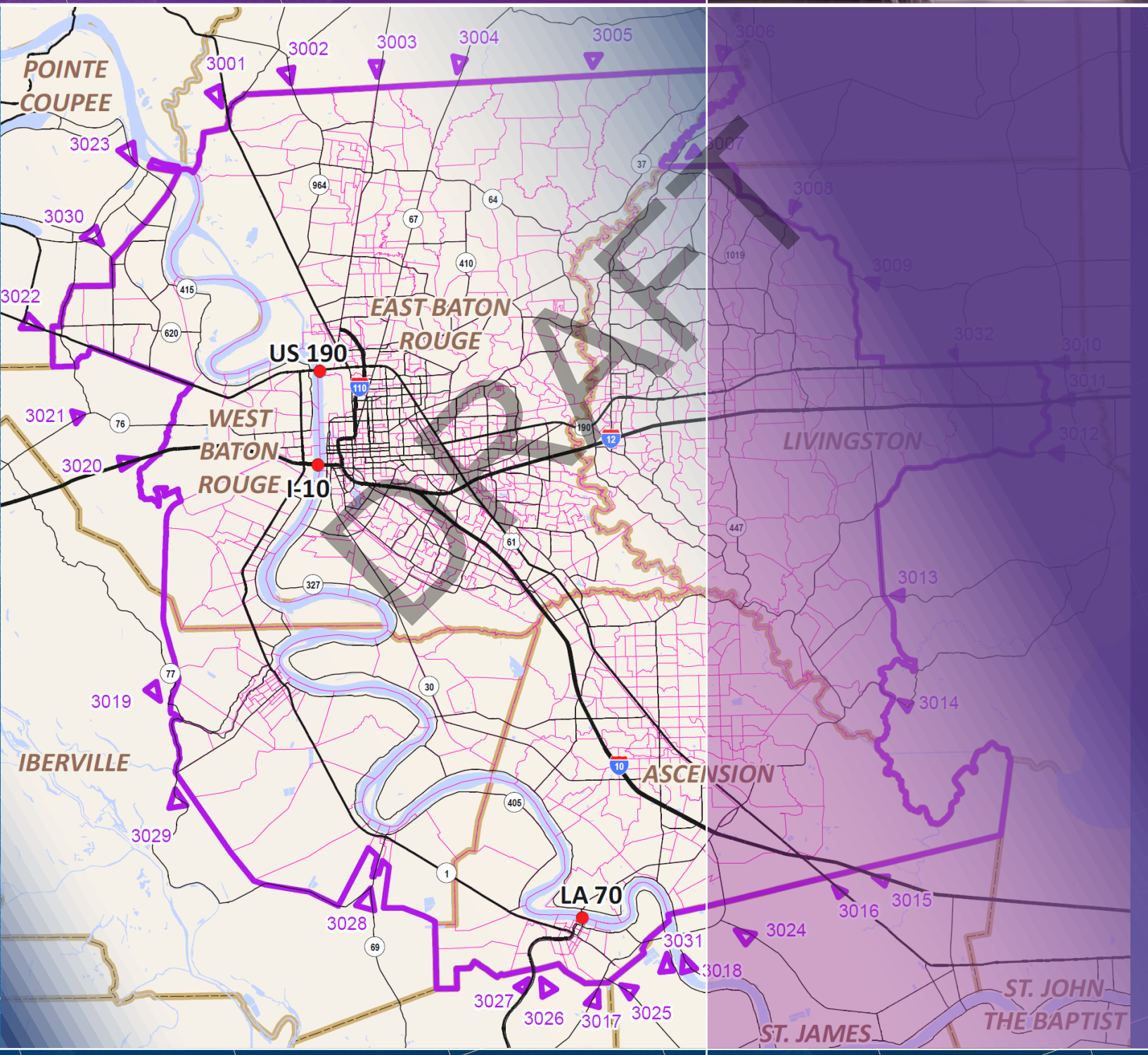
CDM Smith made qualitative judgments related to several key variables in the development and analysis of the MRB Model that must be considered; therefore, selecting portions of any individual result without consideration of the intent of the whole may create a misleading or incomplete view of the results and the underlying methodologies used to obtain the results. CDM Smith gives no opinion as to the value or merit of partial information extracted from this report.

All estimates and projections reported herein are based on CDM Smith's experience and judgment and on a review of information obtained from multiple agencies, including the DOTD. These estimates and projections may not be indicative of actual or future values and are therefore subject to substantial uncertainty. Certain variables such as future developments, economic cycles, global pandemics and impacts related to advances in automotive technology etc. cannot be predicted with certainty and may affect the estimates or projections expressed in this report, such that CDM Smith does not specifically guarantee or warrant any estimate or projection contained within this report.

While CDM Smith believes that the projections and other forward-looking statements contained within the report are based on reasonable assumptions as of the date of the report, such forward-looking statements involve risks and uncertainties that may cause actual results to differ materially from the results predicted. Therefore, following the date of this report, CDM Smith will take no responsibility or assume any obligation to advise of changes that may affect its assumptions contained within the report, as they pertain to socioeconomic and demographic forecasts, proposed residential or commercial land use development projects and/or potential improvements to the regional transportation network.

CDM Smith is not, and has not been, a municipal advisor as defined in Federal law (the Dodd Frank Bill) to the DOTD and does not owe a fiduciary duty pursuant to Section 15B of the Exchange Act to the DOTD with respect to the information and material contained in this report. CDM Smith is not recommending and has not recommended any action to the DOTD. DOTD should discuss the information and material contained in this report with any and all internal and external advisors that it deems appropriate before acting on this information.

This Page Left Intentionally Blank


POINTE COUPEE
3001
3002
3003
3004
3005
3006
3007
3008
3009
3010
3011
3012
3013
3014
3015
3016
3017
3018
3019
3020
3021
3022
3023
3024
3025
3026
3027
3028
3029
3030
3031
EAST BATON ROUGE
WEST BATON ROUGE
LIVINGSTON
ASCENSION
IBERVILLE
ST. JOHN THE BAPTIST
ST. JAMES
US 190
I-10
LA 70
DRAFT