Appendix C

Economic Impact Analysis

Preface for Appendix C Economic Impact Analysis:

Alternative 1 referenced in the Economic Impact Analysis (Appendix C) is not the same as the alternatives evaluated in the EIS. The analysis in the EIS for the Proposed Project Alternative is based on 1.7 million TEUs (referred to as the Optimistic Scenario, Build option in this appendix). The document is also used for source documentation (e.g., industry standards used in the analyses within the EIS).

Economic Impacts from Port of Gulfport Container Terminal Renewal and Development

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FINAL

PARSONS BRINCKERHOFF

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1. Introduction

This report assesses the future economic impacts of the Gulfport Container Terminal expansion project. It evaluates the following sets of impacts associated with Alternative 1:

- Time limited economic impacts associated with the construction of Alternative 1
- Annual impacts of Alternative 1 from increased container volume and associated container handling and related support activities, for years 2020 through 2060 in ten year increments.
- Potential benefits to regional port related industries, including direct support industries such as trucking and general purpose warehousing and distribution, as well as potential growth in industries that would find advantages from proximity to an expanded and more efficient container facility, such as export oriented manufacturing, manufacturing relying on intermediate product imports for final assembly, and big box retailers which may find supply chain advantages from port proximity

The report also includes an assessment of potential negative impacts on key regional industries, such as tourism, recreational boating, and commercial fishing. Potential for disruptions due to increased truck volumes, visual effects, or "encroachment" into the activity areas of these industries by an expanded port footprint or due to increased shipping volumes are assessed.

Estimates of construction related economic impacts are relatively straightforward, and are based on the construction costs, the phasing of construction, and state level economic models that are used to derive overall economic impacts including direct as well as indirect and induced effects. Direct effects include direct construction, while indirect impacts include, respectively, the additional rounds of economic activity triggered by construction spending, and additional rounds of consumption arising from the original direct gains in construction sector wage earnings. Impacts measured include employment, wage earnings, total public and private sector output (e.g., total payments to all industries and households in the region), addition to Gross State and Regional Product, and state and local tax revenues.

Estimates of annual impacts from increased port volume and operations are assessed for the increment of additional container throughput associated with the expansion project, compared with a No-Build port scenario. Additional container throughput (relative to the No-Build) is estimated based on Parsons Brinckerhoff's updated market demand forecast (see 'Gulfport Container Volume Projections", Parsons Brinckerhoff, and January 2012).

Impacts from annual container operations include in port employment and spending, as well as major off-port support activities: truck drayage, general warehousing and distribution, and other shipping and container trade support activities such as freight forwarding. As in the case of construction impacts, economic models are applied to these direct effects to arrive at total impacts. Impacts include similar metrics as are estimated for construction, including employment, wage earnings, output, Gross State and Regional Product, and state and local tax revenues.

2. Economic Impacts from Container Terminal Construction

The Gulfport Expansion project will generate a significant level of short-term economic activity that would create hundreds of needed jobs in the Gulfport region. Once underway, the Project would immediately generate construction jobs that could potentially be filled by currently unemployed or underemployed construction workers, providing much needed business to local construction contractors and construction materials suppliers. The Project is expected to generate broad increases in economic activity that would create both low- and high-skilled jobs across various industries.

An input output economic model customized for the state of Mississippi has been used to estimate total economic impacts, including indirect and induced, economic impacts. This model, obtained from MIG, Inc., (IMPLAN)[1] , has been used to determine the employment, earnings, business output, Gross Domestic Product (GDP) and taxes created in the short-term during project construction. IMPLAN economic models were applied to the increase in construction demand to estimate three types of impacts:

- Direct impacts represent new spending, hiring, and production by civil engineering construction companies to accommodate the demand for resources in order to complete the project.
- Indirect impacts result from the increase in production of industries supplying intermediate goods and services to the civil engineering construction industry. Such firms will also experience increased demand for their products and, if necessary, will hire new workers to meet the additional demand.
- Induced impacts stem from the re-spending of wages earned by workers/households benefitting from the direct and indirect activity. In other words, if an increase in labor demand leads to earnings in a set of industries, workers in these industries will spend some proportion of their increased earnings at local retail shops, restaurants, and other places of commerce, further stimulating economic activity.

The construction cost for the Port of Gulfport Expansion is estimated to be $949,765,000 (without contingency) in 2009 dollars. These expenditures are expected to be made over a 5 year construction period. For analysis purposes, construction costs are broken into industries as follows:

[1] IMPLAN, MIG Inc. http://implan.com/V4/index.php?option=com_content&view=frontpage&Itemid=1
Input-output models capture the inter-industry linkages of a regional economy and estimate economic multipliers, which quantify the effects of increases in final demand on employment, earnings, and economic output within a specified county, region, or state.

Table 1 Capital Costs by Industry Category

Budget category	Study Industry	Estimated cost (2009 $)
Construction Costs	Transportation construction	$897,000,000
Design and construction services	Professional Services	$9,515,000
Construction management / construction materials testing	Professional services	$43,250,000

Source – Mississippi State Port Authority

Since the costs are primarily civil construction, which is a highly localized activity for which contractors procure labor and most materials locally/regionally, nearly all of this spending can be assumed to occur within the regional and local economy. Thus, benefits will largely be felt regionally and locally.

Furthermore, additional employment from construction activity is likely to occur under conditions of excess capacity in the construction industry. There is presently high construction sector unemployment in the region, with the likelihood of this continuing for some time to come. Furthermore, the project is likely to be funded with a high ratio of external funds from the Federal and state governments, reducing the local fiscal impact of the project. Therefore impacts on the state and regional economy may be regarded as largely a net addition to the state and regional economy.

On a cumulative basis, the $949.8 million (2009 $) construction of the Port of Gulfport Expansion is likely to impact the local economy in the following ways[2]:

Table 2 Total Economic Impacts from Port of Gulfport Construction

	Cumulative amount (5-year total)	Average Annual Impact
Total Employment (job-years)	13,833	2,767
Total Wage Earnings (2011 $)	$553,229,909	$110,645,982
Total Output (2011 $)	$1,676,676,089	$335,335,218
Increase in State GDP[3] (2011 $)	$746,303,997	$149,260,799
State and Local Taxes (2011 $)	$47,653,402	$9,530,680

Source – Mississippi State Port Authority

The construction of the project is likely to sustain on average over 2,700 jobs per year over its five year construction period. This includes direct jobs related to the actual construction of the project, in

[2] Capital cost inputs originally reported in real 2009 dollars. Economic impacts reported in real 2011 according to IMPLAN inflationary estimates.

[3] State GDP reflects the total of pre tax wage and business earnings, including business profits business retained earnings, additions to inventory, dividends, and several other categories. It is conceptually similar to GDP. It can also be defined as the sum of the value of all *final* goods and services produced within the state economy, or the sum of value added. GDP increases are obtained from the value added estimate from the IMPLAN economic model.

addition to jobs created by secondary suppliers and elsewhere in the economy. It also includes the forward or induced economic impacts from additional household consumption. The annual jobs per year are averages – in fact, the project construction schedule is more likely to peak sometime midway during the five year construction period, so that more jobs will be supported in the middle years of construction, and possibly fewer during the start up and wind down of the project.

3. Economic Impacts from Increased Annual Container Activity

The additional container volumes and the larger port facility will generate increased demand for in-port labor, in-port purchases of materials and supplies, and economic activities directly needed off port to complete the handling of these containers. Handling is primarily warehousing and distribution, truck drayage, other container transport services, and some miscellaneous activities such as freight forwarders and ship services.

Estimates of annual impacts from increased port volume and operations are assessed for the increment of additional container throughput compared with a No-Build port scenario, which includes the capacity enhancements associated with the Restoration project. The economic impacts estimated here are incremental to No-Build employment and service requirements. The current port now handles approximately 210,000 twenty-foot-equivalent-units (TEUs) per year, but also handles substantial non-containerized cargo.

Additional container throughput (relative to the No-Build) is estimated based on Parsons Brinckerhoff's updated market demand forecast ("Gulfport Container Volume Projections", Parsons Brinckerhoff, January 2012). That report assesses the prospects for container growth through the Port of Gulfport based on factors including Panama Canal expansion, the potential for increased market share for specific trade lanes such as Latin America to the U.S. Gulf Coast, baseline U.S. and regional import demand growth trends, inland rail network improvements connecting the Gulf ports with the U.S. inland, as well as the benefits of improved Gulfport facilities. The impact of port expansion/improvements will include operational and capacity enhancements from dredging for a larger turning basin and expanding available wharf and cargo handling space. These will increase the competitiveness of the port, allowing it to attract more and larger shipping, improving prospects for additional liner rotations, ship calls, and higher market capture rate at Gulfport. The container forecasts in that report include pessimistic, baseline, high and optimistic growth scenarios.

For purposes of this analysis, only the high growth and optimistic scenarios are considered relative to the No-Build baseline scenario. Volumes were initially projected through 2040, and extrapolated to 2050 and 2060 using the compound annual growth rate between 2030 and 2040.

The pessimistic scenario was not considered, as it will generate only moderately less impact than the baseline scenario. Under the pessimistic scenario, volumes are estimated to grow to about 1.07 million TEU by 2060.

Table 3 Container Volume Forecasts, No-Build vs. Port Alternative 1

Incremental TEUs	2010	2020	2030	2040	2050	2060
High-Growth Scenario						
No –Build (Baseline)	217,948	287,732	411,671	563,982	769,398	1,049,631
Build	217,948	316,055	453,410	651,893	889,328	1,213,242
Incremental	-	28,323	41,739	87,911	119,930	163,611
Optimistic Scenario						
No –Build (Baseline)	217,948	287,732	411,671	563,982	769,398	1,049,631
Build	217,948	487,732	711,671	963,982	1,289,238	1,725,215
Incremental	-	200,000	300,000	400,000	519,840	675,584

Source – Parsons Brinckerhoff "Gulfport Container Volume Projections," January 2012.

Operations Estimates - TEUs

As indicated the first step of this analysis was to identify the level of port and direct port related activity expected over time. Summarizing the market estimates above, it has been assumed that the project would increase port container volumes at the facility by a range between 164,000 annual TEU and 676,000 annual TEUs relative to the No-Build baseline by 2060, depending on the market forecast scenario. The increase above and beyond a "no build" scenario (the baseline), or the "marginal" increase in TEUs is what can be considered the impact of the project. This can be seen in the "incremental" numbers in Table 3.

Direct In-Port and Off-Port Services Employment: In-Port Cargo Handling & Off-Port Warehousing, Distribution and Other Support Services Employment

Additional container volumes generate employment in four ways: 1) direct on-port container handling activity; 2) off-port warehousing, distribution and truck drayage of containers; 3) other off port services such as freight forwarders and ship services; and 4) other container transport associated with rail shipments. Based on a range of previous studies and information, a full time equivalent (FTE) per 1,000 TEUs figure could be estimated for the first three categories.[4] Other container transport is discussed later.

For a conventional terminal, it was determined that the labor needs for in-port activity (ILA stevedoring and other in-port functions) is 1.25 FTE employees per 1,000 TEUs. (Analysis of a more technically automated port indicates FTE ratios of about half of this.) The warehousing and distribution sector (including truck drayage) would require an additional 2.65 employees per 1,000 TEUs, while other off-port activities would require 0.858 employees per 1,000 TEUs. In sum, it is estimated that total employment needs for a port are 4.758 employees per 1,000 TEUs. This includes direct on-port activity,

[4] Sources include "The Projected Economic Impacts from Container Terminal Development at Gulfport: Update", TranSystems, January 2011; confidential analyses by Parsons Brinckerhoff of port expansion for a container terminal in the New York region (truck drayage and warehousing and distribution component); Le-Griffin, Hahn-Le and Melissa Murphy, "Container Terminal Productivity: Experiences at the Port of Los Angeles and Long Beach, Feb. 2006, University of Southern California, Dept. of Civil Engineering; MARAD Port Economic Impact Kit.

as well as the indirect employment from warehousing and distribution and other off-port activity. Assuming no changes in technology over time, the total labor requirements are calculated below.

Table 4 Direct In-Port and Off-Port Labor Requirements for Future Port Activity Generated by Project

Labor Requirements	2020	2030	2040	2050	2060
High-Growth Scenario					
Labor Needs Per 1,000 TEU					
In-Port Activity	1.25	1.25	1.25	1.25	1.25
Warehousing/Distribution	2.65	2.65	2.65	2.65	2.65
Other off-port support activity	0.858	0.858	0.858	0.858	0.858
Total	4.758	4.758	4.758	4.758	4.758
Labor requirements per year (annual FTE)					
In-Port Activity	35	52	110	150	205
Warehousing/Distribution	75	111	233	318	434
Other off-port support activity	24	36	75	103	140
Total	135	199	418	571	778
Optimistic Scenario					
Labor Needs Per 1,000 TEU					
In-Port Activity	1.25	1.25	1.25	1.25	1.25
Warehousing/Distribution	2.65	2.65	2.65	2.65	2.65
Other off-port support activity	0.858	0.858	0.858	0.858	0.858
Total	4.758	4.758	4.758	4.758	4.758
Labor requirements per year (annual FTE)					
In-Port Activity	250	375	500	650	844
Warehousing/Distribution	530	795	1,060	1,378	1,790
Other off-port support activity	172	257	343	446	580
Total	952	1,427	1,903	2,473	3,214

Source – Parsons Brinckerhoff

To be consistent with the input-output analysis software utilized for this economy, certain characteristics of the structural economy of Mississippi were utilized.[5] Among these economic indicators was the total employee compensation per employee in each industry. Assuming no real wage growth over time, the following table indicates the total wage earnings, or labor income, for employees employed directly or indirectly at the facility:

[5] Minnesota IMPLAN Group, IMPLAN, Statewide Mississippi.

Table 5 Direct In-Port and Off-Port Employee Compensation from Future Port Related Activity Generated by Project

Employee Compensation	2020	2030	2040	2050	2060
High Growth Scenario					
Total compensation per employee (2011 $)					
On-Port Activity	$77,242	$77,242	$77,242	$77,242	$77,242
Warehousing/ Distribution	$35,963	$35,963	$35,963	$35,963	$35,963
Off-port activity	$38,139	$38,139	$38,139	$38,139	$38,139
Total Industry Employee Compensation per year (2011 $)					
On-Port Activity	$2,734,655	$4,030,002	$8,488,021	$11,579,533	$15,797,040
Warehousing/ Distribution	$2,699,206	$3,977,762	$8,377,993	$11,429,431	$15,592,268
Off-port activity	$926,826	$1,365,844	$2,876,752	$3,924,524	$5,353,917
Total	$6,360,687	$9,373,609	$19,742,766	$26,933,489	$36,743,226
Optimistic Scenario					
Total compensation per employee (2011 $)					
On-Port Activity	$77,242	$77,242	$77,242	$77,242	$77,242
Warehousing/ Distribution	$35,963	$35,963	$35,963	$35,963	$35,963
Off-port activity	$38,139	$38,139	$38,139	$38,139	$38,139
Total Industry Employee Compensation per year (2011 $)					
On-Port Activity	$19,310,487	$28,965,730	$38,620,974	$50,191,817	$65,229,280
Warehousing/ Distribution	$19,060,170	$28,590,256	$38,120,341	$49,541,195	$64,383,731
Off-port activity	$6,544,691	$9,817,037	$13,089,383	$17,010,962	$22,107,444
Total	$44,915,349	$67,373,023	$89,830,697	$116,743,974	$151,720,454

Source – Parsons Brinckerhoff analysis based on IMPLAN and per TEU factors in Table 4

Warehousing and Distribution: Materials, Supplies and Contract Services Spending

Thus far, impacts have included the direct employment impacts of the port as well as the i.e., off port support service employment impacts generated from trucking drayage, warehousing and distribution and other container services off-port. These estimates are for labor only, and have not included purchases of materials, supplies, and other services by these sectors (the port, warehousing and distribution, and truck drayage firms) that would have a further impact on the economy.

Such impacts can be estimated for the combined warehousing, distribution and truck drayage firms serving the port and its additional container throughput. Traditionally, the warehousing and distribution industry (a component of the labor costs above) is likely to have expenditures well beyond the costs of labor. According to latest American Transportation Research Institute[6] data, the ratio of truck driver wages and benefits to other costs is 0.59. This means that other costs are about 1.7 times the truck drivers' wages and benefits. Thus, by multiplying the total warehousing and distribution industry labor income in Table 4 by approximately 1.7, the non-labor costs for the industry can be estimated.

These costs can be viewed as a change in final demand to the transportation and warehousing industry. These impacts can then be multiplied throughout the economy. The following table indicates the estimated changes to non-wage costs in the transportation and warehousing industry, which are interpreted as changes in final demand.

Table 6 Changes in Non-Wage Spending by Transportation and Warehousing Firms from Port Activity.

Non-Wage Spending Increases for Warehousing and Distribution (2011 $)	2020	2030	2040	2050	2060
High-Growth Scenario	$4,574,925	$6,741,970	$14,199,988	$19,371,917	$26,427,572
Optimistic scenario	$32,305,374	$48,458,060	$64,610,747	$83,968,127	$109,124,968

Source – Parsons Brinckerhoff

Total Impacts

Total impacts for the region were derived in three parts. The first two were described above, and reflect "first round" increases in economic activity. These include, as described above:

- direct in-port and off-port services employment and wages

[6] American Transportation Research Institute, Analysis of the Operational Costs of Trucking: June 2011 Update.

- non wage spending for materials, supplies and services for transportation, warehousing and distribution

To complete the analysis of full regional economic impacts, Input Out based multipliers were applied. These provide estimates of the indirect and induced effects (i.e., the multiplier effects) of the additional payments to labor (Table 5), and for materials, supplies and services (Table 6). Specifically, these are calculated utilizing economic multipliers provided by IMPLAN. These indirect and induced, or multiplier effects, are combined in Table 7 with the direct impacts to arrive at the total changes in regional employment, wage earnings, output, value added, and state and local taxes. These indirect and induced effects are explained below:

- Induced effects from wage earnings arise as the additional employee compensation for in-port workers, and workers in warehousing and distribution, would cycle throughout the economy as the earnings are spent at various retail and other businesses in many sectors throughout the economy (food, shelter, clothing, services, etc.). Thus, the changes to employee compensation (the totals from Table 5) were applied to the economy to identify the total induced impacts in terms of employment, wage earnings, output, Gross State Product (i.e., value added) and state and local taxes.
- Indirect effects resulting from changes in final demand (i.e., increased to the warehousing and distribution industry (shown in Table 6 above) were also applied to the economy. These changes to final demand had multiplying effects, as the warehousing and distribution industry requires secondary goods and services from other industries, and its employees spend their incomes in the economy. These impacts were also added to the total.

Table 7 presents total impacts on the regional and state economy generated from the project from 2030 to 2060. Impacts include total employment, wage earnings, output, value added, and state and local tax impacts. Tax impacts represent all state and local taxes combined.

Table 7 Total Economic Impacts from Future Port Related Activity Generated by Project

Economic Impacts per year	2020	2030	2040	2050	2060
High-Growth Scenario					
Employment (job-years)					
Direct (including warehousing, distribution and trucking)	135	199	418	571	778
Indirect	55	82	172	235	320
Induced	62	91	191	261	355
Total	252	371	781	1,066	1,454
Wage Earnings (2011 $)					
Direct (including warehousing, distribution and trucking)	$6,360,687	$9,373,609	$19,742,766	$26,933,489	$36,743,226
Indirect	$2,525,932	$3,722,412	$7,840,173	$10,695,726	$14,591,331
Induced	$2,013,066	$2,966,613	$6,248,302	$8,524,062	$11,628,703
Total	$10,899,685	$16,062,634	$33,831,241	$46,153,277	$62,963,260
Total Output (2011 $)					
Direct (including warehousing, distribution and trucking)	$25,308,406	$37,296,457	$78,554,082	$107,165,100	$146,196,858
Indirect	$5,971,497	$8,800,069	$18,534,771	$25,285,519	$34,495,029
Induced	$6,240,716	$9,196,810	$19,370,392	$26,425,487	$36,050,199
Total	$37,520,619	$55,293,336	$116,459,245	$158,876,106	$216,742,086
Total Value Added (Gross State Product) (2011 $)					
Direct (including warehousing, distribution and trucking)	$6,360,687	$9,373,609	$19,742,766	$26,933,489	$36,743,226
Indirect	$3,157,891	$4,653,717	$9,801,692	$13,371,672	$18,241,912
Induced	$3,708,108	$5,464,561	$11,509,500	$15,701,496	$21,420,308
Total	$13,226,686	$19,491,887	$41,053,958	$56,006,657	$76,405,446
Total State and Local Taxes (2011 $)	$554,138	$816,623	$1,179,976	$2,346,426	$3,201,045
Optimistic Growth Scenario					
Total Employment (job-years)					

Economic Impacts per year	2020	2030	2040	2050	2060
Direct (including warehousing, distribution and trucking)	952	1,427	1,903	2,473	3,214
Indirect	391	587	782	1,016	1,321
Induced	435	652	869	1,129	1,468
Total	1,777	2,666	3,554	4,619	6,003
Total Wage Earnings (2011 $)					
Direct (including warehousing, distribution and trucking)	$44,915,349	$67,373,023	$89,830,697	$116,743,974	$151,720,454
Indirect	$17,836,615	$26,754,922	$35,673,229	$46,360,929	$60,250,653
Induced	$14,215,065	$21,322,594	$28,430,125	$36,947,792	$48,017,343
Total	$76,967,029	$115,450,539	$153,934,051	$200,052,695	$259,988,450
Total Output (2011 $)					
Direct (including warehousing, distribution and trucking)	$178,712,749	$268,069,123	$357,425,497	$464,510,176	$603,677,368
Indirect	$42,167,129	$63,250,691	$84,334,258	$109,600,803	$142,437,180
Induced	$44,068,192	$66,102,276	$88,136,372	$114,542,032	$148,858,800
Total	$264,948,070	$397,422,090	$529,896,127	$688,653,011	$894,973,348
Total Value Added (Gross State Product) (2011 $)					
Direct (including warehousing, distribution and trucking)	$44,915,349	$67,373,023	$89,830,697	$116,743,974	$151,720,454
Indirect	$22,299,128	$33,448,691	$44,598,254	$57,959,893	$75,324,665
Induced	$26,184,438	$39,276,651	$52,368,871	$68,058,586	$88,448,923
Total	$93,398,915	$140,098,365	$186,797,822	$242,762,453	$315,494,042
Total State and Local Taxes (2011 $)	$3,912,995	$5,869,492	$7,825,989	$10,170,658	$13,217,780

Source – Parsons Brinckerhoff

4. Special Economic Sector Studies

PB has conducted special studies to examine the possibility of negative economic impacts resulting from Port expansion on key economic sectors and activities in the Gulfport area. Effects may result from increased truck traffic on local roads due to increased container volumes, encumbrance on waterfront property, or other aesthetic or environmental effects on the local area.

This section examines three industries with exceptional importance to the Gulfport region to which Port expansion may generate negative economic impacts: commercial shrimp and fishing, tourism (including leisure, hospitality and gaming), and charter boating and fishing. The following sections describe the proposed project and its potential effects on these sectors.

Geography and Project Understanding

The Study Area for the Port of Gulfport expansion encompasses a majority of Mississippi's 26 miles of mainland coast along the Gulf of Mexico, which is home to the vast majority of the State's commercial and recreational boating and fishing activity. The area also serves as one of the region's major tourist destinations. The Port itself is centrally located on Mississippi's Gulf Coast, just south of the junction between US-49 and US-90, as seen in Figure 1, below.

Figure 1 Port of Gulfport Expansion Study Area

Source – ATKINS

For the purpose of this study there are two central factors to consider when evaluating potential impacts of the Port expansion project: those occurring offshore, mainly the renovation of the Port itself;

and those occurring onshore, mainly the effect of Port expansion on surface transportation infrastructure leading to the Port.

Port Improvements

Much of the physical Port expansion is occurring on offshore infrastructure by extending facilities further south into the Gulf. The Port of Gulfport has been operational since 1902, and since then has been a highly visible presence on the Gulf coast, both from downtown Gulfport and along the miles of open waterfront to its east and west. As such, residents and visitors are accustomed to the aesthetics of an operational port. The expansion will not significantly alter the aesthetic appearance and therefore is not expected to deter business or other commercial or recreational activity from that perspective. Moreover, because the Port's physical footprint along the shoreline will not change, it will not have the effect of "pushing out" any waterfront businesses in the immediate vicinity.

Surface Improvements

Due to the limited change in the Port's footprint from the expansion project, it is likely that if the project were to generate any negative impacts on surrounding industries it would come from ancillary activity related to increased demand on infrastructure such as surface roadways and interstates, in particular critical routes US-90 (east-west along Harrison County coast), US-49 (running north from the Port), and I-10 (running east-west approximately 4.5 miles north of the port with access to New Orleans to the west and Mobile to the east). These routes are doubly important due to their proximity to the region's retail, commercial and industrial corridors. While not a part of the actual Port expansion project, there are several other independent projects planned in the area are expected to alleviate concerns.

The most significant surface infrastructure project is the future I-310 Connector proposed by Mississippi Department of Transportation. The proposed roadway is a limited-access highway that will connect I-10 to 30th Avenue in downtown Gulfport with direct access to the Port facilities. I-310 will divert all north- and southbound truck freight traffic off of US-49, leaving that thoroughfare open to regular non-port traffic. Current plans call for the potential addition of an elevated connection between I-310 and the West Pier at Gulfport, further reducing conflict with surface traffic by eliminating the at-grade intersection with US-90. These steps will remove the majority of port traffic that currently uses US-90 and US-49. Current estimates suggest I-310 may draw as much as one-third of the current daily traffic on US-49 south of I-10.

Similar improvements will be made to the rail line connecting the Port to freight rail infrastructure.

In general, the alleviation of truck traffic along US-49 will mean easier access for tourist and residential traffic to the large commercial developments along the corridor.

Truck Traffic Projections

In 2010 the Mississippi State Port Authority (MSPA) located at the Port of Gulfport handled 208,000 TEUs of containerized cargo. While down from a peak of 230,000 TEUs in 2005, volume has increased steadily in the years following Hurricane Katrina. Currently 95 percent of container freight exits the port by truck via I-49 North, or approximately 197,600 TEUs in 2010.

Under the optimistic growth scenario presented in the Gulfport Container Volume Projections, container volumes could grow to nearly 500,000 TEUs in 2020 and 700,000 TEUs in 2030. However, under the current Port expansion plan and associated surface transportation improvements, the percentage of cargo leaving the port by truck will decline from 95 to 50 percent, equating to 250,000 TEUs in 2020 and 350,000 TEUs in 2030; the remaining 50 percent will leave by rail. It is anticipated that nearly all truck cargo traffic leaving the port will utilize the new I-310 connector, bypassing I-49 completely.

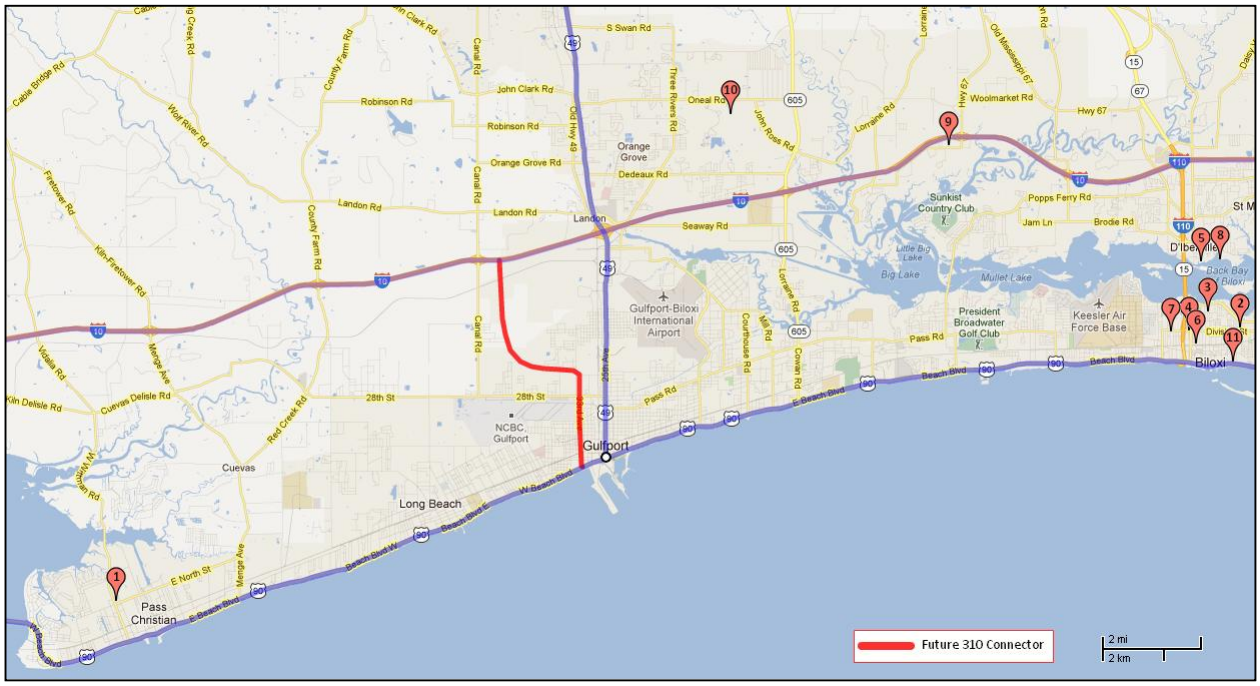
The optimistic growth scenario represents an effective "worst case scenario" for truck traffic in the Gulfport area; with less optimistic growth, truck volumes will be lower. Overall, despite growth in trucking volume, increased dependence on other modes of transport and a dedicated highway route further away from the Gulfport central business district should generate a mostly positive impact on local businesses in terms of truck traffic.

The following sections will examine potential industry-specific conflicts generated by Port expansion.

Commercial Fishing and Shrimp Industries

The Gulfport-Biloxi Metropolitan Statistical Area (MSA) is home to several dozen commercial fisheries and distributors and hundreds of professional shrimp and fisherman operating out of Mississippi Sound. Employment in the commercial shrimp and fishing industries was 8,500 statewide in 2010; more specific data is not currently available, though it is reasonable to assume the vast majority of that employment is located along the Gulf coast and, consequently, within the Study Area. The majority of these companies are small, independent operations.

Figure 2 Commercial Shrimp and Fishing Employers within the Study Area[7]



[7] See Appendix for list of businesses labeled in Figure 2

Source – Google Maps, Parsons Brinckerhoff

Figure 2 above maps eleven of the top commercial shrimp and fishing companies in the Study Area. This map is not complete, but it is representative; locations displayed above represent clusters of commercial fishing activity in the Gulfport region. The majority of commercial fishing companies operate out of the harbors along Biloxi Bay and further east (outside of the study area) in Pascagoula. Relatively few operate in the City of Gulfport or points directly west, and no reported businesses operate directly along the proposed I-310 corridor. Centering commercial operations in close proximity to safe harbors like that in Biloxi allows for efficient transfer of catch to processing. It is reasonable to expect Port expansion activity to have minimal effect on those fisheries still operating post-Katrina and Deepwater Horizon.

Projecting sector and commercial growth within the Study Area is difficult due to the unique circumstances surrounding devastation caused by Hurricane Katrina and the Deepwater Horizon oil spill, but it is unlikely that even robust growth would be prohibited by the Port expansion due to the reasons outlined above. Overall, there is much uncertainty over future business activity and investment due to the non-normal development experienced from 2005 to present. This rings even more true with marine-related industries.

Leisure and Tourism Industries

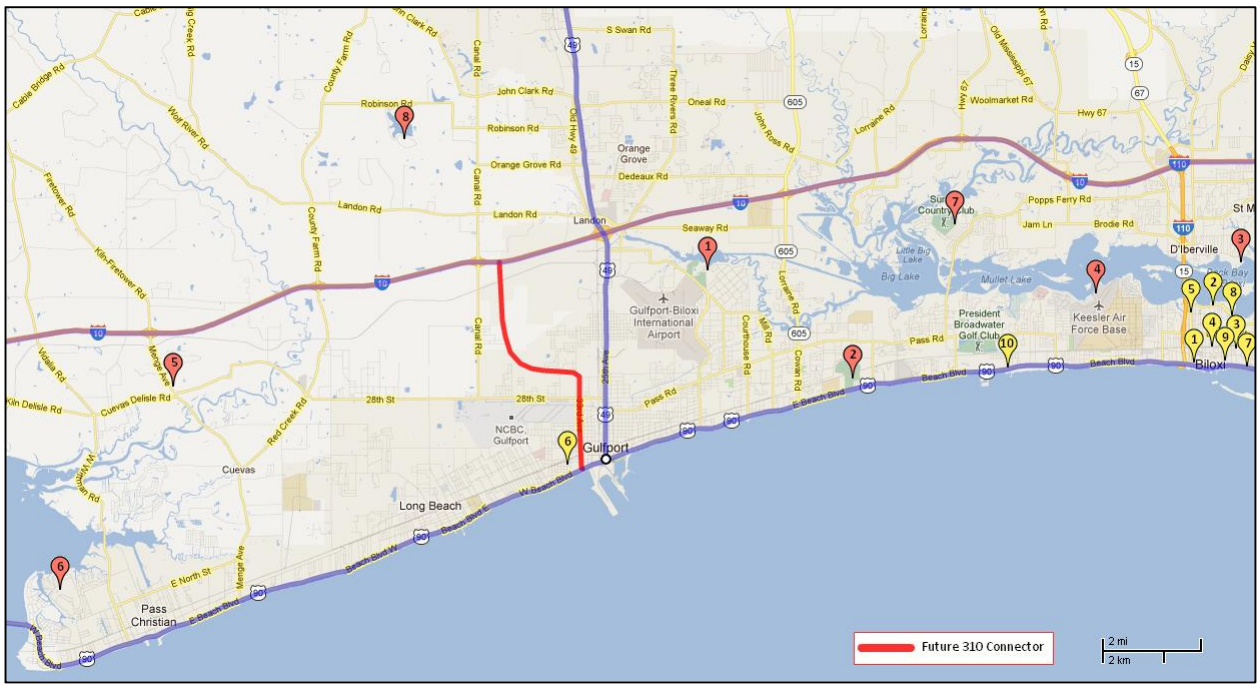
The leisure and tourism industries along the Mississippi Gulf Coast have increased in market share in recent years. Due to the major damage done along the coast by Hurricane Katrina, much of the tourism activity now centers on golf and gaming in particular, as well as hotels and hospitality services that go along with them. This represents a significant portion of the local economy; direct tourism employment was 22,000 in Harrison County in 2009, representing nearly one-quarter of all nonfarm employment.

Alone, casinos employ 8,900 in the Gulfport-Biloxi MSA. Beau Rivage Casino employs over 4,100 making it the largest private employer in Harrison County (behind Keesler Air Force Base and the Naval Construction Battalion Center). Together, casinos represent seven of the fifteen largest employers in the County, each with over 1,000 employees as of 2009.

Figure 3 below maps the ten casinos (yellow) and eight golf courses (red) within the Study Area. Hotels (not mapped) tend to concentrate along US-90 east of the Port and along the I-40/US-49 interchange; there are approximately 60 hotels in the Study Area, with only one, the Island View Casino Resort, in direct proximity to the proposed I-310 Connector. Casino activity is concentrated in the Biloxi peninsula with some activity further west along US-90. The only casino facility within proximity of the Port is the Island View Casino Resort. Golf courses are naturally dispersed throughout the Study Area south of I-10, all far from any Port activity or associated truck traffic.

Due to the geographic distribution of these businesses relative to the Port and the fact that the vehicle traffic accessing these facilities will rely primarily on alternate routes (such as I-110), these businesses are not expected to compete significantly with increased truck traffic into and around the Port. As such, there is no clear indication that Port expansion activity would have an impact on those activities.

Figure 3 Leisure and Tourism Employers within the Study Area[8]



Source – Google Maps, Parsons Brinckerhoff

Tourism and leisure activities are a growth industry in the Gulfport region. It is likely that additional casino and resort development will center along the US-90 corridor regardless of Port expansion activity. However as with other industries, projecting sector and commercial growth within the Study Area is difficult due to the area's unique recent history. As with other industries, it is unlikely that even robust growth would be prohibited by the Port expansion due to the reasons outlined above.

Charter Boats and Fishing Industry

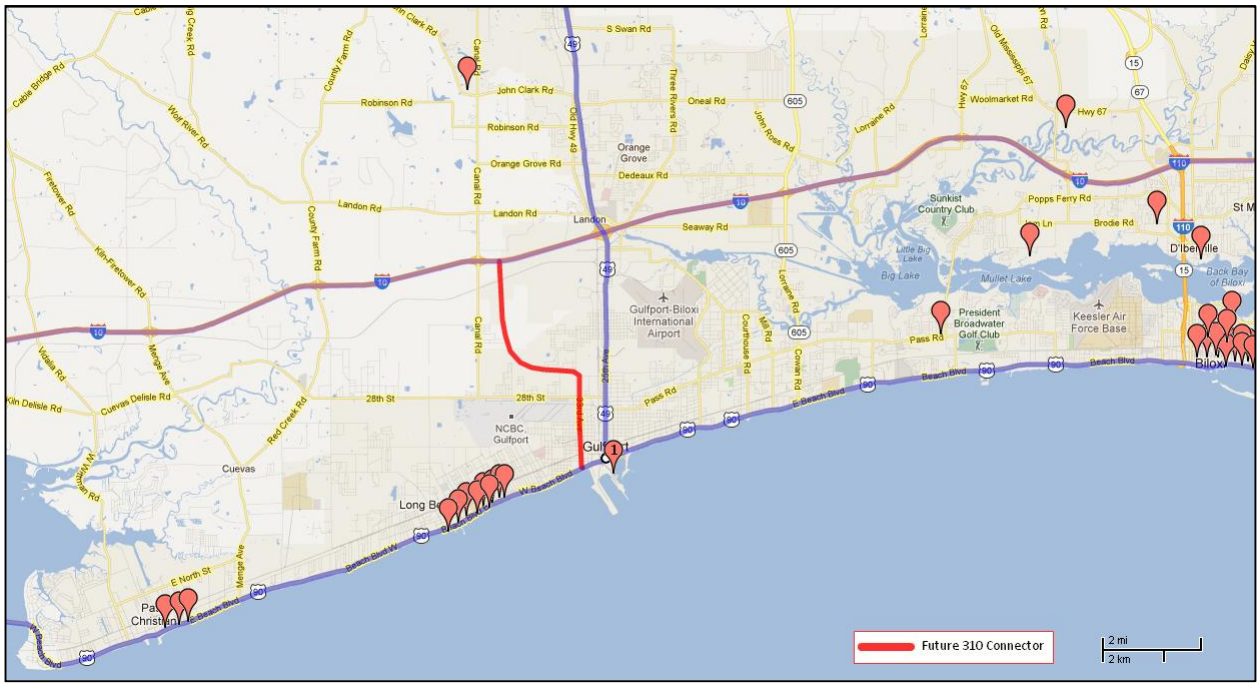
There are over 50 employers in the charter boating and fishing industry within the Study Area, most of which are small and independent operators or sole proprietorships. As with commercial shrimp and fisheries, much of the commercial charter boat and fishing activity in the Study Area was erased after the hurricane but the industry has begun to return to the Mississippi coast. Exact employment figures for the charter boat and fishing industry are unavailable, but the recreational boating environment within Mississippi Sound is robust; recreational fisherman spent $700,000 on fishing equipment and trips in 2009.

Charter boat and fishing outlets in the Study Area are concentrated along the small craft harbors that offer protective cover for boat storage. As seen in Figure 4, these businesses (as well as strictly recreational leisure boats) are predominantly found at marinas in Pass Christian and Long Beach to the west of the Port, and the Biloxi Small Craft Harbor and the Back Bay of Biloxi to the east. None of these locations are within close proximity to the port, nor do they compete for surface infrastructure with the

[8] See Appendix for list of businesses labeled in Figure 3

Port and are not expected to do so after Port expansion. In fact, access to the Biloxi Small Craft Harbor is achieved most easily by bypassing US-49 and instead using I-110.

Figure 4 Charter Boat and Fishing Employers within the Study Area



Source – Google Maps, Parsons Brinckerhoff

The one marina located directly at the Port of Gulfport, Bert Jones Yacht Harbor (marked "1" in Figure 4 above) shares a channel with the Port's east terminal, but is sheltered by breakwaters and will remain protected post-expansion.

While again it is difficult to project near-term sector growth within the Study Area due to the unique circumstances surrounding damage done by Hurricane Katrina and the Deepwater Horizon oil spill, there is reason to believe marine tourism including charter boating and fishing will continue to increase as regional conditions improve. As with other sectors, it is unlikely that future growth will be prohibited by the Port expansion because the immediate area is suboptimal for small craft storage and there are other locations nearby offering more protected facilities.

Appendix: Selected Businesses within Study Area

Figure 2 Commercial Shrimp and Fishing

1. Crystal Seas Seafood LLC
2. David Gollott Seafood Co
3. Gulf Pride Enterprises
4. Quality Poultry and Seafood
5. North Bay Seafood, Inc
6. Custom Pack, Inc
7. Desporte and Sons, Inc
8. Seymour & Sons Seafood, Inc
9. Lion I Sea
10. Bully Rags LLC
11. Biloxi Shrimping Trip

Figure 3 Leisure & Tourism

Casinos

1. Beau Rivage Resort and Casino
2. Boomtown Casino
3. Grand Biloxi Casino Hotel and Spa
4. Hard Rock Hotel and Casino
5. IP Casino Resort and Spa
6. Island View Casino Resort
7. Isle Casino Hotel Biloxi
8. Margaritaville Casino and Restaurant
9. Palace Casino Resort
10. Treasure Bay Casino and Hotel

Golf Courses

1. Bayou Vista Golf Course
2. Great Southern Golf Club
3. Gulf Hills Golf Club
4. Keesler Air Force – Bay Breeze Golf Course
5. Oaks Golf Club
6. Pass Christian Isles Golf Club
7. Sunkist Country Club and Golf Course
8. Windance Country Club