

PORT BIENVILLE

Economic Development Benefits and Opportunities Analysis

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**CDM
Smith**

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Port Bienville: Economic Development Benefits and Opportunities Analysis

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Port Bienville: Economic Development Benefits and Opportunities Analysis

Economic Development Benefits and Opportunities Analysis

Globalization and new technologies have transformed economies around the world, redefining the way businesses operate, challenging supply chains and transportation networks, and creating new customer opportunities in places where they were previously inconceivable. To compete in this global marketplace, businesses must optimize every asset: workforce skills, competitively priced products, and reliable transportation systems to ensure their customers receive quality goods and services when they expect them. As the importance of global trade and the demands of customers continue to evolve, American companies are more dependent than ever on integrated, agile, and efficient transportation networks to sustain and enhance their competitive position in the marketplace.

Hancock and Pearl River counties in Mississippi have faced transforming conditions as well in the past few years as they worked to recover from the effects of Hurricane Katrina and the oil spill in the Gulf, and the economic consequences of these disasters. The Port Bienville Industrial Park and Stennis Space Center played a pivotal role in the recovery of this region, sustaining employment and attracting new investments and jobs that have helped to rebuild and enhance the area's economy.

The Port Bienville rail connector evaluated in this study would link the CSX and Norfolk Southern (NS) main lines in Hancock County providing access to two Class 1 rail roads. The objective of this report is to examine the potential economic development benefits and opportunities resulting from access to dual Class 1 rail services in Hancock County. This project would generate immediate transportation benefits for businesses in the Port Bienville Industrial Park and provide rail access to the Shale Support Services facilities in Hancock and Pearl River Counties that currently truck 84,000 tons of fracking sands each month from Hancock County to a rail spur in Picayune. The proposed rail connector would repair and upgrade a portion of an abandoned rail line and provide rail access to a transload facility previously developed for Stennis Space Center that could provide rail services to other companies in the region. Improvements and repairs to the NS line that previously served Stennis Space Center could facilitate the return of rail services to some areas of the space center to serve existing operations and future development.

The economic development benefits and opportunities identified as a result of the consultant team's research, data analysis, and meetings with business and industry,

Stennis Space Center, Mississippi Development Authority, and the Hancock County Port and Harbor Commission are compelling. Consider the following:

- Industrial parks providing dual Class 1 rail services are a scarce resource in the U.S. and certain significant industrial projects require access to dual rail service to meet the transportation demands of these operations. An analysis of industrial parks and logistics centers that provide dual Class 1 rail services and meet other minimal site criteria found only seven industrial parks or logistics center in the U.S. that currently meet those requirements. Access to two Class 1 railroads would position Hancock County and the Port Bienville Industrial Park in this group of “crown jewel” industrial parks.

- Currently there are two industrial prospects evaluating sites in Hancock County. One company is considering only one site in Mississippi, the Port Bienville Industrial Park site. Both prospects require access to dual Class 1 rail service. A decision to proceed with this rail connector project would keep Hancock County in the running for these two facilities. Collectively these prospects indicate they would invest slightly over \$650 million in plant and equipment and employ 450 people.

- Existing businesses in the industrial park served by the Port Bienville Railroad currently utilize 6,261 rail cars annually. Based on information provided by these existing companies who would be directly served by this proposal rail line and information from the Mississippi Development Authority (who provided rail car usage data for an industrial prospect evaluating a location in Mississippi at the Port Bienville Industrial Park) the rail car usage on the Port Bienville Short Line Railroad could increase significantly with access to two Class 1 railroads. The largest projected rail car user, Shale Support Services, is currently trucking fracking sands from Hancock County to its drying facility in Picayune. Additional product lines are planned for this facility in the near future. If dual rail services were available to serve this company their Phase II expansion planned for 2014 would move 168,000 tons (1680 rail cars) of material monthly from the Hancock County facility.

The projected rail car volumes anticipated with access to dual Class 1 rail services are as follows:

Table 1 Projected Rail Car Volumes with Dual Class 1 Rail Services

Current Annual Rail Car Volume for Existing Port Bienville Industrial Park Tenants	6,261 rail cars
Future Additional Annual Rail Car Volume for Existing Port Bienville Industrial Park Tenants	3,530 rail cars
Projected Annual Rail Car Volume for MDA Industrial Prospect	12,000 rail cars
Projected Annual Rail Car Volume for Phase II (2014) Shale Support Services facility in Hancock County	20,160 rail cars
Total Projected Annual Rail Car Volumes for Existing Industries and MDA Industrial Prospect	41,951 rail cars

The volume of rail cars projected in the table above represent a significant increase in rail volumes for the Port Bienville Short Line Railroad. According to CDM Smith rail experts, it

is possible to accommodate this volume of rail cars on the proposed rail line however, additional rail planning and engineering will be necessary to define the infrastructure requirements and operating policies needed including additional sidings, signaling, and adequate interchange capacity at the yard. Also, this significant increase in rail car volumes for the Port Bienville Short Line Railroad could provide an opportunity to generate some revenues from rail connector operations to cover a portion of the debt service for construction of this rail line. Additional funding resources are in Appendix C.

- A number of studies document the economic benefits of non-captive industrial facilities (those facilities with access to more than one railroad provider) that realize, between 30 to 45 percent lower rail rates than those paid by captive production facilities. Additional research on non-captive rail impacts is included in the study. This proposed rail connector could produce similar transportation savings at the Port Bienville Industrial Park, Stennis Space Center, and Pearl River Industrial Park, enabling companies in the parks to be more competitive and increase sales and production, which can lead to additional employment and investment in Hancock County.¹
- 1,200 people are currently employed in the Port Bienville Industrial Park. Based on the five-year business plans of the industries currently in the park, companies anticipate hiring as many as 430 new employees over the five year period following the completion of the proposal rail line to meet increased customer demand that could result from reduced delivery times, improved reliability, and lower transportation costs resulting from the availability of dual Class 1 rail service in the park. The industries in the industrial park have worked with the Hancock County Port and Harbor Commission for a number of years to help facilitate the construction of this proposed rail connector.
- The most significant long term economic development benefits and opportunities from this rail connector will be generated from new employment and additional investment in plant and equipment by existing businesses and the location of new companies that require or would benefit from access to dual Class 1 rail services. Hancock County presently has over 6,640 acres of industrial land available for lease or sale including 3,600 acres available for lease within the Stennis Space Center complex. The Hancock County Port and Harbor commission has also identified a 1,500 acres site near the existing industrial park for future expansion. Pearl River County has 505 acres of industrial land. With this substantial industrial land inventory, access to dual Class 1 rail services and the highway and port transportation infrastructure serving this area, Hancock County could meet the site location requirements of a significant number of the mega-projects and major industrial facilities that have located in the U.S. over the past ten-years.
- Exports to Latin America are increasingly important for businesses, particularly as Central and South America's economic performance "remains the world's second best performing

¹ "Analysis of Freight Rail Rates for Chemical Shippers," American Chemistry Council

region after Asia.”² Businesses in the Port Bienville Industrial Park already export products to a number of Latin American countries and most anticipate greater opportunities for exports to this region within the next two years. The proximity of the Port Bienville Industrial Park to the Gulf Coast and Latin America coupled with the availability of multimodal transportation services, particularly dual Class 1 rail, were identified by nine companies as very important factors for their future export and business growth.

The Business Case for Dual Class 1 Rail Service in Hancock County

For businesses that ship or receive heavy or oversized materials or large quantities of materials, freight rail can be significantly more cost-effective than other transportation modes. While cost factors are important, businesses today increasingly utilize transportation strategies to achieve competitive advantages that enable them to meet delivery requirements because customers want the product when, where, and how they choose. Goods movement is, therefore, an increasingly crucial part of a company’s competitiveness strategy. Reliable transportation services and speed to markets have become significant differentiators for many businesses. While cost is always important, other critical factors, such as on-time deliveries and reliability, also influence a customer’s purchasing choices today.

The critical importance and benefits of dual Class 1 rail services in the U.S. can be readily demonstrated by the companies who have made and continue to make investment choices to locate or expand significant industrial facilities, and consider access to dual Class 1 railroads an essential “go/no-go” criteria in their site selection evaluation. Major manufacturing facilities including Toyota Motor Company North America, Severstall Steel Columbus, Katoen Natie, a Belgium plastics and petrochemical products firm that recently located in Louisiana, ThyssenKrupp Steel USA, Ford Motor Company, Sanyo Logistics, Volkswagen North America, and CenterPoint Logistics Center all required access to two Class 1 railroads in their site location criteria, and the locations these companies ultimately selected met that requirement. All but one of these facilities employ over a thousand people at higher than average manufacturing wages, and because of the substantial investment in plant and equipment they provide significant contributions to local and state tax revenues.

Consider, for example, the Boeing 7E7 site selection process for the Boeing Aerospace project now located in North Charleston, South Carolina. The transportation and freight criteria were key considerations in the site selection process for this project.³ Boeing’s transportation requirements included provisions of a suitable runway, proximity to a port capable of providing round-the-clock operations, continuous availability of heavy traffic-ways between the plant site and the port, and proximity to railways and interstate highways. The availability of dual rail infrastructure was also considered crucial to the recent expansion at the Port of Charleston.

² “Latin American Outlook 2012: Recovering the Potential,” Moody’s Analytics, and “Growth in Latin America Moderating but Resilient,” International Monetary Fund: Regional Economic Outlook, October, 2012

³ Boeing Corporation

Rail served industrial parks are a relatively scarce resource, and industrial land with dual rail services is considered the “crown jewel” in the industrial development profession.⁴ An intensive search of available industrial parks or logistics centers found *only seven industrial parks or mega-sites in the U.S. that currently provide dual Class 1 rail services*. Properties were evaluated based on several criteria: availability of utilities, including at a minimum water, wastewater, and electrical utilities on site; accessibility to transportation services including at least one four-lane highway, and dual Class 1 rail services on site or existing rail on site connecting to two Class 1 railroads within reasonable proximity of the site; and property currently zoned for industrial uses and available for sale with an established pricing structure.

The seven industrial parks or mega-sites that currently meet those criteria are:

- *CenterPoint Intermodal Center, near Rochelle, Illinois*: access to BNSF and Union Pacific (UP), I-88 and I-39, with 338 acres remaining
- *Crawford Diamond Industrial Park, Nassau County, Florida*: 1,800 acre site zoned industrial, currently under development; FDOT road construction underway, utility improvements on site under contract
- *LogistiCenter, Logan, New Jersey*: access to NS and CSX rail, I-295 and I-95; 1,100 acre master planned business park with utilities and rail on site
- *CenterPoint Intermodal Center and Illinois Inland Port, Will County, Illinois*: approximately 3,200 acres remain of a 6,300 acre site, with access to UP and BNSF rail, I-55 and I-80; utilities on site
- *Riverport West, Paducah, Kentucky*: 1,200 acres available, access to BNSF and CN rail and I-69; Southland Renewal Fuels, a biodiesel facility, is being constructed on this site
- *Port of Montana, Butte, Montana*: access to BNSF and UP, I-15 and I-90; utilities on site; full-service river port
- *Frank C. Pidgeon Industrial Park, Memphis, Tennessee*: 1,436 acres with access to CSX and NS rail, I-40, and the Mississippi River Port

It is worth noting that several of these properties are logistics centers and while some manufacturers may be welcomed, several of these parks focus primarily on warehousing and distribution facilities. A limited number of greenfield sites also have access to two Class 1 railroads.

“Port Bienville Industrial Park is the best deal for the dollar of any location around; you’ve got rail, barge, and highway access plus available land.”

- former MDA official

However, these properties lack the necessary infrastructure, proximity to appropriate workforce, and other critical requirements to meet the general site selection criteria for a major industrial facility location at this time. Properties that can meet these requirements are extremely scarce.

The Port Bienville Industrial Park currently provides access to one Class 1 railroad; sufficient utility infrastructure for water, wastewater, electrical service, natural gas, and broadband; a workforce catchment area with a growing population and skilled

⁴ Mark Sweeney, McCallum Sweeney Group, IEDC Industrial Site Location Panel 2010

labor; excellent industrial training and educational facilities; a transportation network that provides access to I-10 and I-59; proximity to Stennis International Airport with an 8,500 foot runway, terminal and hanger facilities, and air cargo facilities; a barge port with access to the Gulf of Mexico via a navigable channel to the Pearl River; suitable adjoining land uses that buffer future industrial development; and 8,645 acres of land available for development.⁵ As one former MDA official put it, “Port Bienville Industrial Park is the best deal for the dollar of any location around; you’ve got rail, barge, and highway access plus available land.”

Prospective Industries in Hancock County

During the site selection process, negotiations with prospective companies are conducted in a strictly confidential environment. Limited information about two industrial facilities considering Port Bienville Industrial Park and Hancock County has been provided to the consultant team by Mississippi Development Authority and two site consultants with whom the team has worked previously. The anticipated investment from these two facilities would exceed \$650 million dollars. Permanent long-term employment at these facilities is projected at 450 people, with approximately 500 employees anticipated during the construction phase. One prospect would utilize rail freight as the primary source for outbound shipment of finished products, with inbound materials delivered by water-based shipping for one project and a combination of barge and rail for the second project. These prospects will not consider a site without access to dual Class 1 rail services, and the only site in Mississippi these facilities are considering is in Hancock County. Without the commitment of dual rail access these facilities will not locate in Mississippi.

Business Competitiveness and Dual Rail Infrastructure

New transportation infrastructure enables businesses to take advantage of additional capacity and modify their logistics and supply chains, improving delivery services to their customers. The proposed Port Bienville rail connector will allow companies in the park to modify supplier networks, which may reduce their costs or enhance the quality of inputs. Access to dual Class 1 rail service can improve transit times, provide alternative response options in the event of natural disasters, increase transportation service levels, and provide access to broader markets and more customers – all of which are critical to a company’s ability to successfully compete in an international marketplace. It is not easy to quantify the benefits that can result from the addition of another Class 1 railroad; however, several research studies have sought to quantify the impact of some of these benefits.

In 2012, the American Chemistry Council released a study assessing the extent to which chemical companies rely on rail services, and how access to competitive rail services affected their business. A number of Port Bienville businesses are engaged in the polymers and plastics industry, which is considered part of the chemical sector. The

“...on average rail rates for captive production facilities are 30 percent higher.”

⁵ Includes total undeveloped acres owned by HCPHC, existing industrial park tenants, property within the secure fee area at Stennis Space Center, remaining acreage at the Airport Industrial Park, industrial sites in Pearl River County, and a future industrial site adjacent to Port Bienville Industrial Park.

companies participating in this study operate 677 major chemical production facilities in the U.S. Nearly 75 percent of these facilities rely on rail and a substantial number receive raw materials and ship chemical products by rail. Chemical producers report that 73 percent of their facilities with inbound rail transportation are captive to a single railroad. “When these companies compared their captive and non-captive facilities (those facilities with access to more than one railroad provider) and considered comparable volumes, distances, and services, they estimated that on average rail rates for their captive production facilities are 30 percent higher.”⁶

Higher transportation costs have caused a number of these companies to source raw materials to off-shore locations and to site new production facilities in areas *“based on access to competitive rail services”*.⁷ Transportation costs and service conditions have caused some companies to decide to forego expanding their U.S. facilities, to shut down a line of production, or to close a facility and increase production in another country. The American Chemistry Council estimates that if the premium on chemical shipments were reduced the chemical sector could create up to 25,000 additional American jobs with \$1.5 billion in new wages and \$6.8 billion in new economic output.

The State of Montana, Governor’s Office of Economic Development conducted a rail freight competition study to analyze the cost and benefits of investing in state-owned rail infrastructure to bring additional rail services to the state and promote reasonable rail freight competition and rates. The study found that areas of the state where multiple rail providers were located saw a substantial increase in jobs, higher market value for agricultural products and properties, improved business development, and significant improvement in on-time deliveries.⁸

A recent analysis of the benefits of dual rail access by the State of South Carolina found a number of benefits resulting from dual freight rail services, including:

- Ability to develop a single intermodal rail facility to equitably serve both Class 1 railroads, a more efficient and economical solution than constructing two separate facilities to serve the Port of Charleston
- Creating alternative routes for each Class 1 railroad in the event of an emergency or natural disaster to support disaster response for the railroad, businesses, and communities
- Expanding employment opportunities and development of land for businesses that need access to rail services

Washington State Department of Transportation conducted a strategic freight transportation analysis to document the impacts of modal competition on the shipment of Washington

⁶ “Analysis of Freight Rail Rates for Chemical Shippers,” American Chemistry Council, conducted by Veris Consulting, Inc. 2012

⁷ Ibid

⁸ “Rail Freight Competition Study,” prepared for State of Montana, Office of Economic Development by R. L. Banks & Associates, Washington DC

agricultural products.⁹ The study found significant benefits from competition in the market among transportation modes, including lower transportation prices, more options for customers, the ability to reach new and more distant markets, innovations in marketing and technology, and improved transportation services. Development of competitive rail alternatives generates a win-win-win, including shorter transit times for some commodities, more reliable transit times, and reasonably competitive rates.

In 2006 U.S. Department of Transportation conducted a comprehensive economic study, “Guide to Quantifying the Economic Impacts of Federal Investment in Large-Scale Freight Transportation Projects.”¹⁰ The study concluded that “supply chain benefits of an infrastructure investment that reduces direct transport costs by 30 percent also has the potential to reduce a company’s operating cost by an additional 1.5 percent.”¹¹

The Business Case for Hancock County Businesses

In September and October of 2012 the consultant team interviewed the owners or plant managers of 18 businesses in Hancock County as well as several business leaders and business support organizations in Hancock and Pearl River counties in Mississippi. Through these interviews the team sought to understand the region’s economic development assets and opportunities, clarify local economic conditions from the businesses’ perspective, and gain insight into transportation and supply chain issues, especially as they relate to the rail improvements proposed for Port Bienville Industrial Park. A copy of the business stakeholder interview guide is included in Appendix F.

Eleven of the businesses surveyed are located at Port Bienville Industrial Park in western Hancock County. The companies at Port Bienville Industrial Park employ over 1,200 people, providing significant job opportunities for the county and the region. Of these eleven, seven are engaged in manufacturing and research and development involving plastics, chemicals, and metals. Several of these are owned by major global firms that rank highly within their respective industries. Three businesses provide logistics services including shipping and warehousing, and one is part of a large nationwide firm that leases and repairs rail cars.

The remaining seven companies or agencies interviewed are located at Stennis Space Center in Hancock County. Stennis is home to a number of federal and state agencies and aerospace and defense contractors. The firms interviewed are involved in research and development, manufacturing, and testing of equipment and devices used in scientific research, defense, aerospace, geospatial technology, and space systems. The companies employ federal and military staff as well as a number of civilian workers from Hancock and surrounding counties. Over 5,500 people work at Stennis, and it is a major contributor to the economy of the county and the region.

⁹ “Value of Modal Competition for Transportation of Washington Fresh Fruits and Vegetables,” Kenneth Casavant and Eric Jessup

¹⁰ “Guide to Quantifying the Economic Impacts of Federal Investments in Large-Scale Freight Transportation Projects,” U.S. DOT, 2006

¹¹ Ibid

The businesses interviewed generally viewed Hancock and Pearl River counties as a desirable location for business. The majority of the firms in the Port Bienville Industrial Park have been there more than five years, and two of the newer firms were started by employees of other firms located there. Owners and managers mentioned the area's reasonable taxes, quality community, supportive business environment, and strong workforce as assets. A few noted a lack of skilled workers for specific technical requirements, though several have created their own training programs to offset this potential challenge and were very pleased with the resulting technical workforce. One manager mentioned that it can sometimes be difficult to compete with the high wages offered by the oil companies in the region. The companies interviewed at the industrial park expect their business employment to remain stable or to increase over the next few years despite recent economic constraints, and a few are considering significantly expanding capacity or adding new product lines if more competitive transportation services become available.

All of the manufacturing firms surveyed cited access to multiple modes of transportation as a significant factor in their decision to locate in Hancock County and an ongoing benefit to their existing operations and future expansion plans. The industrial park is near I-10 and I-59, with excellent highway access. It is between the major seaports in Mobile and New Orleans, and Port Bienville Industrial Park is accessible by barge via the Pearl River. The airport at Gulfport is within a 45 minute drive and New Orleans International Airport is within a reasonable distance as well. The Stennis International Airport provides general aviation services as well as air cargo facilities and is also utilized by the military for training operations. One firm mentioned proximity to the Port of New Orleans as a definite advantage because of the port's familiarity with materials handling requirements for chemicals. Finally, the Port Bienville Railroad, a short line railroad serving the industrial park, offers rail access connecting the industrial park to CSX's east-west line. The short line received high marks from the businesses that utilize rail services for their customer focused operation, competitive rates, and dedication to working with companies to facilitate shipments and deliveries including working nights, weekends, and holidays to help businesses meet major customer needs.

Stennis Space Center does not have rail service at present, although rail was available to this site in the past. The proposed alignment for the new rail connector would run east of the Stennis facility, and access to the proposed rail connector could be extended near the north gate. Three Stennis businesses interviewed for this study are interested in shipping by rail, particularly if transportation rates are competitive for oversized loads. One firm ships by truck now, and the size of the equipment they produce requires expensive special handling. Each piece is fifteen feet wide; not only is this considered a wide load for highway travel, but bridge height clearances can be an issue. Shipping by rail could be less expensive. A second company ships very large and very heavy items by flatbed truck, but has used rail in the past. Timing and cost were mentioned as critical factors in their transportation decisions. The third company also ships large components by truck, but says rail could be a viable option for them as well if it were available. They also noted they were aware of other research contractors that would be more inclined to move facilities to Stennis if rail were available.

Seven of the eleven businesses interviewed at Port Bienville Industrial Park are current rail users, and two own their own rail cars. One company is involved in specialty fabrication, and their customers are located throughout the U.S. Customer destinations are different for each job, but

they use rail when it offers the best combination of cost and delivery time. Several park businesses are major rail users, relying on rail for both incoming raw materials and outbound shipments. Companies also use a combination of the modes available within the park: truck, rail, and barge. Several businesses receive products that come by container ship, often to the Port of New Orleans, and then the product travels to or from Port Bienville by rail, barge, or truck to the Port of New Orleans. A number of companies in the industrial park currently export finished goods to international customers in Mexico, Brazil, Peru, Panama, and Canada. Most of the businesses interviewed were aggressively working to expand their customer base and were actively engaged in efforts to export their products to new markets in the coming year. Rail access to ocean ports was critical to these efforts. One of the companies interviewed may ship their products to South American customers via barge from the port in the future.

Port Bienville companies who currently use rail anticipate definite benefits from the proposed rail connector linking the CSX in the industrial park to the Norfolk-Southern rail line. Four companies who do not use rail presently would consider doing so if costs were more economical and shipments and deliveries were more reliable. A logistics firm in the park could gain new business if direct rail-to-barge transfer were feasible. Two companies that use rail now could do so much more economically and efficiently because many of their customers are served by Norfolk-Southern. Another firm currently trucks inbound shipments, but would use rail if they could access Norfolk-Southern because some of their suppliers are served by NS. This same firm sends most of its finished product overseas, and previously used rail-to-ship for outgoing freight. However, they now use trucks and barges because the rail service available at present costs more and shipments take longer to reach their customers. Dual Class 1 access would allow them to make logistics decision based on speed to market factors. One company that currently trucks outbound products because rail is not available could move materials destined for Mexico, South America, and other U.S. markets via the CSX line.

Two firms noted they are currently at a disadvantage because companies they routinely bid against have access to multiple rail providers and thus have more competitive transportation costs and better delivery times. Access to a second Class I rail line could result in lower costs and better delivery schedules, improving their ability to compete. For many businesses at Port Bienville, transit time and reliability of deliveries are critical. Rail shipments bound for Port Bienville now travel to Gentilly Yard in New Orleans and are then backhauled to Port Bienville. The additional time and distance also adds to the cost of rail transport. The Gentilly Yard can be congested and it is not unusual for cars to take at least seven days to move from the yard in New Orleans back to Port Bienville. Transit times of 28 days have been documented by several businesses in the park.

One manufacturer ships its finished products throughout the U.S. via Burlington Northern Santa Fe, Union Pacific, and Norfolk Southern through Gentilly Yard. Their customer contracts include a \$1.3 million penalty for delayed deliveries. Two years ago, this company was forced to hire hundreds of trucks to off-load a shipment in Gentilly Yard that was delayed there after being delivered from their plant in the Port Bienville Industrial Park. Their heavy, oversized steel products were shipped by truck to the customer to avoid incurring the \$1.3 million penalty and the customer's dissatisfaction. As the company executive lamented, "if that happens again, we may have to rethink our overall production here. We just can't risk having to pay that penalty,

those trucking costs, or having a major customer drop our business because we can't deliver on time." Dual Class 1 rail service could result in significantly improved reliability and improved delivery times helping area firms avoid such penalties.

Another company relies on shipments through Gentilly Yard for raw materials. If shipments are held up the plant is faced with a potential shut down in operations. This company has paid a premium of \$39,000 to get just 25 cars moved from Birmingham to Port Bienville to avoid a disruption in their production line. Yet another firm has had to transfer materials from rail cars to trucks – and pay the extra transit cost – in order to meet customers' deadlines. Their logistics manager noted that "this happens more than it should." A Port Bienville logistics firm mentioned that their production stops when rail cars are late or cannot be moved. Lack of timeliness is a serious issue for them.

Severe storms are a threat all along the Gulf coast, and six of the companies with facilities at Port Bienville Industrial Park prior to Hurricane Katrina described how the storm impacted their operations. Though damage to buildings was extensive, requiring a complete rebuild in one case, the damage to the CSX rail line which caused the rail line to be shut down for six months was a more serious problem. Until the rail line reopened, one company related that its shipments from Houston had to travel through Arkansas, Tennessee, and Alabama, tripling both delivery time and cost. Another firm shipped everything via truck after Katrina, which cost four times more and took twice as long. Katrina was a severe storm, of course, and it caused unprecedented damage. But several businesses were concerned that the CSX line was out for almost two months following tropical storm Isaac in September 2012. Access to two rail lines could potentially allow these businesses to get back into production and put people back to work more quickly after a natural disaster. One plant manager noted that had the proposed rail connector line been in place prior to Katrina, his firm possibly could have moved their rail cars and critical manufacturing equipment north to avoid the path of the storm; perhaps other firms and transportation providers could have moved their rail cars and equipment as well.

The existing industries at Port Bienville Industrial Park recognize the advantages of their current location and the improvements that could be realized if the proposed rail connector line were constructed. The potential for dual Class 1 rail services in Hancock County has also attracted the attention of several companies engaged in the site location process. These businesses are working directly with the Hancock County Port and Harbor Commission, the Mississippi Development Authority, and two site location consultants. Because of the extreme sensitivity and confidentiality of the site location process, limited information is available about the impacts that could result. However, these prospects require access to dual Class 1 rail service and will not consider a site that cannot meet that requirement within a specified time frame. Together these companies would invest over \$650 million in plant and equipment and employ 450 people.

Existing and Emerging Industries and Rail Transportation Dependence in Hancock County

Innovation is an important key to future economic prosperity and competitiveness. In Hancock County's case, innovation is the linchpin of their targeted growth sectors and continues to drive a significant number of existing industries as well. The Hancock County Port and Harbor Commission identified four major growth sectors for the community: aerospace and aviation,

cargo-oriented development, polymers and advanced composite materials, and geospatial technology. In addition to these four target industries, manufacturing and exports continue to represent a significant opportunity for future growth. The analysis below describes these economic drivers and the importance of freight rail to these businesses, and thus to the future of Hancock County. Relating these existing and emerging businesses to the transportation dependence of their associated business sectors underscores the critical relationship between Hancock County's economy and multimodal transportation.

Emerging Growth Industries in Hancock County

Aerospace and Aviation

According to the Aerospace Industries Association of America, aerospace sales in the U.S. reached a new high of \$212.7 billion in 2010, and that upward trajectory continues.¹² A number of major aerospace and aviation companies are located in Hancock County including Rolls Royce, Pratt and Whitney, Raytheon Technical Services, and Lockheed Martin. These businesses are leaders in performance-based logistics, aerospace research and development, propulsion systems, and rocket engines. Stennis Space Center is a world leader in rocket and jet engine testing; aerospace research, satellite propulsion cores, and the rockets that powered the Apollo Space Mission were developed and tested here. Contractors in the three south Mississippi counties, Hancock, Harrison, and Jackson, won \$20 billion in Department of Defense aerospace work from 2000 through 2010. The products shipped by these companies are often heavy, oversized loads requiring special handling and security during transport.

Stennis Space Center has anchored a growing number of aerospace and aviation companies in Hancock County and along the Mississippi Gulf Coast. Other aerospace and aviation companies in Hancock County include Applied Geo Technologies, Jacobs Engineering, Optech International Inc., and SELEX Galileo. Stennis is home to six aerospace research and applied technology centers, including the Engineering and Test Directorate and the Applied Science and Technology Project Office that uses satellites to assess the environmental health of coastal areas including the Gulf of Mexico. Engine testing for the Airbus manufacturing facility in Mobile will be conducted at Stennis Space Center as well.

The Mississippi Technology Transfer Center on the Stennis campus assists aerospace and aviation entrepreneurs in taking research from testing to commercially viable research and products. Technology transfer is also part of the mission of the Mississippi State University Science and Technology Center, which brings together four major research partners under one roof.

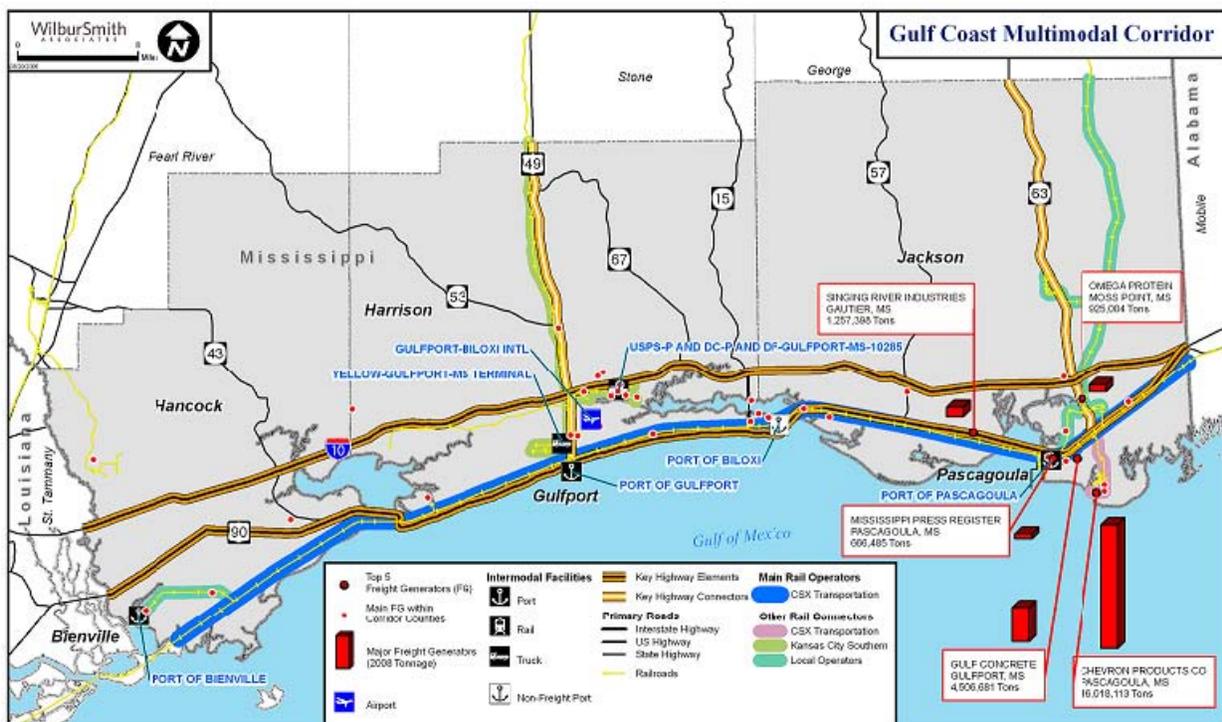
In addition to the aerospace and aviation activities at Stennis, the Stennis International Airport has become a center for military aviation testing and training and is also the home of the Joint Airborne Lidar Bathymetry Technical Center and a joint use agreement with Kessler Air Force Base. Sixty to seventy percent of the tower operations at this airport are military operations.

¹² Aerospace Industries Association, Aerospace Industry Report 2011

Cargo-Oriented Development

The State of Mississippi has identified six strategic freight corridors providing a range of freight infrastructure that best serve the freight needs of the state’s existing and emerging industries.¹³ The multimodal freight system that serves the state include the Gulf Coast and river ports, interstates and highways, Class 1 and short line railroads, airports, intermodal facilities, and pipelines. The Gulf Coast Multimodal Corridor shown in the map below has been designated as one of these six strategic freight corridors. Freight infrastructure in this corridor includes Port Bienville and the Ports of Pascagoula, Biloxi, and Gulfport. Rail and highway infrastructure includes CSX, NS, and KCS rail as well as several short line railroads, Interstate 10, and U.S. highways 90 and 49

Figure 1 Gulf Coast Multimodal Corridor



Cargo-oriented development includes distribution centers, port and inland port facilities, foreign trade zones (HCDC has secured a Foreign Trade Zone for Port Bienville), intermodal terminals, bulk or transload facilities (including an existing transload facility north of Stennis Space Center), hub terminals, and city terminals. Successful cargo oriented development depends upon available site and transportation infrastructure that meets the site selection needs of private industry, and ongoing policies that support the location of these types of facilities. Hancock County Port and Harbor Commission has made strategic choices and investments in order to create an environment that supports the operation of cargo-oriented facilities. Cargo or freight facilities can also be a catalyst for attracting other industries concerned about transportation

¹³ Mississippi Goods Movement and Trade Study, prepared for Mississippi Dept. of Transportation, 2010

reliability, cost, and services. The critical site selection factors that cargo or freight facilities consider include the factors identified in the section beginning on page 20 of this report, and additional factors including:¹⁴

- Interaction with the transportation network
- Modal choice
- Permitting and regulatory environment
- Access to key markets

Several specialized freight and logistics companies are located in the Port Bienville Industrial Park. The Andersons, Inc. is part of a publicly traded company headquartered in Maumee, Ohio. The Anderson Rail Group ranks seventh among privately owned rail fleets in the U.S. GSD Logistics, LLC is a bonded warehouse providing warehousing, transloading, end loading, and pick-and-pack services. The company primarily handles soft goods and ships to several regions around the country. SSA/Gulf a third-party shipper, handles barge-to-truck shipments and transportation and warehousing for barge-to-warehouse-to-truck freight shipments. A & R Distribution provides bulk transportation and warehousing services including rail shipping.

The existing transportation infrastructure within the Gulf Coast Multimodal Corridor and, more specifically, the unique transportation assets in the Port Bienville Industrial Park support the continued expansion of this key growth sector in Hancock County. Access to an additional Class 1 rail provider would enhance this sector.

Polymers and Advanced Composite Materials

More than 400 plastics and polymer companies are located in Mississippi and over 100 of them are engaged in manufacturing chemicals. DAK Americas, Sabic Innovative Plastics, SNF/Polychemie, Calgon Carbon, and MAC LLC, all located in the Port Bienville Industrial Park, are engaged in polymer, plastics, and chemical manufacturing.

Plastics and polymer manufacturing is projected to continue to grow in the future at a rate of 3.5 percent annually.¹⁵ Innovation and technology drives the polymer and advanced composite materials industry, accounting for a significant component of the sector's growth. Ford Motor Company and Oak Ridge National Laboratory have partnered to develop composite automobile body panels to reduce vehicle weight by as much as 25 percent. Advances in nanotechnology utilizing new composite materials, industrial biotechnology, and additive manufacturing – fabricating solid three-dimensional objects directly from digital models through depositing or “printing” – are driving this industry sector, now collectively valued at approximately \$21 trillion.¹⁶

DAK Americas is a division of Alpek S.A. de C.V., one of Mexico's largest corporations. This company is the largest producer of PTA resin in the world. DAK manufactures food grade plastic pellets for a variety of uses, each with unique composite requirements depending upon the food

¹⁴ NCFRP Project 23: “Economic and Transportation Drivers for Siting Freight Intermodal and Warehouse Distribution Facilities,” for Transportation Research Board

¹⁵ “Market Report: Plastics Industry Will Follow Manufacturing Growth,” Mali R. Schantz, April 2012

¹⁶ The Manufacturing Institute, “Facts about Modern Manufacturing,” 2009

that will be stored. DAK is a significant rail user. Sabic Innovative Plastics has been in operation in Hancock County for over 31 years. The company manufactures plastic pellets that are shipped to customers around the world. This company is actively involved in developing new technologies and designing new products for their customers. SNF/Polychemie makes water-soluble polymers that are used in municipal and industrial wastewater treatment, in mining, and in oil field applications around the world. Reliable product delivery is crucial to their business model. MAC LLC is a new technology-based business developing polymer products for the military. Calgon Carbon is a specialty chemical business that develops and manufactures granulated activated carbon for use in water and air purification systems.

Geospatial Technology

Geospatial technology was essentially developed at Stennis Space Center, building on geospatial research conducted by NASA, the Department of Defense, Department of Commerce, and the private sector. Geospatial products allow consumers, businesses, and governments to utilize geographic data in a variety of equipment and services, research facilities at Stennis continue to provide new innovations in this industry. The U.S. geospatial industry generated approximately \$73 billion in revenues and at least 500,000 well-paid jobs in 2011.¹⁷

Manufacturing and Exports

The 2013 Global Manufacturing Competitiveness Index recently released by Deloitte and the Council on Competitiveness identified ten key drivers of global competitiveness. Six of those drivers relate directly to the Port Bienville Rail connector project:

- Cost and availability of labor and materials
- Supplier networks
- Talent-driven innovation
- Physical infrastructure
- Economic, trade, financial and tax systems
- Government investments in manufacturing and innovation

International executives who participated in this study in 2013 ranked supplier networks as the fourth most important driver of manufacturing competitiveness; in 2010 supplier networks only ranked eighth. The increase in international business operations, expanding exports, and efforts to locate new production near emerging consumer markets have played a role in the increasing focus on moving goods cost effectively and reliably. Companies are investing in their supply chains to mitigate risks resulting from natural disasters, and to ensure greater control over deliveries to customers and more in-depth knowledge of material sourcing.

Physical infrastructure, which includes the infrastructure required for goods movement, ranked sixth in the 2013 competitiveness study. Research in the U.S. and other nations reveals physical infrastructure investment reduces costs and improves efficiencies in conducting business, boosts job creation, and fosters growth cycles within countries.¹⁸

¹⁷ "Putting the U.S. Geospatial Services Industry on the Map," The Boston Consulting Group, December 2012

¹⁸ "2013 Global Manufacturing Competitiveness Index," Deloitte LLP and the Council on Competitiveness

Manufacturing continues to be a vital part of the American economy. Manufacturing in the U.S. generated \$1.8 trillion in gross domestic product (GDP) in 2011, or 12.2 percent of total U.S. GDP. The U.S. exported more than \$1.3 trillion in manufactured goods, or more than 86 percent of all U.S. exports, in 2011.¹⁹ Manufacturing firms employ nearly 12 million people, and for every direct manufacturing job an additional 1.6 jobs are created in research and development, trade, professional services, and transportation.²⁰ Manufacturing matters in the U.S. and in Mississippi because:

- Employees in manufacturing firms earn an average of \$77,060 annually in pay and benefits, while average workers in all industries earn \$60,168. This means manufacturing jobs pay, on average, 19.9 percent more than non-manufacturing jobs.²¹
- Manufacturing firms account for nearly two-thirds of all research and development in the U.S. and are a leading user of new technologies and processes.²²
- Manufactured goods account for 86 percent of America's exports, and manufacturing is important to the reduction of our national trade deficit.
- Manufacturing has the highest multiplier effect of any economic sector; for every dollar spent in manufacturing another \$1.48 is added to the economy, helping to stimulate economic growth.
- Mississippi's economy is intrinsically linked to its ability to move people, materials, components, and finished goods within the state and to national and international destinations.

Manufactured goods account for 93.2 percent of Mississippi's exports and support over 317,900 trade-related jobs in the state.²³ Businesses in Mississippi exported \$12.2 billion in goods and services in 2012.²⁴ The state's largest export market is Panama, followed by Canada, Mexico, China, Honduras, Colombia, and Brazil. Primary exports include petroleum, coal, chemicals, computer and electronic products, transportation equipment, and paper.

Sixty-four percent of the businesses in the Port Bienville Industrial Park are engaged in manufacturing and a number of agencies and contractors at the Stennis Space Center are also involved in ongoing manufacturing, re-fabrication, or research and development activities that involve moving heavy, over-sized equipment and engines. PSL North America is an international company headquartered in India. The Port Bienville facility is the firm's only mill in North America. This high-tech operation manufactures steel pipe from 18 inches to 110 inches in diameter with up to one inch thick walls, at lengths up to 80 feet. The company builds piping for

¹⁹ U.S. Department of Commerce, Bureau of Economic Analysis

²⁰ U.S. Department of Commerce, Economics and Statistics Administration, "The Benefits of Manufacturing Jobs," May 2012.

²¹ Bureau of Economic Analysis, Industry Economic Accounts, 2011

²² Brookings Institute, Metropolitan Policy Program, "Why Does Manufacturing Matter?" February 2012

²³ Data from Bureau of Economic Analysis, Bureau of Labor Statistics, and USITC

²⁴ U.S. Department of Commerce, International Trade Administration, Office of Trade and Industry Information, February 2013 Report, and Mississippi Business Roundtable

oil and gas transmission, water transmission, construction piping, and miscellaneous tubular products. They have a rail spur on site and ninety percent of their transportation is via freight rail.

Figure 2 - Queen City Tower



Manufab Inc. fabricates a range of steel products including beams for building, bridges, floodgates, trusses and other structural components. They built the architectural “tiara” (shown at left) on the top of the Queen City Tower in Cincinnati at their Hancock County location in Port Bienville Industrial Park.

Transportation Dependence and Hancock County’s Economy

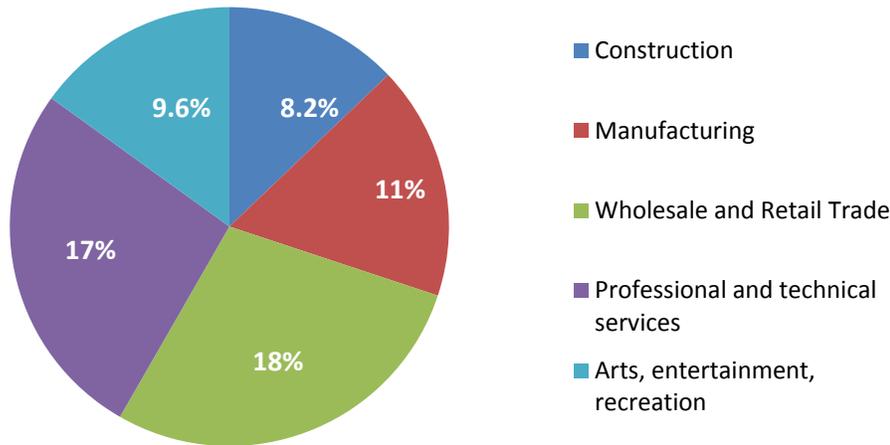
Freight transportation represents a key competitiveness factor for Hancock County. Businesses today compete not only on the basis of product quality and cost. The transportation networks that serve their facilities must provide reliable connections to customers and access to a multitude of markets, ensure timely deliveries of goods and services, and provide access for employees and customers. Some business sectors use transportation facilities and services more extensively than other sectors. An industry sector’s dependence on transportation can be measured by examining the amount a business sector spends on transportation as a share of the total output of the sector.²⁵ *Transportation Satellite Accounts* provide national data about the amount spent on transportation per dollar of output for various sectors.

To better understand the role freight and goods movement play in Hancock County and the contribution of multimodal transportation to the economic vitality of the county’s key industry sectors, the consultant team evaluated the importance of these key industrial sectors based upon the non-governmental employment concentrations in the county. Sixty-three percent of the non-governmental employment is in five sectors: construction, manufacturing, wholesale and retail trade, professional and technical services, and arts, food service, and entertainment.²⁶ Figure 3 shows the breakdown of these employment sectors in Hancock County.

²⁵ “Transportation Satellite Accounts: A Look at Transportation’s Role in the Economy,” U.S. DOT Research and Innovative Technology Administration

²⁶ Bureau of Labor Statistics

Figure 3 Employment by Sector in Hancock County



Source: U.S. Census, Bureau of Labor Statistics

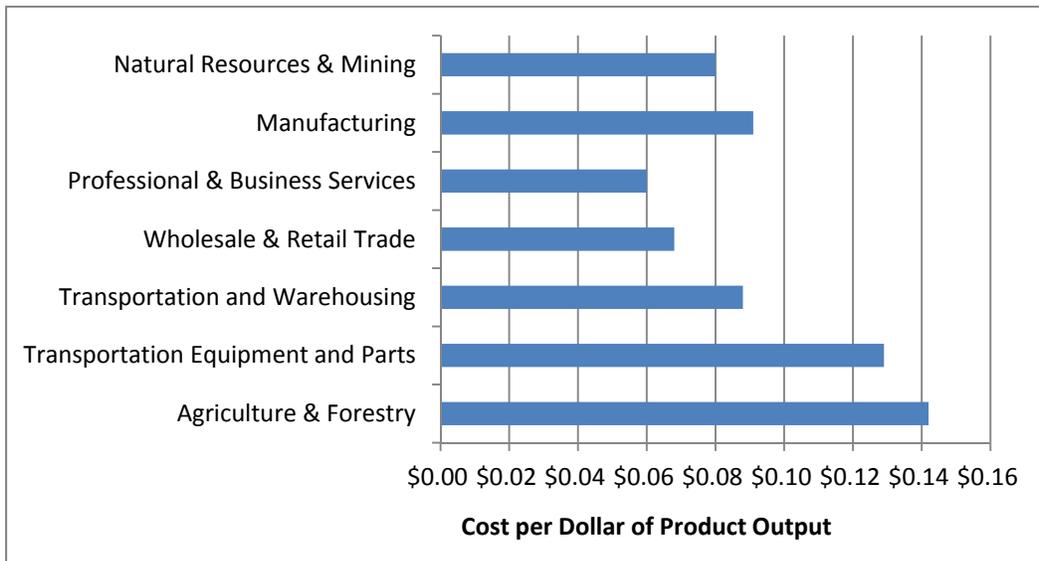
The importance of transportation to these key industry sectors can be measured by the amount spent on transportation by each sector as a share of its total output. *Transportation Satellite Accounts* provide a valuable method of measuring the transportation dependence of various industry sectors. In Hancock and Pearl River Counties the consultant team evaluated the following primary industry sectors and identified the corresponding industrial classification codes for each key sector to allow for a comparison of the applicable transportation costs per dollar of product output calculated from the *Transportation Satellite Accounts* research.

Table 2 North American Industrial Classification for Targeted Industrial Sectors in Hancock County

Hancock County Industrial Sectors	North American Industrial Classification Sector
<i>Aerospace and Aviation</i>	Manufacturing
<i>Cargo-Oriented Development</i>	Transportation and Warehousing
<i>Polymers and Advanced Composite Materials</i>	Manufacturing
<i>Geospatial Technology</i>	Professional and Technical/Manufacturing
<i>Manufacturing</i>	Manufacturing
<i>Retail and Wholesale Trade</i>	Retail and Wholesale Trade

Figure 4 shows the transportation cost per dollar of product output for several important existing industry sectors in Hancock County based on their North American Industrial Classification or NAICS code. Improvements in transportation costs and services would have a significant effect on a company’s profitability. Lower transportation costs and more reliable service help reduce the cost of materials, and thus overall production costs. Reliable delivery of materials can enhance productivity, and reduced distribution costs to the consumer may also improve their competitiveness.

Figure 4 Transportation Cost as a Share of Sector Output (Transport Cost per \$ of Product Value)



Source: *Transportation Satellite Accounts Database*, Bureau of Transportation Statistics, Research and Innovation Technology Administration

The transportation satellite account data indicates that Hancock County industries most dependent on freight rail services include aerospace and aviation businesses; polymers, chemicals, and plastics; manufacturing; geospatial technology; cargo-oriented development; and retail and wholesale trade, as shown in Table 3.

Table 3 Transportation Dependence Rating of Hancock County’s Top Industries

Industry Sector:	Highways	Freight Rail	Waterways/Ports	Air	Transportation cost per dollar of output
Aerospace & Aviation	High	High	High	High	9%
Cargo-Oriented Development	High	High	High	Medium	9%
Polymers & Composite Materials	High	High	Medium	Low	9%
Geospatial Technology	High	Medium	Low	High	6.5%
Manufacturing	High	High	High	Medium	9%
Retail and Wholesale Trade	High	High	Medium	Low	6.5%

The transportation dependence of an industrial sector is just part of the overall business-transportation connection. As competition world-wide becomes more intense, businesses are exporting a diverse range of products to customers in more countries than ever before. *Export Nation*, a recent study from the Brookings Institute, found that:

- In 2008 over 11.8 million jobs in the United States were supported by the chain of export production including inputs and transportation.²⁷
- Export intensive industries pay higher wages, and pay 1 to 2 percent higher wages even for workers without high school degrees.
- Export sectors generate multiplier impacts much greater than sectors that only produce for domestic markets. Gains from trade result in additional demand for products and services from outside the economic impact area.
- High-value-added products are more time sensitive and often higher in value. The cost for delays for these products is substantial, as one company in the Port Bienville Industrial Park knows. To avoid a \$1.3 million delivery delay penalty the company incurred substantial costs to truck their products to the customer's dock door.

Reliability and speed to market were determined to be critical factors of competitiveness for 85 percent of the businesses in the Port Bienville Industrial Park. Dual Class 1 rail service would improve delivery time to customers and reduce potential delays to certain key markets, and has the potential to reduce transportation costs from 30 to 45 percent. Additional freight and economic data can be found in Appendix A.

Industrial and Business Site Evaluation Factors

Economic development is a very competitive business. Understanding the critical factors that influence a company's decision to locate a new facility or expand or retain an existing operation is a quintessential economic development activity. The economic prosperity of Hancock County and south Mississippi depends upon the businesses and industries within the region, and the ability to meet their unique requirements for workforce, land, transportation, utilities, and other services. Industrial site evaluation factors have evolved to reflect the changing demands of businesses and the global marketplace in which they compete.

Understanding the corporate site location process and the critical factors that businesses evaluate when making their decision about locating or expanding a facility is important to the evaluation of the potential economic development benefits and opportunities resulting from dual Class 1 rail services in Hancock County. Over the past 26 years a corporate site location study has been conducted to identify the most important factors affecting the location decisions of businesses, and to track these factors over time to assess evolving trends and conditions driving business location decisions.²⁸

A significant percentage of the 2012 study participants represented manufacturing, distribution and logistics, and data and computer related services similar to the companies found in Hancock County. Eleven of the 26 site selection factors were ranked most important by businesses when

²⁷ John Tschetter, "Exports Support American Jobs," U.S. Department of Commerce, International Trade Administration, 2010

²⁸ Area Development Site and Facility Journal, "Annual Corporate Site Consultant Survey, 2012"

considering a new or expanded facility location related to the movement and accessibility of goods and people. The transportation and freight factors considered most important in the 2012 study include:

- Highway accessibility
- Availability (accessibility) of skilled labor
- Proximity (accessibility) to major markets
- Inbound/outbound shipping costs
- Proximity (accessibility) to suppliers
- Availability (accessibility) of unskilled labor
- Accessibility to major airports
- Raw material availability (accessibility)
- Proximity (accessibility) to technical college/training
- Railroad services
- Waterway or ocean port accessibility

These transportation factors, along with other competitive conditions, influence the site decisions that businesses make when locating, expanding, or consolidating operations. While freight rail transportation alone will not foster economic growth, improved freight services and connectivity, multi-modal transportation services, and competitive costs can significantly differentiate the region's economic environment, providing opportunities to attract and retain businesses and jobs for Hancock County and the region in the future. For some major industrial projects, access to two Class 1 railroads is essential.

Stennis Space Center and Port Bienville Industrial Park: Setting Hancock County Apart

Stennis Space Center and the Port Bienville Industrial Park represent two unique and important economic development assets in Hancock County. The businesses in the industrial park recognize the economic opportunities they could realize from improved access to customers, raw material sourcing, and lower transportation costs by taking advantage of an almost unprecedented array of modal assets in this park. The potential economic benefits and opportunities that could be realized from freight rail access to Stennis can best be evaluated by considering some of the research and manufacturing facilities currently in the center. As the military presence at Stennis grows, their freight rail needs should be considered as well.

Stennis Space Center

Stennis Space Center (SSC), a premier aerospace and technology facility, is located on a 13,800 acre site within a 125,000 acre acoustical buffer zone in Hancock County. Stennis is home to our nation's primary rocket propulsion testing facility, the largest concentration of oceanographers in the U.S., the National Data Buoy Center (NDBC), Lockheed Martin Mississippi Space and Technology Center, Rolls-Royce North America Outdoor Jet Engine Testing Facility, SAIC, NASA, Mississippi Enterprise for Technology Center, and a number of Department of Defense facilities.

The 2011 Economic Impact Study prepared by Mississippi State University estimated Stennis had an economic impact of \$122 million on local government tax revenues.²⁹

The original Norfolk Southern rail line that once served Stennis Space Center was built to support an ammunitions plant located on the site years ago and to facilitate the construction of the Stennis facility. Several of the federal installations in the center used rail when it was available. No rail service exists within Stennis today, although some of the original rail bed is in fair condition. Stennis has a rail cross-dock facility near Texas Flat Road that is no longer in use but is being maintained. Stennis has indicated a willingness to work with the region and the Port Bienville Short Line if the rail connector line is constructed to make this facility available for area business and industry. Additional information on Stennis industries can be found in Appendix E.

Port Bienville Industrial Park

The Hancock County Port and Harbor Commission began development of the Port Bienville Industrial Park and Port of Bienville in 1967. The industrial park infrastructure provides comprehensive transportation services via port and barge, freight rail, highway, and aviation services through the Stennis International Airport. HCPHC has 5,298 acres of industrial land available, one of the most substantial industrial land inventories in the state. Stennis Space Center has an additional 3,600 available acres.

Table 4 Hancock County Port and Harbor Commission Industrial Land

Site	Developable				Subtotal	Non-Developable Acreage ¹	Total Acreage
	Developed Acreage	Undeveloped Acreage		Subtotal			
		Held or for Lease	For Sale				
PB Industrial Park							
HCDC	25	1,165	620	1,785	1,810	164	1,974
Tenants	414	1,154	56	1,210	1,624	na	1,624
Subtotal	439	2,319	676	2,995	3,434	164	3,598
Other							
Airport	155	--	45	45	200	--	200
Hancock Co.	na	--	1,500	1,500	1,500	--	1,500
Subtotal	155	--	1,545	1,545	1,700	--	1,700
Total	594	2,319	2,221	4,540	5,134	164	5,298

Source: HCDC, Stennis, MDA, and CDM Smith discussions with local business leaders

¹Includes roadway, rail right-of-way, and unusable marsh land

Transportation Infrastructure

Freight Rail

Hancock County is currently served by CSX, a Class 1 railroad. The rail interchange in the industrial park was recently expanded to handle up to 165 rail cars. Rail service for Port Bienville moving westbound from Mobile travels past the Port Bienville switch to the Gentilly Yard, and rail cars are then hauled back to Port Bienville. CSX will stop at Port Bienville on the east bound trip

²⁹ Dr. Charles A. Campbell, Professor of Economics, Mississippi State University, February 2011

from Gentilly to Mobile, but there is a significant extra charge to stop at Port Bienville on the west bound run.

The Hancock County Port and Harbor Commission operates a short line railroad from the CSX main line that runs along the Gulf Coast into the Port Bienville Industrial Park. The Port Bienville Short Line serves the rail transportation needs of the businesses in the industrial park.

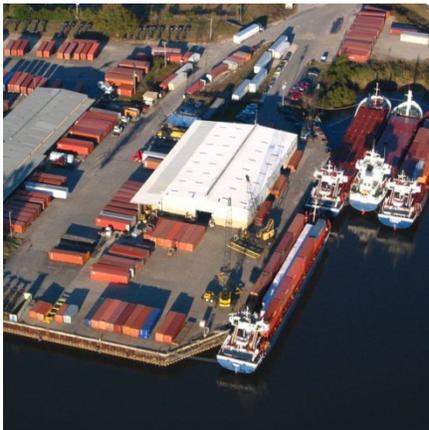
Highway Access

Port Bienville Industrial Park is readily accessible to I-10, providing interstate access to Houston, Mexico, and San Diego to the west, I-59 with direct access to New Orleans to the south, and I-24 and I-75 in the north to Chattanooga.

Air Cargo

Stennis International Airport is owned and operated by the Hancock County Port and Harbor Commission. This facility includes a 8,500 foot lighted runway, air traffic control tower, and instrument landing system within a 1,680 acre general aviation airport. Currently the facility is used by the military under a joint use agreement with Kessler Air Force Base, Naval Special Operations, for maintenance repair and overhaul, for corporate planes, and for general aviation users. Sixty to seventy percent of tower operations are military operations, and there are also non-tower military operations at night. Because of the buffer zone, night-time cargo delivery is possible.

The airport is a full-service fixed based operation with a new passenger terminal, aircraft fueling, hangar and tie-down space, aircraft maintenance, charter service, and other amenities provide by Million Air. Aircraft rescue and fire fight (ARFF) coverage is available on the field.



Port and Barge

The Port Bienville port/barge facility in Hancock County provides 600 feet of dock space with three primary berths, a 12-foot channel depth, 300 feet of additional berth and turn basin, and two new warehouses with a combined capacity of 110,000 square feet. The port is equipped to handle container and bulk or break-bulk shipments. The port is serviced by the Port Bienville Short Line Railroad that interchanges with CSX near Ansley, Mississippi. SSA, a logistics provider, brings coal for DuPont through the port.

Recommended Next Steps

The Economic Development benefits and Opportunities Analysis contained in the Port Bienville Rail Economic Feasibility Study, documents the demand for dual rail services that would be developed as a result of the proposal rail project. The businesses that could be served by the rail line proposed to connect Norfolk Southern and CSX Railroad are projected to utilized 41,951 rail cars annually. The largest projected rail car used is currently trucking fracking sands mined in

Hancock County to a drying facility in Pearl River County. The proposed rail line would enable this company to move a significant volume of their materials by rail rather than by truck and would facilitate an expansion at this facility creating additional jobs and investment in Hancock and Pearl River Counties. The limited availability of industrial sites providing access to dual Class I rail service and the growth within these transportation dependent business sectors further supports the demand for this rail project.

The most significant benefits and opportunities generated from the proposal rail connectors would be derived from new employment and additional investment in plant and equipment by existing businesses and from the location of new companies that require or would benefit from access to dual Class I rail services. Hancock County currently has over 6,640 acres of industrial land available including 3,600 acres of land available within the Stennis Space Center complex. Pearl River County has an additional 505 acres of industrial land available. This substantial industrial land inventory coupled with the future access to dual Class I rail services and the existing multimodal transportation network servicing this area meet the site location requirements of a number of significant industrial and business facilities that could locate in this region.

Given the business case for dual Class I rail services, the demands of the existing and emerging business clusters in Hancock and Pearl River Counties, the future benefits to Stennis Space Center, the existing industrial land inventory, the workforce and transportation assets supporting this region, the construction of this new rail line is strongly supported. Based on the feasibility of the project documented herein, it is recommended to proceed to Phase II of this study. The scope of services previously developed for Phase II includes environmental studies and documentation (NEPA) as well as preliminary design and other supporting efforts for development of the proposed railroad. The level of detail for the environmental studies to be undertaken should be determined at this time through consultation with FRA, MDOT and HCPHC. Accordingly the scope of services for Phase II should be revisited and revised if appropriate.

Appendix A: Concentrations of Freight and Economic Activity

This section of the report analyzes the concentrations of freight and economic activity in the counties and communities that would be served by the proposed connections from the Port Bienville Short Line Railroad to the NS in order to determine if these counties are among those most likely in Mississippi to benefit from this type of rail improvement. Two key indices were utilized to compare economic activity in Hancock, Harrison, and Pearl River County to that of an average county in Mississippi. The rail freight transportation intensity index compares concentrations of rail and rail dependent industry sectors in these key counties to an average Mississippi county. The economic preparedness index measures how economically ready an area is to take advantage of a major infrastructure improvement such as the proposed project.

Hancock Counties will host the proposed rail connector project and industries located in this county will be a major beneficiary. However, this rail infrastructure will provide economic opportunities that are most likely to benefit the counties adjoining Hancock County which include Pearl River and Harrison Counties. There are a number of studies that document the wider distribution of tangible economic development benefits for a multi-county region as a result of strategic investments in key infrastructure.³⁰ This analysis evaluates the regional benefits of this rail connector project. Harrison County is the second most populous county in Mississippi, Pearl River and Hancock Counties rank 12th and 18th in terms of population.³¹ Each of these counties would benefit from the construction of this additional Class 1 rail access, collectively the region including all three of these counties would realize economic benefits as the analysis that follows will show.

What is the Purpose of the Indices Analysis?

The purpose of the indices analysis is to demonstrate to what extent the counties served by the proposed Port Bienville rail connector are likely to be a better location for this type of project than other counties in Mississippi. With limited transportation infrastructure funding, and particularly limited available funding for rail infrastructure, it is important that investments are made in locations that can best capitalize on such new infrastructure. This means locations where there is a strong concentration of existing rail activities and where businesses are present that can best take advantage of rail improvements. As discussed in other sections of this report, access to two carriers may reduce shipment costs by 30 percent over time and significantly improve speed to market to meet customer delivery demands. In addition, the project will provide enhanced reliability in the overall rail network serving the Mississippi Gulf Coast in the event of delays or disruption on the lines of one carrier. Thus it is important to consider Harrison County in the analysis.

³⁰ “Distribution of Benefits from Regional Economic Development”, Michael Danielson, Woodrow Wilson School of Public and international Affairs, Princeton University and “Making Sense of Clustering: Regional Competitiveness and Economic Development”, Joseph Cartright, Brookings institute

³¹ 2010 U.S. Census

Methodology

The rail freight transportation intensity index and the economic preparedness index rely on an analysis of several available datasets that measure levels of freight usage and economic activity. Comparative datasets are needed at both the state and individual county level. Both indices are composite indices making use of multiple data sets and aggregating results into one index. The following sections explain the methodology and components of each index in greater detail.

Rail Freight Transportation Intensity Index

The rail freight transportation intensity index consists of two parts: a rail freight movement component and a freight related employment component. The rail freight movement component takes into account rail tonnage, value, and carloads moving in and out of the counties under study as well as the same data for Mississippi as a whole. The freight related employment component takes into account employment in freight dependent industry sectors for the counties under study and the state of Mississippi.

Rail Freight Movement Component: The data used to calculate the rail freight movement component was obtained from Mississippi Transearch data used in other components of the overall project analysis. This included the following data:

- Inbound and outbound rail tonnage for Hancock, Harrison, and Pearl River counties as well as Mississippi as a whole
- Inbound and outbound rail value for Hancock, Harrison, and Pearl River counties as well as Mississippi as a whole
- Inbound and outbound rail carloads for Hancock, Harrison, and Pearl River counties as well as Mississippi as a whole

The steps taken to derive the rail freight movement component of the rail freight transportation intensity index are as follows:

1. For each of the data sets, the State of Mississippi value was divided by 82 (the number of counties in the state) in order to develop a county average for each of the Mississippi counties.
2. Values for the individual counties were compared to the statewide average county values to develop ratios for total rail tonnage, total rail value, and total rail carloads. These three sub-index ratios for each county were compared to the county average for Mississippi. For these ratios, a value of “1” indicates the county has the same value as an average county in Mississippi, a value less than “1” means the county has a lower than average value, and a value greater than “1” means the county has a greater than average value.
3. The individual sub-index ratios were combined with equal weighting to derive an overall rail freight movement index component for each county.

4. A three-county average value for Hancock, Harrison, and Pearl River counties was also calculated and compared to the statewide county average.

The values and results of the rail freight movement component are discussed below.

Freight Related Employment Component: The consultant team utilized data from the 2013 Woods and Poole CEDDS data set for the freight related employment component calculations. This data best captured the employment in the project area based on the study team’s interviews and other research. To complete the analysis, comparable employment statistics were needed for each of the counties in the analysis and the State of Mississippi, which limited the potential data sources that were usable.

The freight related employment component compares employment concentrations in key industry sectors that are most reliant on freight movements. The employment sectors considered were:

- Construction
- Manufacturing
- Wholesale Trade
- Retail Trade
- Transportation and Warehousing

This index compares the aggregate employment in these sectors in project counties to the aggregate employment in these sectors in an average Mississippi county. The following steps were used to derive the freight related employment component of the rail freight transportation intensity index:

1. For each of the data sets, the State of Mississippi value was divided by 82 (the number of counties in the state) to develop a county average for each of the Mississippi counties.
2. The values for individual counties were compared to the statewide average county values to develop a ratio. This was completed for each of the employment sectors and for total employment. For these ratios, a value of “1” indicates the county has the same level of employment in these sectors as an average county in Mississippi; a value less than “1” means the county has lower than average employment in these sectors, and a value greater than “1” means the county has greater than average employment in these sectors.
3. A three-county average value for Hancock, Harrison, and Pearl River counties was also calculated and compared to the statewide county average.

The values and results of the freight related employment component are discussed below.

Rail Freight Transportation Intensity Index: As explained previously, the rail freight transportation intensity index combines the rail freight movement component and the freight related employment component. For the base index, the two components are weighted equally. A value higher than “1” indicates that a county or group of counties is more dependent on freight rail than an average Mississippi county and is thus a better location for potential rail investment.

The higher the index value, the greater is the location's potential dependence on rail freight compared to other counties.

Economic Preparedness Index

The economic preparedness index uses tax collection values as a measure of economic activity that would effectively support and benefit from new investments in infrastructure. There are three components to the economic preparedness index: sales tax component, income tax component, and property value component. All three components were calculated in a similar manner using data from the *2012 Mississippi Department of Revenue Annual Report*.

Sales Tax Component: The sales tax component was calculated using fiscal year 2012 sales tax data from the Mississippi Department of Revenue. It compares total sales tax collected in each of Hancock, Harrison, and Pearl River counties to the average amount of sales tax collected in an average Mississippi county. A ratio was calculated comparing the individual county collections to the Mississippi county average, with a value of "1" indicating that the county collects the same in sales tax as an average Mississippi county. An average of the three counties under study was also compared and indexed against the value of an average Mississippi county. The values and results of the sales tax component are discussed below.

Income Tax Component: The income tax component was calculated in a manner similar to the sales tax component using 2011 county income tax data from the Mississippi Department of Revenue. It compares total income tax collected in each of Hancock, Harrison, and Pearl River counties to the average amount of income tax collected in an average Mississippi county. A ratio was calculated comparing the individual county collections to the Mississippi county average, with a value of "1" indicating that the county collects the same in income tax as an average Mississippi county. An average of the three counties under study was also compared and indexed against the value of an average Mississippi county. The values and results of the income tax component are discussed below.

Property Value Component: The property value component was calculated slightly differently as data on total property assessment values were used instead of total property tax collected. Using assessed property values provides a more accurate comparison between jurisdictions, as individual jurisdiction property tax rates may vary due to local factors. The total property assessed values came from fiscal year 2012 data in the *2012 Mississippi Department of Revenue Annual Report*. This index component compares total property assessment values in each of Hancock, Harrison, and Pearl River counties to the total property assessment value in an average Mississippi county. A ratio was calculated comparing the individual county values to the Mississippi county average, with a value of "1" indicating that the county has the same total property values as an average Mississippi county. An average of the three counties under study was also compared and indexed against the value of an average Mississippi county. The values and results of the property value component are discussed below.

Economic Preparedness Index: The economic preparedness index then combines the sales tax, income tax, and property value components. For the base index, the three components were weighted equally. A value higher than "1" indicates that a county or group of counties has a stronger economic foundation than an average Mississippi county, and is thus a better than

average location to build upon an infrastructure investment such as the proposed Port Bienville railroad connector. The values and results of for the economic preparedness index are discussed below.

Rail Freight Transportation Intensity Index – Analysis and Results

The rail freight transportation intensity index combines a rail freight movement component and a freight related employment component. Table A-1 contains the values used in calculating the rail freight movement component.

Table A-1 Rail Freight Movement Component Data

2006 Mississippi Rail Freight	Inbound	Outbound	Total	Index Value
Tonnage				
Hancock	11,190	227,384	238,574	0.70
Pearl River	199,886	104,380	304,266	0.89
Harrison	1,282,820	906,131	2,188,951	6.42
Three County Average	497,965	412,632	910,597	2.67
Other Counties	<u>14,885,370</u>	<u>10,331,740</u>	<u>25,217,110</u>	
MS Average County	<u>199,747</u>	<u>141,093</u>	<u>340,840</u>	1.00
MS State	16,379,266	11,569,635	27,948,901	
Value (\$Millions)				
Hancock	\$20.9	\$533.8	\$554.7	1.71
Pearl River	\$165.2	\$228.8	\$394.0	1.22
Harrison	\$424.1	\$603.8	\$1,027.9	3.18
Three County Average	\$203.4	\$455.5	\$658.9	2.04
Other Counties	<u>\$10,334.8</u>	<u>\$14,216.6</u>	<u>\$24,551.4</u>	
MS Average County	<u>\$133.5</u>	<u>\$190.0</u>	<u>\$323.5</u>	1.00
MS State	\$10,945.0	\$15,583.0	\$26,528.0	
Carloads				
Hancock	364	3,980	4,344	1.13
Pearl River	2,120	1,080	3,200	0.83
Harrison	14,615	10,332	24,947	6.50
Three County Average	5,700	5,131	10,830	2.82
Other Counties	<u>17,099</u>	<u>15,392</u>	<u>32,491</u>	
MS Average County	<u>2249</u>	<u>1590</u>	<u>3839</u>	1.00
MS State	184,427	130,375	314,802	

Source: Transearch Data. Note: The data for Harrison County outbound freight was not available. Estimated values were calculated by applying the ratio of state inbound to outbound freight to the Harrison County inbound freight values.

Table A-2 contains the summary rail freight movement component index values based on the data listed above.

Table A-2 Rail Freight Component Index Values

Location	Value
Hancock	1.18
Harrison	8.05
Pearl River	0.98
Three County Average	2.51

This data suggests that in terms of total rail movements Hancock County is slightly above average, the value for Harrison County is eight times that of an average Mississippi county, and Pearl River County is about average. Based on these indices, in addition to those in Hancock and Pearl River counties, industries in Harrison County can benefit from the access to additional rail carriers provided by this proposed project.

Table A-3 contains the aggregated employment in freight dependent sectors in each of the counties under study along with the index values for the freight related employment component.

Table A-3 Freight Related Employment Component Data and Index Values

Location	Total Employment in Freight Dependent Sectors	Index Value
Hancock County	6,050	1.02
Harrison County	29,500	4.96
Pearl River County	6,300	1.06
Three County Average	13,950	2.35
Mississippi	487,240	NA
Mississippi County Average	5,942	1.00

Source: Woods and Poole 2013 CEDDS Data, Values from 2011

The data in Table A-3 shows that Hancock County and Pearl River County are relatively average counties in terms of their freight dependent employment, while Harrison County has approximately five times the number of these jobs as an average county.

The rail freight movement component and the freight related employment component were averaged to produce the base rail freight intensity index. Table A-4 contains the base rail freight intensity index values along with sensitivity text values weighting one of the two components at 2/3 versus 1/3 for the other component.

Table A-4 Rail Freight Intensity Index Results

Location	Base Index Value	Sensitivity Analysis Index Value with Rail Freight Movement Component Weighted at 2/3	Sensitivity Analysis Index Value with Freight Related Employment Component Weighted at 2/3
Hancock	1.10	1.13	1.07
Harrison	6.51	7.02	5.99
Pearl River	1.02	1.01	1.03
Three County Average	2.43	2.46	2.40

The total rail freight intensity index values indicate that Hancock and Pearl River counties are above average in terms of the importance of rail freight services. Harrison County, a much larger metropolitan county with a significantly larger population and number of businesses, is substantially above average. Although the proposed project would be located in Hancock and Pearl River County, the rail connection could provide access to Norfolk Southern Railroad to support and be of use to Harrison County businesses. An index based on the average values of all of the components for the three counties shows more than two times the rail freight dependency of an average county. The sensitivity analysis shows little variation in the results.

Economic Preparedness Index – Analysis and Results

The economic preparedness index combines sales tax, income tax and property value components. Table A-5 contains a summary of the sales tax data and index calculations.

Table A-5 Sales Tax Component Data and Results

Location	Fiscal Year 2012 Sales	Fiscal Year 2012 Sales Tax	Component Index Value
Hancock County	\$561,301,465	\$31,148,965	1.00
Harrison County	\$3,814,209,041	\$239,086,333	7.70
Pearl River County	\$495,430,696	\$31,026,558	1.00
3-County Average	\$1,623,647,067	\$100,420,619	3.24
Mississippi	\$41,209,942,665	\$2,545,271,996	NA
82-County Mississippi Average	\$502,560,276	\$31,039,902	1.00

Source: Mississippi Department of Revenue, Annual Report FY 2012

Table A-5 shows Hancock and Pearl River County are right at the state county average in sales tax collections while Harrison County’s sales tax collections are seven times the average county’s sales tax collections.

Table A-6 contains a summary of the income tax data and index component calculations.

Table A-6 Income Tax Component Data and Results

Location	Fiscal Year 2012 Net Taxable Income	Fiscal Year 2012 Gross Income Tax	Component Index Value
Hancock County	\$382,179,490	\$17,439,097	1.06
Harrison County	\$2,052,008,709	\$93,402,093	5.65
Pearl River County	\$481,421,310	\$21,805,087	1.32
3-County Average	\$971,869,836	\$44,215,426	2.68
Mississippi Counties	\$29,775,061,617	\$1,355,180,432	NA
82-County Mississippi Average	\$363,110,508	\$16,526,591	1.00

Source: Mississippi Department of Revenue, Annual Report FY 2012

Table A-6 shows that Hancock County and Pearl River County are slightly above average in income tax collections, while Harrison County is more than five times the average.

Table A-7 contains a summary of the property value component calculations and results. It shows that both Hancock and Pearl River counties are well above average in terms of property value base and Harrison County is more than six times the average in the state.

Table A-7 Property Value Component Value and Results

Location	Total Assessment Value	Component Index Value
Hancock County	\$549,041,797	1.75
Harrison County	\$2,006,691,249	6.40
Pearl River County	\$371,178,713	1.18
3-County Average	\$975,637,253	3.11
Mississippi Counties	\$25,699,535,798	NA
82-County Mississippi Average	\$313,408,973	1.00

Source: Mississippi Department of Revenue, Annual Report FY 2012

The sales tax, income tax, and property value components are averaged to produce the base economic preparedness index. Table A-8 contains the base economic preparedness index values along with sensitivity text values weighting one of the three components at 50 percent and the other two at 25 percent each.

Table A-8 Economic Preparedness Index Results

Location	Value	Sensitivity 1	Sensitivity 2	Sensitivity 3
Hancock County	1.27	1.20	1.22	1.39
Harrison County	6.59	6.86	6.35	6.54
Pearl River County	1.17	1.13	1.21	1.17
3-County Average	3.01	3.06	2.92	3.03
	1/3 Weight Each	Sales Tax at 50%	Income Tax at 50%	Property Values at 50%

The economic preparedness index results show that Hancock County and Pearl River County are well above average in terms of having sufficient economic base to take advantage of infrastructure investments such as the proposed rail improvements. Harrison County, an urban county, is more than six times the statewide average in terms of economic preparedness by this index. The proposed project would be located in Hancock and Pearl River County but would also benefit Harrison County businesses. An index based on the average values of all of the components for the three county region shows more than three times the rail freight dependency of an average county. The sensitivity analysis did not show much variation in the results, although Hancock County does substantially better when property values are more highly weighted.

Conclusion

This analysis provides a series of indices related to the concentrations of freight related activity and economic activity in the counties that would be supported by the Port Bienville railroad connector. The overall result suggest that Hancock, Pearl River, and Harrison counties are better prepared in the near term than average Mississippi counties to make good use of an investment such as the proposed rail connector.

The freight rail transportation intensity index analysis shows that Hancock County was above average in its concentration of rail freight related activities. Harrison County was well above the average while Pearl River County was about average. The regional average for the freight rail transportation intensity index indicates approximately 2.5 times the freight related activity in these counties compared to an average Mississippi county.

The economic preparedness index showed above average values for all three counties. Although the proposed project is located in Hancock County, Pearl River and Harrison Counties have available industrial sites that could benefit from being located in or near sites with dual Class 1 rail services. This indicates there is a strong level of economic activity, and businesses that generate taxable value and jobs can make use of this rail infrastructure investment to produce local, regional, and statewide benefits strengthen the business case for this rail line that will provide dual Class 1 rail service in this region.

Appendix B: Port Bienville Economic Impacts

Use of the Regional Economic Model, Inc. (REMI) offers another methodology for evaluating the potential economic impacts that could result from access to dual Class 1 rail services. Economic impacts associated with the development of a rail connection from the Port Bienville Industrial Park (PBIP) through the Stennis Space Center (SSC) to the Norfolk Southern (NS) line are based on detailed surveys, data collection, and use of the REMI economic impact model. This section of the report describes the approach, information, and models used, as well as base- and build-scenarios. Economic model inputs are developed for three main activities associated with the rail connection (e.g., rail construction, existing firm expansion, and new firm attraction). The resulting economic impacts are presented by the various dimensions, including: impact component, measure, geography, and year.

Approach and Overview

Economic impact estimates are based on how the proposed rail connection would affect existing firms and attract new firms. The following methodology section outlines how such changes are assessed by impact components and entered into the Regional Economic Model, Inc. (REMI) model. Review of industry surveys provided an essential understanding of the importance of rail transportation to the Study Region's industrial economy.³² A brief discussion of the REMI model used to forecast economic impacts highlights the unique dynamic nature of the model which enables it to evaluate the economic implications of changes in industry production costs, output, employment, etc.

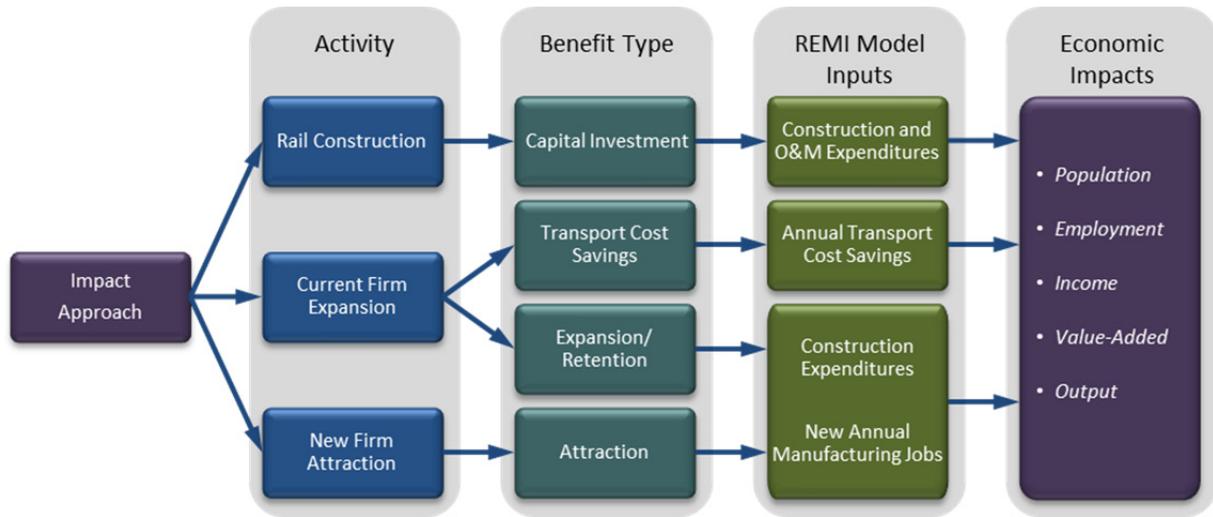
Methodology

Access to dual Class 1 railroad service by the Port Bienville Short Line Railroad should stimulate rail development, expansion of existing firms, and attraction of new firms. Such activities would affect various impact components including rail construction, rail transport costs, and new site development (both construction and ensuing tenant employment). This component analysis provides input into the REMI model used to estimate the resultant economic impacts associated with the rail development.

Conceptually, rail construction impacts include the capital investment of building and maintaining the new track. Current firm impacts include potential transport cost-savings as well as potential expansion. New firm impacts include site construction/development and on-site related employment. Combined, these various activities are appropriately entered into the REMI model to measure the resultant economic impacts over the 2014 to 2040 analysis period. Economic impacts are measured in terms of changes in population, employment, wages and salaries, value-added, and output, as compared to the regional control forecasts from REMI (i.e., the baseline conditions). Interrelationships between the various activities, impact components, REMI inputs, and resultant economic impact estimates are diagrammed in Figure B-1.

³² For the purposes of this economic impact analysis, the Study Area is defined as Hancock and Pearl River counties.

Figure B-1 Impact Approach of Access to a Second Class 1 Railroad



Surveys and Other Data

Detailed surveys of local transportation and manufacturing firms, businesses, and government agencies in the Port Bienville area were performed and provide a foundational understanding of current freight rail dependence, use, and impacts. In general, the surveys indicate an overall satisfaction with the community, workforce, taxes, location, etc. Further, Study Area companies anticipate current business activity to continue and/or expand.

More specifically, the surveys helped assess how access to a second Class 1 rail service via the proposed extension of the Port Bienville Short Line Railroad to Nicholson would affect future business operations and industry attraction. Several of the firms indicated significant current rail use and dependence despite access to a single Class 1 carrier. Further, they anticipate notable decreases in rail transport costs, scheduled transit times, and unforeseen delays with a second Class 1 connection. The specifics of the rail business surveys were provided on pages 7-11. A few firms went on to specify scenarios in which future growth could well be enhanced through the proposed additional rail connection. Lastly, it was noted that the secondary rail access to the north would effectively mitigate future hurricane disasters, and hence would further improve the region’s attractiveness to existing business expansion and/or new business attraction.

While most of the survey information was descriptive, some was quantitative and provided an order-of-magnitude basis for estimating site development and employment estimates for inputs into the REMI model. Such qualitative information was substantiated through a review of TRANSEARCH rail freight flow data for Hancock and Pearl River Counties, obtained from the previous Mississippi State Rail Plan³³. Literature review was conducted regarding rail transport operating costs for both a captive and non-captive industrial environment and can be found on pages 6 and 7 in the report.

³³ Mississippi State Rail Plan, 2011; Wilbur Smith Associates

Impact Terminology

Economic impacts pertain to three activities (rail development, existing firm expansion, and new firm attraction) include two *types*: *direct* and *multiplier*; comprise four components (rail construction, rail transport cost savings, site development, and site employment); are measured via five variables (*population, jobs, wage and salaries, value-added, and output*); and, are evaluated by region. These impact types, components, measures, and regions are defined below.

Impact Types

The three activity impacts consist of two types (and a combined total):

- *Direct* – Impacts associated directly with rail capital investment expenditures, transport cost-savings, and/or other firm expansion/attraction. For example, the direct impacts from rail construction pertain to the labor and capital employed in the development of the rail line and are attributed only to the construction industry;
- *Multiplier* – Comprises both indirect and induced impacts. Indirect impacts are associated with the suppliers that provide intermediate goods and services to the *directly* impacted industries; and, induced impacts reflect the re-spending of earned income (from the directly and indirectly impacted industries in a given impact region); and
- *Total* – Aggregated *direct, indirect, and induced* components; only these total aggregative impacts are generated by the REMI model and presented in the results section.

Impact Components

Four impact components pertain to the second rail line development:

- *Rail Construction* – Rail construction and additional operation and maintenance expenditures;
- *Rail Transport Cost Savings* – Operating cost savings to existing rail users (primarily Study Area outbound shipments of finished products and materials) from access to a second Class 1 rail carrier;
- *Site Development* – New facility construction resulting from access to a second Class 1 rail carrier. Includes both existing firm expansion and new firm attraction; and
- *Site Employment* – Increased Study Area employment resulting from existing firm expansion and new firm attraction.

Impact Measures

Impacts are measured by five economic metrics:

- *Population* – Resident population attracted;
- *Jobs/Employment* – Employment measured in terms of full-time-equivalent (FTE) job-years;
- *Wages and Salaries* – Wage/salary earnings paid to the associated jobs;
- *Value-Added* – Net additional economic activity (i.e., total output less gross intermediate inputs), synonymous with GRP (gross regional product) or GSP (Gross State Product)
- *Output* – Total production value associated with all levels of economic activity (comprised of gross intermediate inputs and value added, combined).

Impact Regions

The two primary geographic regions evaluated include the Study Area and the State.

- *Study Area* – Both Hancock and Pearl River Counties, separately and combined; and
- *Mississippi* – Study Area impacts are compared to the entire State.

Due to data availability and economic model results, only total impacts are presented in the Economic Impacts Results section beginning on page 52. Of the measures, employment is evaluated in depth since it is the most widely understood measure by the broadest audience. Geographically, emphasis is placed on presentation of Hancock County, due to its central location relative to the rail line development (i.e., Port Bienville Industrial Park and Stennis Space Center).

REMI Model Outline

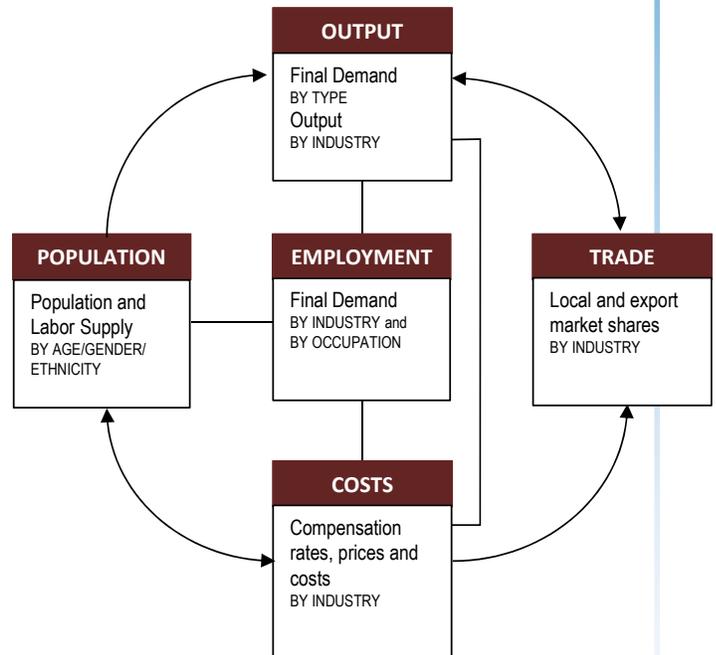
The proposed rail connection would lower rail transport costs for existing users and attract additional business to the Study Area. The REMI model³⁴ is used to forecast the impacts associated with rail development, user-cost savings, site development, and new site employment.

REMI Overview

The REMI model is a dynamic forecasting tool that combines input-output econometric modeling with economic geography. It models the economic impacts of industry and/or policy changes by identifying the interrelationships and ensuing impacts in five major block sectors of the economy, through simultaneous equations reflecting the dynamic feedback effects of each sector on each other. The five-sector inter-linkages of the REMI model are shown in Figure B-2.

REMI enables users to defensibly evaluate the effect of cost-input changes, which non-dynamic (static Input-Output) models cannot address. Moreover, REMI is not traditionally used to evaluate impacts associated with current industry. Rather, it evaluates future changes, and measures how an economy reacts. Specifically, it measures how multiple regions (two or more) respond to changes over time (e.g., years). Substitution effects play a major driver in the multiple-region model. Such effects, for example, include how displaced workers with certain skill sets migrate to other regions, or how they transfer from one industry to another (often at lower pay levels).

Figure B-2 REMI Model Sector Linkages

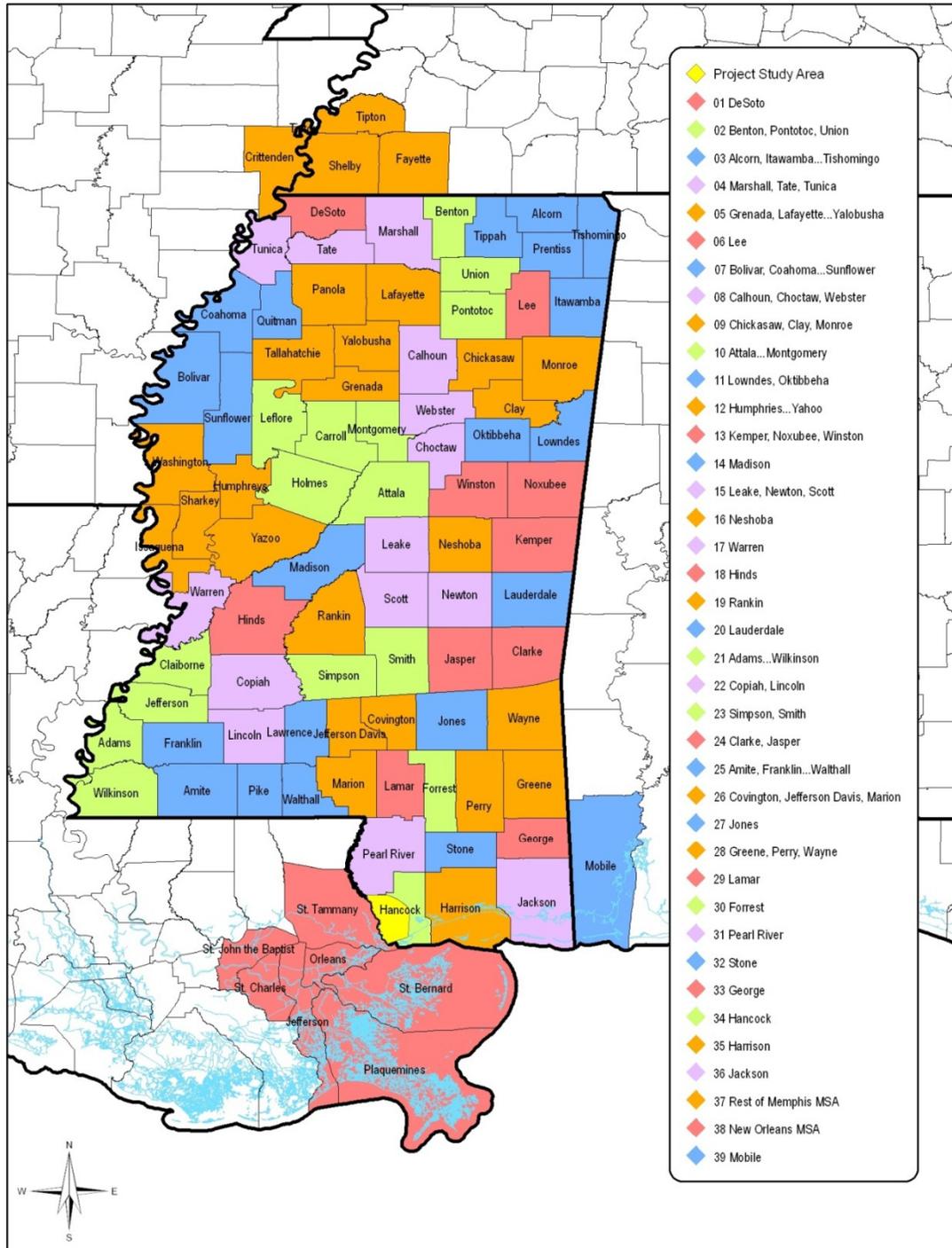


REMI Regions

³⁴ REMI TranSight v3.3

39 regions are available in the Mississippi REMI model including metropolitan areas (New Orleans, Memphis, and Mobile) of three surrounding states as shown in Figure B-3. The primary Study Area evaluated in this impact analysis include Hancock and Pearl River Counties (which are stand-alone regions in the model), as well as the overall State.

Figure B-3 REMI Regions in Mississippi



Scenarios

An economic impact evaluation must compare at least two scenarios: a reference base case (no-build) with an improvement (build) scenario. Since the various considered alignment alternatives for the rail development have no discernible difference from an economic perspective (given the investment cost, length, connectivity effect, etc. would be relatively the same), a single improvement scenario is evaluated and compared to the baseline no-build scenario.

Base Case

In the baseline no-build scenario, socioeconomic characteristics over the next 30 years are extracted from the control forecast in REMI, which provides anticipated population, employment, and other socioeconomic variable changes from 1990 through 2040, with a highlight on years 2012 and 2040. Regarding the economy, employment, wages and salaries, value-added, and output are detailed by industry for both Hancock and Pearl River Counties. Such base case socioeconomic variables are outlined below and provide a basis by which to compare potential development impacts in the ensuing sections.

Socioeconomic Summary

Hancock and Pearl River County Study Area population currently totals 102,565, or about 3.4% of the State population. By 2040, population is forecast as 118,779, an increase of 15.8%. Employment is forecasted to grow at a more rapid pace of 31.1% over the same period, from 42,846 to 56,179. Associated wages and salaries are forecasted to grow 82.5% from \$1.21 billion to \$2.20 billion (in 2012\$). Value-added and output for the Study Area and Mississippi are summarized in Table B-1 for 2012 and 2040.

Table B-1 Baseline Socioeconomic Summary (2012, 2040)

Measure by Year	Mississippi	Study Area			
		Hancock	Pearl River	Subtotal	% of MS
Year 2012					
Population	2,986,443	42,991	59,574	102,565	3.4%
Employment	1,500,881	23,951	18,895	42,846	2.9%
Wages and Salaries*	\$44,272.1	\$798.9	\$406.7	\$1,205.6	2.7%
Value Added*	\$104,397.5	\$1,651.5	\$947.4	\$2,598.9	2.5%
Output*	\$195,564.3	\$2,986.0	\$1,784.8	\$4,770.8	2.4%
Year 2040					
Population	3,299,867	52,369	66,410	118,779	3.6%
Employment	1,944,190	30,152	26,028	56,179	2.9%
Wages and Salaries*	\$85,037.3	\$1,335.0	\$865.5	\$2,200.5	2.6%
Value Added*	\$192,828.8	\$2,906.8	\$1,878.0	\$4,784.8	2.5%
Output*	\$340,475.5	\$5,051.4	\$3,313.6	\$8,364.9	2.5%
Growth (2012 to 2040)					
Population	10.5%	21.8%	11.5%	15.8%	na
Employment	29.5%	25.9%	37.8%	31.1%	na
Wages and Salaries	92.1%	67.1%	112.8%	82.5%	na
Value Added	84.7%	76.0%	98.2%	84.1%	na
Output	74.1%	69.2%	85.7%	75.3%	na

Source: REMI; * in millions of fixed 2012 dollars

Sector Employment

Total Study Area employment is forecast to grow from 42,846 jobs in 2012 to 56,179 jobs by 2040. Shown by sector in Table B-2, manufacturing employment is forecast to decline nearly 20% from 2,267 to 1,820 jobs. Conversely, transportation/warehousing employment is forecasted to grow 30% over the same future horizon from 975 to 1,265 jobs. Past historical and future forecasts by sector are charted in Table B-2; note that the manufacturing and transportation/warehousing trend lines are marked.

Table B-2 Baseline Employment by Sector (2012, 2040)

Sector	Year 2012			Year 2040		
	Hancock	Pearl River	Total	Hancock	Pearl River	Total
Forestry and Fishing	197	162	359	241	209	450
Utilities	174	89	263	103	89	192
Construction	2,466	2,503	4,968	4,053	4,785	8,838
Manufacturing	1,415	852	2,267	1,108	712	1,820
Wholesale Trade	190	289	478	180	293	473
Retail Trade	2,102	2,645	4,747	2,244	2,899	5,143
Transport and Warehousing	465	510	975	635	630	1,265
Information	110	170	280	97	159	257
Finance and Insurance	711	626	1,337	896	739	1,635
Real Est., Rental, Leasing	1,301	706	2,007	1,775	896	2,671
Professional and Tech. Svcs.	2,321	647	2,968	3,348	1,262	4,609
Mgmt. of Companies	29	39	67	30	40	70
Admin. and Waste Svcs.	2,054	973	3,027	2,332	983	3,316
Educational Services	246	95	341	344	131	476
Health Care & Social Assist.	1,073	1,245	2,319	1,904	2,518	4,422
Arts, Enter. and Recr.	1,058	212	1,270	1,474	291	1,765
Accomm. & Food Svcs.	1,868	1,201	3,070	2,485	1,551	4,035
Other Svcs., exc. Public Adm.	1,228	1,486	2,714	1,676	2,199	3,875
State and Local Gov't	1,923	3,074	4,997	2,629	4,546	7,176
Federal Civilian	1,930	144	2,074	1,746	131	1,876
Federal Military	743	351	1,094	625	295	920
Farm	252	801	1,053	179	570	750
Total	23,951	18,895	42,846	30,152	26,028	56,179

Source: REMI

Manufacturing Employment

Over 80% of current Hancock County manufacturing employment is in Chemicals (328 jobs) or Other Transportation Equipment (810 jobs), combined. Including Pearl River, a total of 1,424 people are currently employed in the Chemical and Other Transportation Equipment industries. By 2040, such Chemical and Other Transportation Equipment industry employment is forecasted to decline 16% to 1,197. Year 2012 and 2040 manufacturing industry employment is shown in Table B-3. Historical and forecast data by manufacturing sub-sector are charted in Figure B-5; note that both the chemical and other transportation equipment trendlines are marked.

Manufacturing Productivity Trends

The manufacturing employment decline over the 2012 to 2040 time period does not imply a corresponding decline in Hancock County manufacturing production. Rather, it reflects regional productivity gains resulting from automation efficiency increases. Simply, more is produced with

fewer employees, as illustrated in Figure B-6, which shows the chemical and transportation equipment manufacturing output increasing through 2040.

Transportation Employment

While Study Area trucking employment is forecasted to grow 23% from 614 to 753 employees, rail employment is not expected to change. Comparatively, warehousing/storage employment is forecasted to grow 47% from 57 to 84 jobs, as shown in Table B-4.

Table B-3 Baseline Manufacturing Employment Detail (2012, 2040)

Sector	Year 2012			Year 2040		
	Hancock	Pearl River	Total	Hancock	Pearl River	Total
Apparel	0	47	47	0	38	38
Beverage and Tobacco	8	12	21	11	16	26
Chemical	328	105	433	212	101	313
Computer and Electronics	7	0	7	4	0	4
Electrical and Appliance	63	0	63	34	0	34
Fabricated Metal Product	62	98	159	63	100	163
Food	0	43	43	0	43	43
Furniture and Related	5	10	15	2	4	6
Leather and Allied	0	0	0	0	0	0
Machinery	28	115	143	20	85	105
Miscellaneous	18	4	23	19	4	23
Motor Vehicles, etc.	47	12	59	32	5	37
Nonmetallic Mineral	4	2	7	6	3	9
Other Transportation Equip.	810	181	991	684	200	884
Paper	0	108	108	0	48	48
Petroleum and Coal	0	17	17	0	11	11
Plastics and Rubber	7	23	30	5	12	17
Primary Metal	20	0	20	10	0	10
Printing And Related	8	61	69	5	34	38
Textile Mills	0	0	0	0	0	0
Textile Product Mills	0	12	12	0	11	11
Wood Product	0	1	1	0	1	1
Total	1,415	852	2,267	1,108	712	1,820

Source: REMI

Table B-4 Baseline Transportation Employment Detail (2012, 2040)

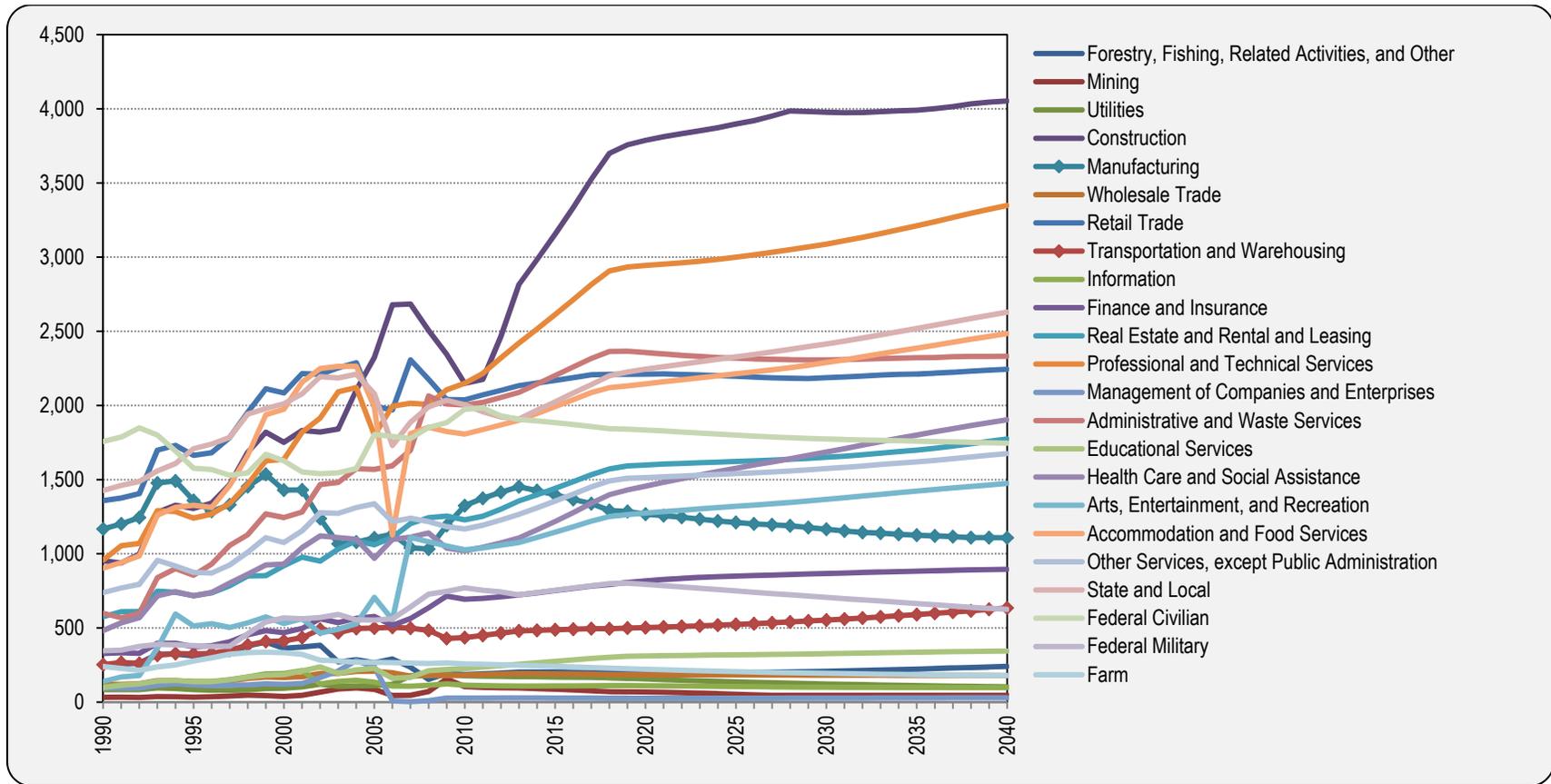
Sector	Year 2012			Year 2040		
	Hancock	Pearl River	Total	Hancock	Pearl River	Total
Air	0	0	0	0	0	0
Pipeline	2	11	13	1	7	9
Rail	33	43	75	33	42	75
Scenic And Sightseeing	121	49	170	203	79	282
Transit And Ground Passenger	2	26	28	3	39	42
Truck	234	380	614	291	462	753
Warehousing And Storage	57	0	57	84	0	84
Water	17	0	17	20	0	20
Total	465	510	975	635	630	1,265

Source: REMI

Base-Case Socioeconomic Conclusion

Under the no-build base case, the Hancock-Pearl River Study Area economy is forecasted to grow over the 29-year analysis period (2012 to 2040). Population is forecast to grow 15.8% and total employment 31.1%. However, employment growth is not uniform over the various industries. In manufacturing, productivity gains from automation efficiency increases are forecast to result in lower employment despite increased output (see Figure B-6). This is especially evident in the two leading manufacturing sub-sectors: chemicals and transportation equipment. This manufacturing productivity trend in Hancock, Pearl River, and Mississippi, reflects national trends over the preceding decades that will continue.

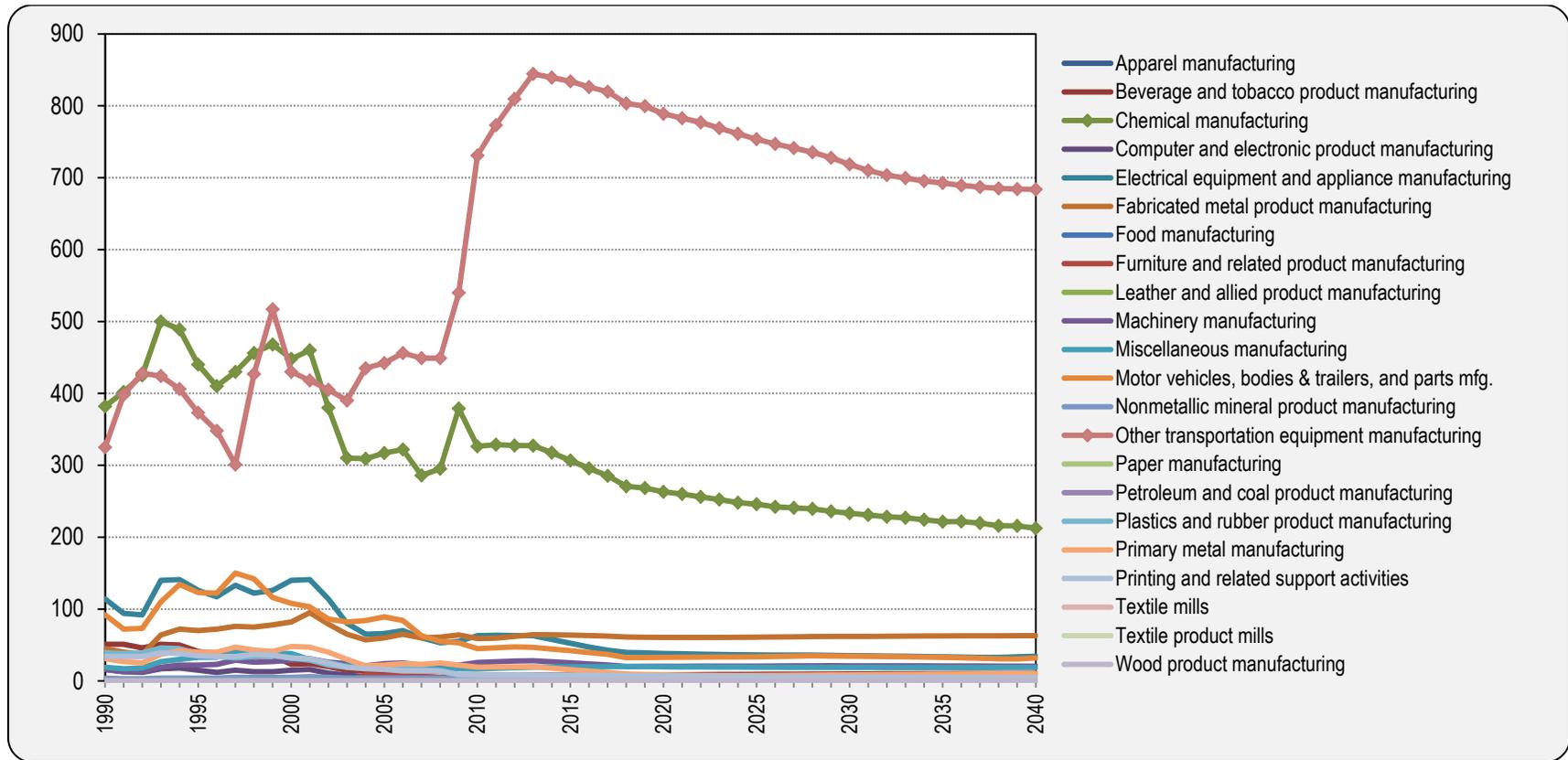
Figure B-4 Total Employment – Historical and Baseline Forecast (Hancock County)



Source: REMI

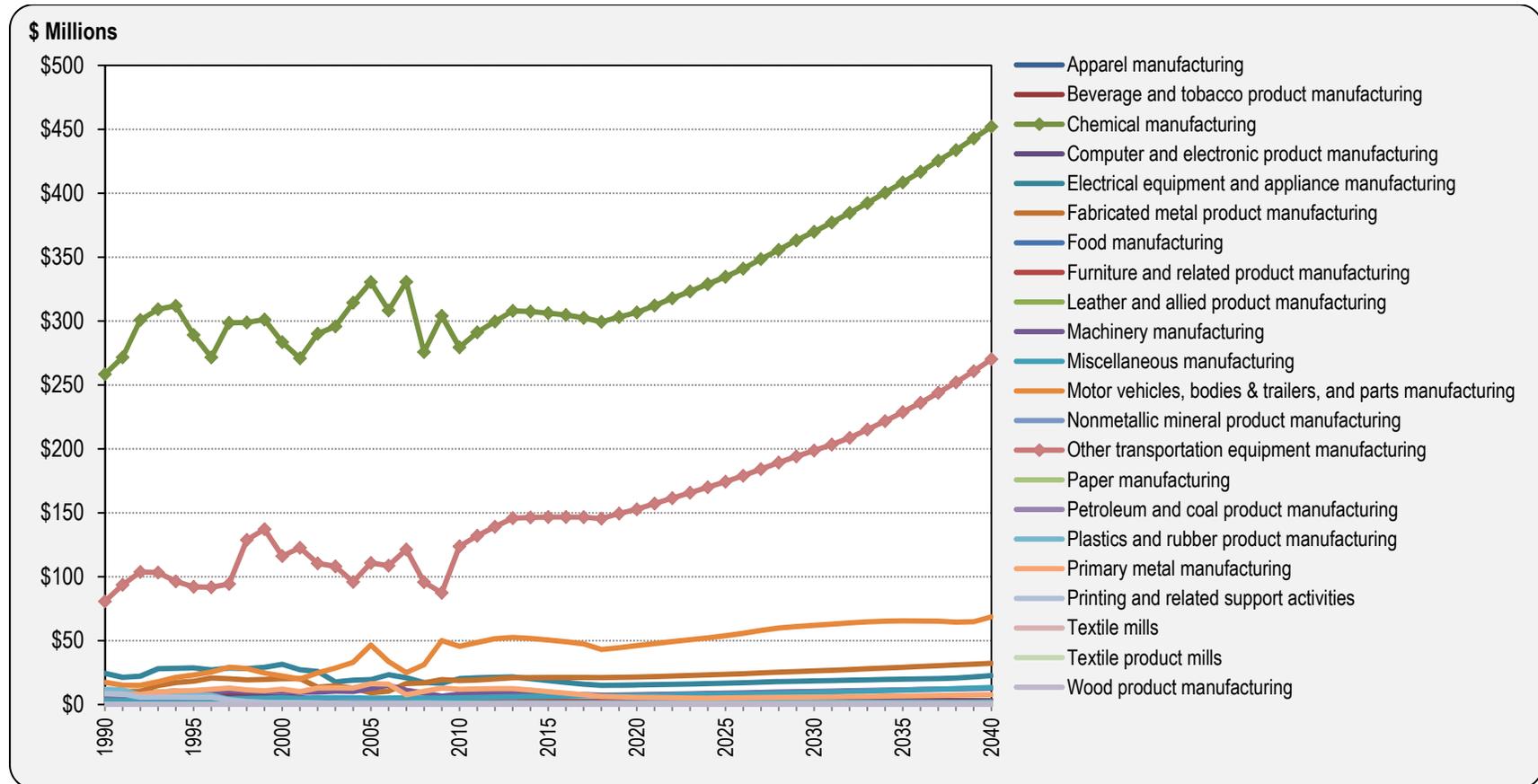
Note: Hurricane Katrina occurred in 2005

Figure B-5 Manufacturing Employment – Historical and Baseline Forecast (Hancock County)



Source: REMI

Figure B-6 Manufacturing Output – Historical and Baseline Forecast (Hancock County)



Source: REMI

Build Case

The proposed rail connection from Port Bienville to the NS line would span approximately 24 miles, and would traverse the Stennis Space Center buffer area. The estimated construction cost to plan and construct the rail connection is \$90.0 million. These along with other operation and maintenance costs (approximately \$11.0 million over twenty years) are summarized by year and costs component below. Such construction and operation of the rail connection would generate construction-related direct and multiplier impacts, as presented in the Economic Impacts Results section beginning on page 52.

REMI Model Inputs

Various activities associated with the rail improvement are estimated by impact component and entered into the REMI model to derive dynamic economic impact results by year, measure, and geographic region (this overall process was diagrammed previously in Figure B-1). Rail construction impacts and site development impacts reflect the short-term capital infrastructure effect associated with implementing the project. Comparatively, the transport costs saving impacts and the site employment impacts represent the long-term annual effect on economic activity. The following discussion explains the nature and magnitude of the various REMI inputs.

Rail Construction and Operation Costs

Development and operations of the proposed rail line would generate economic impacts over the 27-year period (through 2040, the horizon analyzed), stemming from the \$101.0 million in total costs, which include \$90.0 in initial development and \$11.0 million in ongoing operation and maintenance. Annual costs are shown by type in Table B-5, and discussed below.

Infrastructure Development

Rail development costs are estimated at \$90.0 million over six years, with \$6.6 million in planning and engineering (P&E) costs, comprising 7.1% of total development costs, spanning the first three years (2014 through 2016). In addition, \$1.4 million in right of way (ROW) costs (1.5%) occur in years 2016 and 2017. Construction is assumed to begin in year 2017 and span slightly more than two years totaling \$82.0 million (91.1% of total costs).

As right-of-way expenditures largely comprise property transfers (as opposed to value-added/productive economic activities) and the P&E would likely be conducted outside of the Study Area, only the construction expenditures occur on-site and are applicable for the REMI model.

Annual Operations

Annual operation costs are estimated to start at \$293,400 in year 2020, rising gradually over twenty years to \$800,800 by year 2040.

Table B-5 Capital Infrastructure Investment Costs (in 2012 \$)

Year	Development			Total	Operation & Maintenance	Annual Total
	ROW	Planning & Engineering	Construction			
2014	\$0	\$1,000,000	\$0	\$1,000,000	\$0	\$1,000,000
2015	\$0	\$3,600,000	\$0	\$3,600,000	\$0	\$3,600,000
2016	\$400,000	\$2,000,000	\$0	\$2,400,000	\$0	\$2,400,000
2017	\$1,000,000	\$0	\$5,000,000	\$6,000,000	\$0	\$6,000,000
2018	\$0	\$0	\$40,000,000	\$40,000,000	\$0	\$40,000,000
2019	\$0	\$0	\$37,000,000	\$37,000,000	\$0	\$37,000,000
2020	\$0	\$0	\$0	\$0	\$293,400	\$293,400
2021	\$0	\$0	\$0	\$0	\$302,200	\$302,200
2022	\$0	\$0	\$0	\$0	\$311,300	\$311,300
2023	\$0	\$0	\$0	\$0	\$320,600	\$320,600
2024	\$0	\$0	\$0	\$0	\$330,200	\$330,200
2025	\$0	\$0	\$0	\$0	\$340,100	\$340,100
2026	\$0	\$0	\$0	\$0	\$350,300	\$350,300
2027	\$0	\$0	\$0	\$0	\$360,800	\$360,800
2028	\$0	\$0	\$0	\$0	\$371,700	\$371,700
2029	\$0	\$0	\$0	\$0	\$382,800	\$382,800
2030	\$0	\$0	\$0	\$0	\$595,900	\$595,900
2031	\$0	\$0	\$0	\$0	\$613,800	\$613,800
2032	\$0	\$0	\$0	\$0	\$632,200	\$632,200
2033	\$0	\$0	\$0	\$0	\$651,200	\$651,200
2034	\$0	\$0	\$0	\$0	\$670,700	\$670,700
2035	\$0	\$0	\$0	\$0	\$690,800	\$690,800
2036	\$0	\$0	\$0	\$0	\$711,500	\$711,500
2037	\$0	\$0	\$0	\$0	\$732,900	\$732,900
2038	\$0	\$0	\$0	\$0	\$754,900	\$754,900
2039	\$0	\$0	\$0	\$0	\$777,500	\$777,500
2040	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$800,800</u>	<u>\$800,800</u>
Total	\$1,400,000	\$6,600,000	\$82,000,000	\$90,000,000	\$10,995,600	\$100,995,600

Source: CDM Smith / HDR Inc.

Transport Cost-Savings

While each circumstance varies, literature review indicates that typical prices for single Class 1 rail service are nearly twice that of a competitive environment (e.g. two or more Class 1 carriers). Nonetheless, even monopolistic Class 1 rail service is less expensive than trucking per-mile and much more practical for low-value-to-weight cargoes, and non-time-sensitive movements. However, such monopolistic rail pricing deters further industry investment. This issue was raised several times in surveys with local business leaders in and around Port Bienville.

Literature Review

To understand how rail rates vary between captive versus non-captive rail carrier services, various sources were researched, including the Surface Transportation Board (STB),³⁵ the General Accounting Office (GAO),³⁶ and Consumers United for Rail Equity (CURE).³⁷ These and other informed sources detail the various issues associated with the Railroad Revitalization Act (1976), the Staggers Rail Act (1980), and revenue (pricing) per rail variable costs, etc.

Overall, a general concern remains about competition given captive (e.g., monopolistic) markets and fewer railroads. Since 2006, Consumers United for Rail Equity documents suggest that further railroad consolidation and other related factors have led to higher return margins for railroads and monopolistic pricing. A number of studies analyzing the economic impacts and benefits of non-captive rail markets versus captive rail market have found that on-captive industrial facilities (those facilities with access to more than once rail provider) realize between 30 to 45 percent lower rail rate than those paid by captive rail markets.

Local Rail User Perspective

Such findings support the assertions of the surveyed firms. Specifically, two firms independently noted their relative competitive disadvantage to other companies served by two Class 1 carriers. Such examples reflect typical costs and schedules and do not address the additional costs and penalties borne by shippers due to congested transit through the congested Gentilly Yard in New Orleans or other delays. Several firms also stressed that such cost penalties would be alleviated, at least partially, with second Class 1 rail access.

Impact Modeling Assumptions

As such, for REMI modeling, the 45% transport cost savings were applied to the relative local demand for rail services, and a weighted transportation cost savings percent (product of the 45% rail price reduction and the percentage of local rail demand) was applied to the Hancock and Pearl River counties. This savings was input into the REMI TranSight transportation cost savings matrix between origin and destination regions within the model for specified years. It is assumed that the savings will occur in each and every year following the completion of the rail development (i.e., post-2019). Total impact results of such REMI model inputs are summarized in the section beginning on page 52. It is noted that the direct effect of such cost-savings would generate an estimated 300 manufacturing jobs by the year 2025. Such jobs could arise from existing firm expansion and/or new firm attraction.³⁸

³⁵ "An Update to the Study of Competition in the U.S. Freight Railroad Industry," The Surface Transportation Board; January, 2010

³⁶ "FREIGHT RAILROADS - Industry Health Has Improved, but Concerns about Competition and Capacity Should Be Addressed," GAO-07-94; October 2006

³⁷ "How Do Captive Rail Rates Compare to Competitive Rail Rates?" Consumers United for Rail Equity; November, 2005

³⁸ As addressed in Section 0, total impacts comprise direct and multiplier types.

Table B-6 Revenue per Ton - Captive vs. Competitive Markets

	NS	CSX	BN	UP
Farm Products				
Captive	\$21.37	\$36.74	\$45.28	\$37.99
Competitive	\$11.88	\$20.83	\$26.09	\$21.29
<i>Savings</i>	<i>44%</i>	<i>43%</i>	<i>42%</i>	<i>44%</i>
Coal				
Captive	\$17.56	\$17.22	\$16.77	\$17.00
Competitive	\$9.76	\$9.76	\$9.66	\$9.53
<i>Savings</i>	<i>44%</i>	<i>43%</i>	<i>42%</i>	<i>44%</i>
Chemicals				
Captive	\$36.98	\$34.33	\$42.57	\$38.94
Competitive	\$20.56	\$19.46	\$24.52	\$21.82
<i>Savings</i>	<i>44%</i>	<i>43%</i>	<i>42%</i>	<i>44%</i>
Lumber or Wood				
Captive	\$29.43	\$36.13	\$59.19	\$59.49
Competitive	\$16.36	\$20.48	\$34.10	\$33.34
<i>Savings</i>	<i>44%</i>	<i>43%</i>	<i>42%</i>	<i>44%</i>
Pulp, Paper				
Captive	\$39.48	\$40.82	\$62.14	\$55.40
Competitive	\$21.95	\$23.14	\$35.80	\$31.05
<i>Savings</i>	<i>44%</i>	<i>43%</i>	<i>42%</i>	<i>44%</i>

Source: Escalation Consultants, for Consumers United for Rail Equity

Site Construction and Employment

Site development associated with transportation infrastructure investment is difficult to estimate given that such transportation investment is one of many factors that attract new industry and/or induce existing industry to expand. Other factors contributing a significant role in such decisions include the overall economies (local, national, and even international), employment levels (and unemployment rates), education levels, labor force skills, tax structure and rates, quality of life, etc. While many such factors can be quantified, many are evaluated qualitatively. All such decisions are multifaceted and situational, and are conducted with interrelated considerations. For such reasons, it is difficult to accurately estimate the bottom-line development effect of the infrastructure investment, net of Study Area transfers that would occur regardless of any isolated transportation improvement.

With this in mind, the various surveys conducted with existing area industry, freight transport providers, and local government officials were reviewed. Additionally, an inventory of developable acreage was conducted to: generate a current baseline comparison of manufacturing employment and acreage; and, to provide an order-of-magnitude development ceiling. Ultimately, this information and perspective was used to estimate the resultant direct on-site employment associated with the rail line infrastructure investment. Such site employment estimates are over-and-above the related manufacturing job estimates associated with the transport cost savings addressed previously.

Surveys

General sentiments among the major Port Bienville Industrial Park tenants anticipate some growth at the park, regardless of whether or not the secondary rail connection occurs. However, much discussion pointedly identified the high cost and reliability issues associated with a single

Class 1 carrier. Distillation of the surveys suggests that *the secondary Class 1 carrier access would make the location significantly more competitive for industrial development and would lead to further growth above expected baseline growth.*

Specifically, surveys indicate that such growth would first entail hiring of additional employees to work existing shifts. Secondly, additional shifts would be added to expand output of existing facilities. Thirdly, existing undeveloped land (either owned privately or by the Hancock County Port and Harbor Commission) would be developed. However, limited definitive statements were made stating specific growth that would occur with the rail expansion.³⁹

Site Acreage

A total of 13,803 acres were identified in the Hancock-Pearl River Study Area. Of this acreage, 164 acres in the Port Bienville Industrial Park were identified as non-developable. Of the remaining total 13,639 acres, 4,994 acres are already developed, leaving 8,645 (63%) as available for further development. The following discussion summarizes acreage by location.

- *Port Bienville Industrial Park* – There are 3494 developable PBIP acres, 1,210 are owned by existing tenants to facilitate future expansion, the remaining 1,785 acres are held by the Hancock County Port and Harbor Commission (HCDC). 439 (13%) have been developed to-date. HCDC data suggests that these 439 developed acres are home to 18 firms and support 1,200 jobs, yielding a job per acre ratio of 2.73.
- *Stennis Space Center (Fee Area)* – There is a total of 13,800 acres within the fence at the Stennis Space Center and 125,000 acres that provide an acoustical buffer area around the facility. There are 8,000 acres that are currently undeveloped in the fee area of the SCC, 4,400 (55%) have been developed and 3,600 acres (45%) are available for lease. This does not include any other acreage in the buffer area outside of the currently designated fee area.
- *Other* – Of the 2,205 remaining acres identified in the other industrial areas in Hancock or Pearl River counties, the airport industrial park accounts is 155 acres.⁴⁰ Available data suggests that 2,050 acres are available for further industry development. Of this, 1,500 acres in Hancock County currently comprise a tree-farm across the street from the PBIP slated for potential development when needed.⁴¹

³⁹ Such reluctance or inability to accurately divulge speculative development prospects without a specific business plan envisioning probable situations is the nature of business surveys. This is especially true when the private sector interviewee speculates business growth based on public transportation system infrastructure investment.

⁴⁰ No data was available for the *Other Developed Acres* in Hancock and Pearl River Counties. However, such acreage is not considered significant.

⁴¹ Note that currently, 197 Hancock County jobs are in the Forestry and Fishing sector. Information was not obtained regarding the share that is forestry or how many forestry jobs are linked to this tract of 1,500 acres.

Table B-7 Study Area Developable Acres

Site	Developable					Non-Developable ¹	Total
	Developed	Undeveloped			Subtotal		
		Held or For Lease	For Sale	Subtotal			
PB Industrial Park							
HCDC	25	1,165	620	1,785	1,810	164	1,974
Tenants	<u>414</u>	<u>1,154</u>	<u>56</u>	<u>1,210</u>	<u>1,624</u>	<u>na</u>	<u>1,624</u>
Subtotal	439	2,319	676	2,995	3,434	164	3,598
Stennis Space Center (Fee Area)	4,400	3,600	--	3,600	8,000	--	8,000
Other							
Airport	155	--	45	45	200	--	200
Hancock Co.	na	--	1,500	1,500	1,500	--	1,500
Pearl River Co.	<u>na</u>	--	<u>505</u>	<u>505</u>	505	--	<u>505</u>
Subtotal	155	--	2,050	2,050	2,205	--	2,205
Total	4,994	5,919	2,726	8,645	13,639	164	13,803

Source: HCDC, Stennis, MDA, and CDM Smith discussions with local business leaders

¹Includes roadway, rail right-of-way, and unusable marsh land

Site Development Ceiling

Applying the existing 2.73 job per acre ratio to the identified 8,645 undeveloped acres suggests a ceiling of approximately 23,600 jobs. Such a full build-out scenario would be extremely unlikely even under the rail-extension scenario and a robust economy. Additional development would depend on many factors, of which the rail connection would be a single, albeit notable, component. Nonetheless, the key point is that the Study Area has sufficient land to accommodate developmental demand and does not appear physically constrained from expansion.

While it is unlikely that the hypothetical job ceiling of 23,600 will occur simply because the rail connection is built, the rail construction will shift the probability of increased job creation and the associated income, output, and other impacts.

Site Employment Impacts

Existing firm expansion and/or new firm attraction would result in additional direct employment and associated economic activity in the Study Area. It is assumed that such development would follow a similar composition as the existing area businesses. Such development is often referred to as clustering. Specifically, such Study Area industries include chemical manufacturing, fabricated metal products, transport equipment manufacturing, and plastic/rubber product manufacturing. This general perspective was confirmed through the various business surveys.

Surveys and discussions with local firms and business leaders indicate several manufacturing firms are extremely interested in investing in the Study Area. It is estimated that such firms could employ an additional 430 people, perhaps more. This conservative employment estimate of manufacturing firm expansion and/or attraction is in addition to the impacts associated with transport cost-savings, which would include some manufacturing job expansion. Such potential jobs would be anticipated to arise within five years of the new rail connection and generate

additional multiplier related impacts. These 350 direct jobs would arise between 2021 and 2024 and would continue throughout the study analysis period (e.g., year 2040).

Site Construction Impacts

In addition to the annual site employment impacts, site development impacts would arise as existing facilities expand and/or new facilities are constructed. Such impacts are assumed to occur in the years prior to the site employment impacts (e.g., 2020 to 2023). To estimate the development costs entered into the REMI model, various sources were considered. The Organization for International Investment (OFII) tracks total site construction expenditures and new site employment by state for manufacturing facilities. Such information for 2011 was evaluated for seven southern states ranging from Texas to South Carolina. The average site investment cost per site job ranged from a low of just under \$230,000 in Arkansas and Alabama to a high of nearly \$1.0 million in Texas. To ensure relative conservatism, a site-development cost of \$200,000/employee was multiplied by 350 site employment jobs; this generated a direct site investment of \$70.0 million that was entered into the REMI model.

Hurricane Mitigation Cost-Saving Impacts

Lastly, although no disaster mitigation impacts are estimated, the issue was raised and deserves airing given its inherent effect on the transport costs saving and site employment impacts previously addressed.

The CSX line from Mobile, Alabama past Port Bienville to the Gentilly Yard in Louisiana roughly parallels the Gulf Coast. Hurricanes Katrina and Isaac illustrate how storm damage can shut down rail movement along the coast. Discussions with various tenant and railroad operators indicate that the CSX line was down for approximately six months after Hurricane Katrina as derailed cars were collected and damaged rail lines repaired. Such closures inhibited freight transport through unshipped orders, higher transport cost via truck, and late delivery cost penalties. After Hurricane Isaac this line was back in operation in just over 30 days.

Access to a second rail line would provide an outlet for both rail cars and local shipments that would otherwise be in jeopardy. The potential benefits of a second Class 1 railroad access include cost savings and job retention impacts. While the Transport Cost-Savings section addressed typical cost savings, it does not address the cost-savings associated with unique, random events that could be avoided, or at least notably mitigated, via a direct northern access. Further, the surveys suggest that Hurricane Katrina played a major role in the closure of the IKEA facility, and may have deterred other existing firms from subsequent expansion.

In summary regarding hurricane mitigation, it is not easy to quantify the resultant economic impact. However, the additional rail access would affect transport costs from time to time, and would increase the relative attractiveness of the area to existing business expansion and/or new business attraction. No method was developed of how such disaster mitigation cost savings could be estimated and appropriately entered into the REMI model. Further, the relative magnitude of such impacts was considered of secondary importance to the transport cost savings and site employment impacts already addressed. Hence, to ensure conservative and defensible impact estimates, such disaster mitigation impacts were not specifically quantified.

Economic Impacts Results

Rail development and firm expansion/attraction activities would stimulate construction, transport cost-savings, and new site employment impact components. These effects were input into the REMI model to estimate the resultant annual impacts by impact measure and geography. The results were evaluated from different perspectives and compared with existing base economic data.

Impact Findings

The estimated impacts comprise many aspects including years, regions, impact component, industry sector, etc. Presenting all the impact measures by year for all the impact components and regions simultaneously would be excessive information to digest effectively. As such, the economic impacts are first presented in a disaggregated series of charts to illustrate how and where the Study Area job impacts arise and change over time and between regions. All the impact measures are then presented specifically for two benchmark years (2025 and 2040), providing a post-rail construction and site development business operation perspective. Lastly, the analysis hones-down direct manufacturing sector employment impacts. Resultant job impacts are presented by industry and compared to the overall base forecasted employment by year through 2040.

Annual Impacts

Combined effects of rail construction, transportation cost savings, and site development (construction and employment) result in varying job impacts over the analysis period, as diagrammed in Figure B-7). Initially, rail construction impacts would result in Study Area job impacts of 701 in 2018 and 680 in 2019. Initial opening year 2020 job impacts would surpass 1,000 (1,041) as a function of the increased competitiveness associated with the 45% decline in rail transport cost savings to existing firms, but is also contributed to by site construction-related activities. Such site development impacts are forecast to continue through 2023. Site employment would then arise subsequent to the new site development impacts; such impacts begin in year 2021 and continue through 2040.

Regional Impact Distribution

A notable majority of the impacts are anticipated to occur in Hancock County, as seen in Figure B-8. Over 90% of the job impacts during the rail construction period (years 2017 to 2019) are forecast to occur in Hancock county, 1% in Pearl River, and the other 6% elsewhere in Mississippi. After opening year 2020, the transport cost-savings impacts and the site development impacts result in a majority of impacts occurring in Hancock County. Nonetheless, a notable impact share occurs in Pearl River County. By 2024, the Hancock County impact share levels-off at 66%.⁴²

Notably, the other Mississippi job impacts decline between 2020 and 2022 reflect economic restructuring due to the rail development, in which economic activity shifts into the Hancock and Pearl River counties from elsewhere in the State. Such a shift reflects the relative competitive

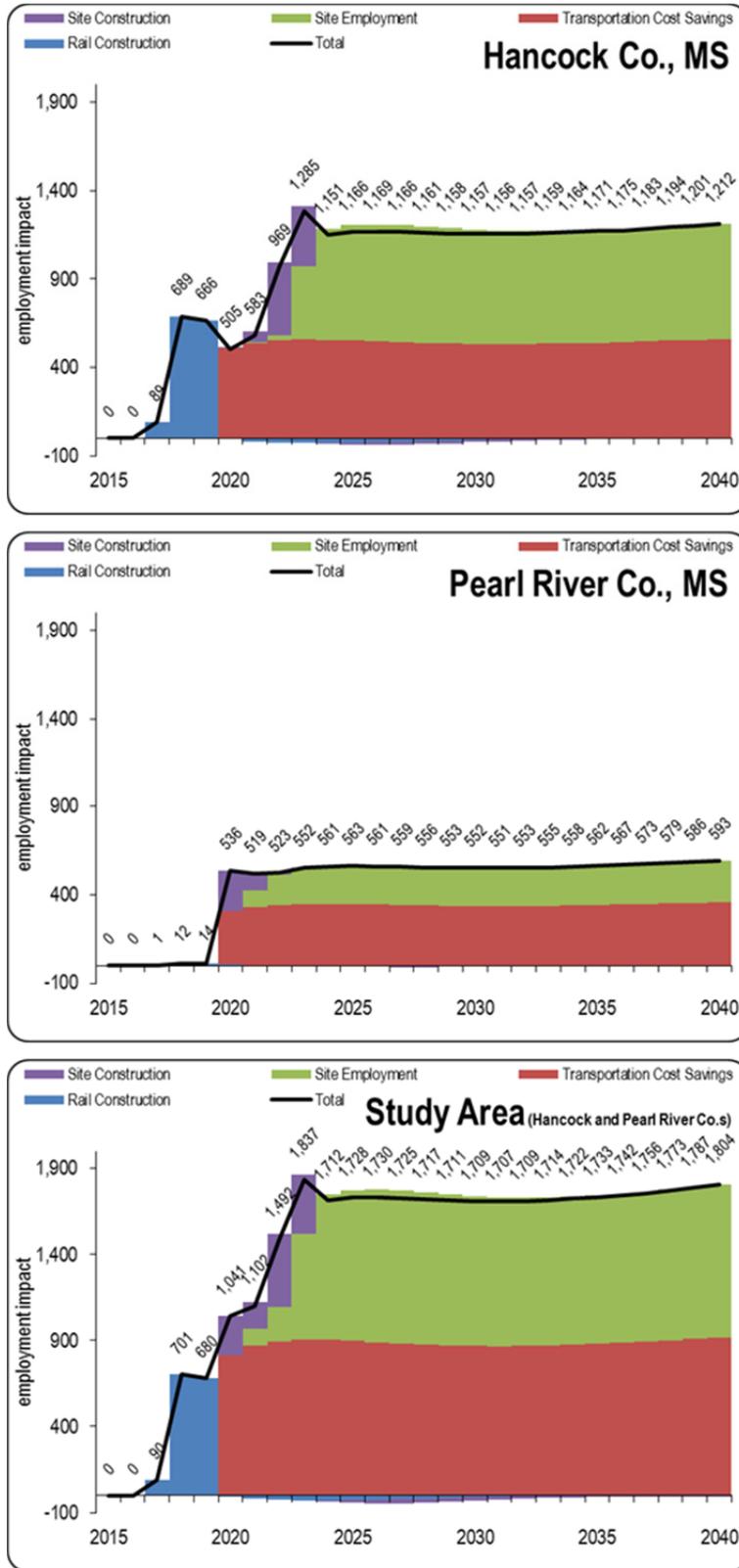
⁴² Annual variances between 2020 and 2025 reflect how such impacts were entered into the various industries and between Hancock and Pearl River counties.

advantages in Hancock and Pearl River Counties due to the rail development, in comparison to the baseline scenario with only a monopoly rail service available. However, this short-term restructuring is short-lived (within three years), and the economic balancing evens over the remaining analysis horizon. The subsequent year 2024 to 2040 impacts reflect the result of the transport costs savings and new site employment.

Business Operation Impacts

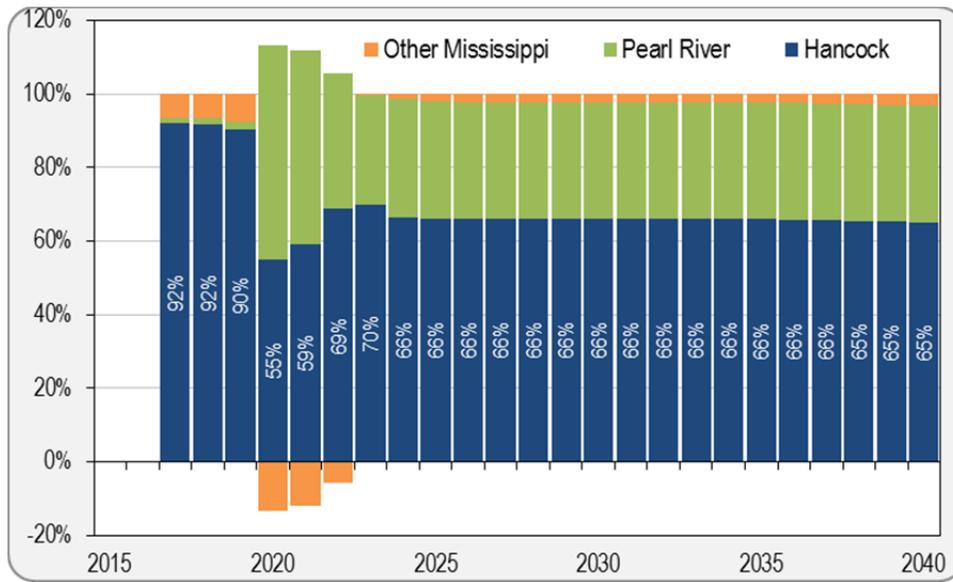
The resultant impacts associated with business transportation cost-savings and new site employment are evaluated from the five impact measure perspectives in Table B-8 for the years 2025 and 2040 (that is, following the rail and site construction-related impacts). In year 2025, for example, a total of 1,762 jobs would potentially arise in Mississippi because of the rail connection, of which a vast majority (98 percent, 1,762 jobs) occur in the Study Area. Nonetheless, the findings indicate that the project benefits the State overall.

Figure B-7 Job Impacts by Region and Component



Source: CDM Smith use of REMI

Figure B-8 Regional Job Impact Distribution



Source: CDM Smith use of REMI

Table B-8 Business Operation – Related Economic Impacts (2025, 2040)

Measure	Absolute Change				Percent Change			
	Study Area			Mississippi	Study Area			Mississippi
	Hancock	Pearl River	Total		Hancock	Pearl River	Total	
Year 2025								
Population	656	644	1,300	1,450	1.3%	1.0%	1.1%	0.0%
Employment	1,166	563	1,728	1,762	4.1%	2.4%	3.3%	0.1%
Wages and Salaries*	\$63.5	\$20.7	\$84.2	\$86.9	5.9%	3.3%	4.9%	0.1%
Value Added*	\$153.0	\$40.6	\$193.6	\$198.9	7.0%	3.0%	5.5%	0.1%
Output*	\$327.5	\$80.7	\$408.2	\$417.4	8.4%	3.2%	6.4%	0.2%
Year 2040								
Population	1,537	1,448	2,985	3,339	2.9%	2.2%	2.5%	0.1%
Employment	1,212	593	1,804	1,862	4.0%	2.3%	3.2%	0.1%
Wages and Salaries*	\$80.2	\$25.1	\$105.3	\$108.9	6.0%	2.9%	4.8%	0.1%
Value Added*	\$227.6	\$54.0	\$281.6	\$291.5	7.8%	2.9%	5.9%	0.2%
Output*	\$482.0	\$105.1	\$587.1	\$603.4	9.5%	3.2%	7.0%	0.2%

Source: CDM Smith use of REMI

^ Reflects post rail and site construction impacts. Includes the business transport cost-savings, existing firm expansion, and new firm attraction, as well as the associated multiplier impacts.

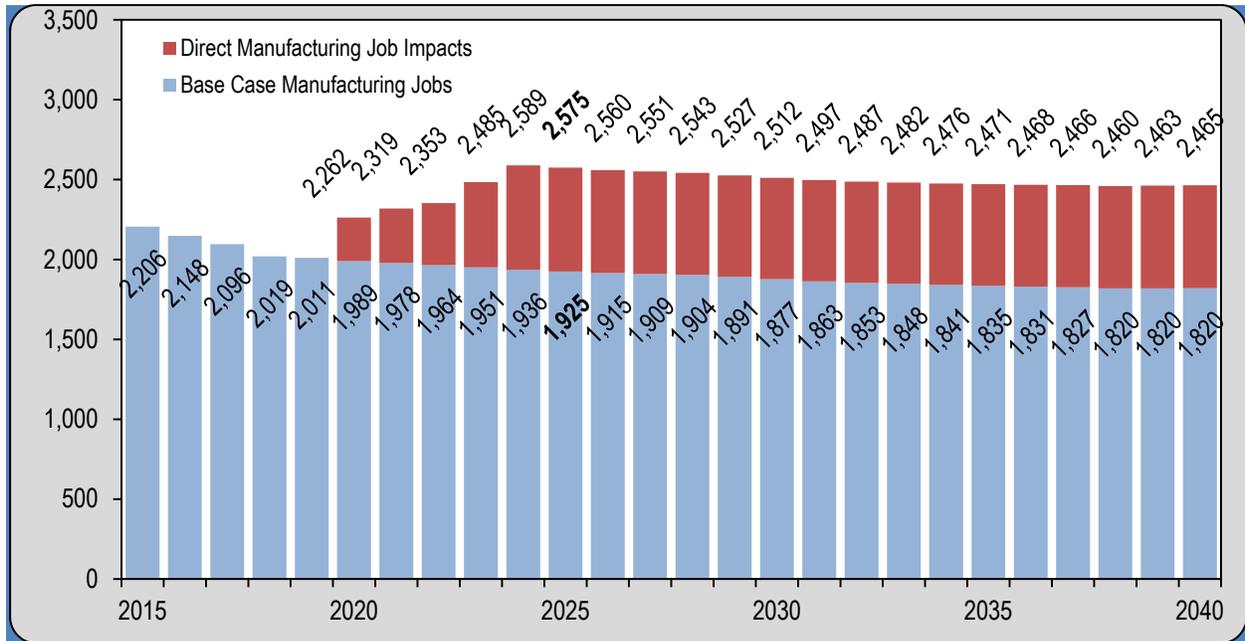
* in millions of fixed 2012 dollars

Direct Manufacturing Employment Impacts

Base case and new direct manufacturing sector employment impacts associated with transport cost savings and new firm attractions are shown in Figure B-9, which expands upon the base-case

manufacturing employment shown previously in Figure B-4 (depicted in the light blue color).⁴³ Per se, the chart depicts the baseline manufacturing jobs (i.e., 1,925 in year 2025) with the net-direct manufacturing job impacts stacked on top. Such direct manufacturing job impacts begin at 273 jobs in year 2020 and rise to 650 jobs by 2025. Resulting manufacturing jobs total 2,262 in 2020, rising to 2,575 by 2025. The relative change in Study Area manufacturing employment because of the rail connection starts at 13.7% in 2020 and rises to 33.8% by 2025.

Figure B-9 Direct Manufacturing Employment Impacts – Baseline and Build Impacts



Source: CDM Smith use of REMI

Economic Impact Conclusions

High Rail Transport Costs

Such high rail costs reportedly constrain existing firm expansion, and impose escalated operating costs from monopolistic rail pricing. Further concerns inhibit the attraction of new firms drawn to the region’s overall transport infrastructure, abundant industrial acreage, and other amenities. Clearly, there is potential for the secondary rail connection to lower transport costs and help induce Study Area economic growth.

The magnitude of such growth is a challenging issue to forecast. In addition to the many positive factors that local business leaders have worked hard to bestow upon the region, there are many other factors beyond local control. Gas prices, inflation, trade patterns, natural disasters, market changes, etc. can thwart the best laid-out development plans.

⁴³ Note that the figure reflects the same base-case productivity gains (resulting in base-case manufacturing employment declines) as discussed in Section 1.2.1. This explains why the blue-bars decrease over the analysis period.

Impact Approach

Beyond the short-term impacts associated with rail construction, forecasts were made of the impacts associated with transportation cost-savings. Further, various data were used to derive new site employment impacts (as well as the associated site construction impacts). In summary, the projected economic impacts are notable and comparatively robust to the existing economy. Further, the forecasted impacts associated with such access would further strengthen the Study Region's ability to retain existing firms.

Study Area Impact Findings

Economic impact components evaluated include the short-term construction impact associated with the rail connection as well as new site development impacts. Beyond these impacts, the facility will lower transportation costs for existing rail-user firms, which will facilitate their expansion as well as help attract new industries.

- *Construction Impacts* – Rail construction impacts will attract approximately 680-700 Study Area jobs in years 2018 and 2019. Subsequent to that site development impacts of expanding and/or newly attracted firms will range between 150 to 425 jobs in years 2020 to 2023.
- *Site Development* – The new rail connection will lower transport costs and make the area more attractive to existing firm expansion and/or new firm attraction. Beginning in year 2020, it is estimated that 273 additional manufacturing jobs will be attracted to the Study Area. This manufacturing job attraction impact is forecasted to grow quickly to 650 by the year 2025. The expansion of Study Area manufacturing will generate an additional 1,154 multiplier jobs in the year 2025 for a total job impact of 1,178. Compared to Study Area baseline employment, the rail connection is forecasted to result in a 33.8% increase in direct manufacturing employment and a 3.5% in overall employment.

State Impact Findings

While a vast majority of the impacts would arise in the Study Area, additional positive impact would occur elsewhere in Mississippi. Hence the project can be viewed as beneficial to the overall State in addition to the Study Area.

Based on the detailed survey effort, discussion with local officials, and REMI modeling, the proposed rail connection would benefit the overall Study Area economy. By dramatically reducing rail transport costs and improving rail connectivity, the facility would help attract direct manufacturing investment. The objective economic evaluation presented herein also acknowledges that significant developable industrial acreage exists in the Study Area. Hence the Study Area possesses the capacity to accommodate additional potential development if/when other factors further increase the attractiveness of the Study Area for manufacturing-related investment.

Appendix C: Potential Funding Sources for Port Bienville Rail Improvements

The Port Bienville Short Line Railroad connecting the CSX rail line in Hancock County to the NS rail line in Pearl River County will most likely require funding from multiple sources. Funding options for this project may include grants or loans from public sources, private capital or in-kind contributions, or revenues from ongoing operations. Grants from federal or state governments generally do not require repayment except under specific conditions of non-performance. Loans require repayment based upon the terms agreed to in the loan document, often over a period of up to thirty years. The initial funding plan for this project will likely pursue federal and state resources; given the affect that current economic conditions are having on state and transportation funding these resources are evolving rapidly and availability will probably change as the economic environment improves.

Grants from Surface Transportation Programs

Grants funds can be targeted to specific projects that solve freight or passenger rail needs. In recent years, passenger rail has received greater attention and funding compared to freight rail projects. However, MAP-21 includes a renewed focus on the needs of freight rail infrastructure and services. Federal Railroad Administration (FRA) supports railroad projects through a variety of competitive grant, dedicated grant, and loan programs. The Transportation Investment Generating Economic Recovery (TIGER) competitive discretionary grant program, managed by USDOT's Office of the Secretary, is a USDOT-wide program that invests in rail, road, transit, and port projects. Freight rail projects such as the proposed Port Bienville Rail improvements may apply for TIGER Discretionary Grant funding. TIGER grants awarded in 2012 totaled nearly \$500 million, and 12 percent of these grants (approximately \$60 million) went to freight rail projects. Other current FRA grant programs do not target the extension of rail lines. Some of the grant programs outlined below require local or state matching funds, the match may vary depending upon a variety of factors.

Federal Grants and Loans

Transportation Loan and Credit Enhancement Programs

Transportation Infrastructure Finance and Innovation Act (TIFIA) and Railroad Rehabilitation and Improvement Financing (RRIF) are existing federal transportation loan program. The TIFIA credit program offers direct loans, loan guarantees, and standby lines of credit for projects of all modes. These instruments are designed to address the varying requirements of projects throughout their life cycles. The amount of federal credit assistance may not exceed 33 percent of total eligible project costs. The program is designed to fill market gaps and leverage limited federal resources and substantial co-investment by providing projects with supplemental or subordinate debt rather than grants. The project's estimated eligible costs must be at least \$50 million or 50 percent of the state's annual federal-aid highway apportionments, whichever is less. TIFIA requires an investment grade rating on senior debt (or on the TIFIA debt, if no debt senior to TIFIA exists). The project must be supported in whole or in part by user charges or other non-

federal dedicated funding sources, and must be included in the state's transportation plan. TIFIA projects must appear on the applicable State Transportation Improvement Program, but the state DOT does not have to be the borrower. Public freight-rail facilities or private facilities providing public benefit for highway users, intermodal freight-transfer facilities, access to such freight facilities, and service improvements to such facilities are all eligible for TIFIA assistance.

RRIF provides direct loans and loan guarantees to acquire, improve, or rehabilitate intermodal or rail equipment or facilities including track, components of track, bridges, yards, buildings and shops; to refinance outstanding debt incurred for the purposes listed above; and to develop or establish new intermodal or railroad facilities. Direct loans can fund up to 100 percent of a railroad project with repayment periods of up to 35 years and interest rates equal to the cost of borrowing to the government.

State Infrastructure Banks (SIBs) are revolving infrastructure investment funds for surface transportation that are established and administered by states. SIBs give states the capacity to significantly leverage federal resources by attracting non-federal public and private investment. SIBs are capitalized with federal-aid surface transportation funds and matching state funds. Several states have established SIBs or separate SIB accounts capitalized solely with state funds. As loans or other credit assistance forms are repaid to the SIB, its initial capital is replenished and can be used to support a new cycle of projects. Under the current MAP-21 program states and territories are authorized to enter into cooperative agreements with the Secretary of Transportation to establish infrastructure revolving funds eligible to be capitalized with federal transportation funds. SIB legislation authorized highway, transit, and rail accounts. Mississippi has not established a SIB, but reauthorization of SIB legislation may open opportunities for this funding mechanism.

Section 11143 of Title XI of SAFETEA-LU amended Section 142 of the Internal Revenue Code to add highway and freight transfer facilities to the types of privately developed and operated projects for which private activity bonds (PABs) may be issued. This change allows private activity on these types of projects, while maintaining the tax-exempt status of the bonds. No substantive changes have been made to the PAB program by MAP-21 or any other legislation. Components of the Port Bienville Short Line Railroad could be eligible for this program.

Economic Development Administration Investment Programs (EDA)

The U. S. Department of Commerce, Economic Development Administration (EDA) provides loans and grants for counties on a competitive basis. Investment programs for the counties of Hancock and Pearl River are coordinated through South Mississippi Planning and Development District (SMPDD). Through the Public Works program, EDA provides investments to help distressed communities build, design, or engineer critical infrastructure and facilities that will help implement regional development strategies and advance bottom-up economic development goals to promote regional prosperity. The Public Works program provides resources to meet the traditional infrastructure needs of communities, and offers resources to help distressed communities become more economically competitive through the construction or design of 21st century infrastructure. Investments made through the Public Works program must be aligned

with a current regional economic development strategy and must clearly lead to the creation or retention of long-term jobs.

Through the Economic Adjustment Assistance program (EAA), EDA provides investments that support a wide range of construction and non-construction activities, including infrastructure, design and engineering, technical assistance, economic recovery strategies, and capitalization or re-capitalization of Revolving Loan Fund (RLF) projects, in regions experiencing severe economic dislocations that may occur suddenly or over time. EDA utilizes EAA investments to provide resources that help communities experiencing or anticipating economic dislocations to plan and implement specific solutions to leverage their existing regional economic advantages to support economic development and job creation. Like Public Works investments, EAA investments are designed to help communities catalyze public-private partnerships to foster collaboration, attract investment, create jobs, and foster economic resiliency and prosperity.

Community Development Block Grants (CDBG) Programs

The U.S. Department of Housing and Urban Development provides Community Development Block Grant program (CDBG) funds to entitlement cities and counties and funds states to support eligible projects in non-entitlement communities. Eligible local governments compete on an annual basis for CDBG funds through the Mississippi Development Authority, Office of Community Services.

Mississippi's CDBG program provides funds to eligible local governments that submit a specific project that meets the program's state and federal eligibility requirements. In accordance with the Community Development Act of 1974, as amended, project activities must meet at least one of the following national objectives:

- Benefit low- and moderate-income persons
- Aid in the prevention or elimination of slums or blight
- Meet urgent needs because existing conditions pose a serious and immediate threat to the health or welfare of the community and other financial resources are not available to meet such needs

A local unit of government may apply for CDBG funds in either the Public Facilities or Economic Development category. The Public Facilities category makes available funding for public improvements such as water, wastewater, drainage, streets, and certain public buildings. This category includes a regular competition for funds as well as special small government and emergency competitions. Some public facilities projects may be funded under the stringent Urgent Needs/Emergencies national objective. Such projects must prove a particular urgency because existing conditions pose a serious and immediate threat to the health or welfare of the community, and must meet other criteria such as the date of occurrence of the emergency condition. The Economic Development category provides funding to the local units of government for eligible infrastructure improvements such as drainage, water and sewer, roads, bridges, and rail spurs in support of business start-ups and expansions. Job creation is the key to CDBG-assisted economic development efforts. CDBG-Disaster funds are being used at the Port of

Gulfport and the program is being closely monitored for compliance with job creation goals to benefit low- and moderate-income persons, as established in the grant authorization.

State of Mississippi Grant and Loan Programs

RESTORE Act – BP Oil Settlement Funds

Although the final allocation of funds has not been determined, the RESTORE Act will provide BP oil spill settlement funds to the Gulf coast states of Alabama, Mississippi, Louisiana, and Texas. Funds for Mississippi are expected to provide several hundred million dollars, primarily for projects to benefit the Gulf coast communities impacted by the oil spill. Funds from this program could provide significant resources in support of this project.

Mississippi Department of Transportation

In addition to federal funding, many states provide funding for freight rail projects. In most cases, state programs were initiated by the federal rail service assistance program established by the Railroad Revitalization and Regulatory Reform Act (4R Act), and amended by the Local Rail Service Assistance Act of 1978 (LRSA). The LRSA program provided funding on a federal/local matching share basis for four types of projects: rehabilitation, new construction, substitute service, and acquisition. The LRSA Program permitted states to provide funds on a grant or loan basis. LRSA was updated in 1990 to the Local Rail Freight Assistance program (LRFA) and the criteria for lines eligible to receive assistance were revised. Funds for the program were dramatically reduced in the 1990s, and congressional appropriations ceased in 1995. Despite the lack of federal funds, many states have continued their freight rail assistance programs through remaining LRFA funds (repaid loans) or through apportionment of state funds. The objectives of most of these programs have been job retention, economic development, and safety. More recently, benefits accrued to highway congestion mitigation and avoided highway costs are being considered.

Transportation finance at the state level in Mississippi (via MDOT) is dominated by a series of user-based revenues. The most prominent of these revenues are the state motor fuel tax, tag fee, and privilege tax. Mississippi also receives contract authority in the form of federal-aid apportionments as authorized by ISTEA and its successor legislation (TEA-21, SAFETEA-LU, and MAP-21). MDOT shares state-generated user fees with local governments. Counties receive a significant portion of the state motor fuel tax and the state privilege tax, while municipalities receive a small share of the state motor fuel tax. Counties and municipalities also share federal funds (STP and HBP) with MDOT. A substantial share of local transportation funding is derived from portions of local real estate property taxes, bonds, and the personal property tax.

In addition to MDOT programs, the Mississippi Development Authority (MDA) manages several programs for job creation that can support infrastructure improvements. Several of these programs receive federal funding, so caution must be taken in ensuring that federal funds are not treated as local match requirements.

Mississippi Freight Rail Service Projects Revolving Loan/Grant Program (RAIL)

The Mississippi Freight Rail Service Projects Revolving Loan/Grant Program (RAIL) administered by MDA is designed to make loans and grants to municipalities and counties to finance freight rail

service projects in the State of Mississippi. Counties and municipalities are encouraged to use these funds in connection with other state and federal programs. Funding for loans and grants to applicants is derived from the issuance of state bonds. RAIL was enacted by the state legislature during the regular 1995 session. The governing authority of a municipality or county is eligible to apply for this program. Under this program, a project which involves the acquisition, construction, installation, operation, modification, renovation, or rehabilitation of any freight rail service facilities is eligible. Also eligible are projects which may include any fixtures, machinery, or equipment used in conjunction with any freight rail service facilities, including construction costs (including reasonable and customary site work for buildings, right of ways, easements, etc.). The grant program permits a maximum amount of \$250,000 per project. Under the loan program, the cumulative maximum loan amount is limited to \$1 million per project per calendar year. Up to eight percent of the principal loan amount may be used for design work (i.e. engineering or architecture). Engineering and/or architectural costs above eight percent may be paid from other funding sources. Loans made under the Freight Rail Service Revolving Loan Program may be for a maximum of fifteen years, in amounts not to exceed \$1 million per project per calendar year. The annual interest rate on these loans is 1 percent below the Federal Reserve Discount Rate at the time of loan approval. Funding is derived from the issuance of state general obligation bonds.

Mississippi Capital Improvements Revolving Loan Program (CAP)

The Capital Improvements Revolving Loan Program provides loans to municipalities and counties for the improvement of public facilities and infrastructure to assist business locations and expansions with community based projects. Rail spurs, roads, and bridges are included as eligible projects. County and municipal governmental authorities in Mississippi may apply for loans under this program. Industries that are eligible under this program include manufacturers, warehouses and distribution centers, research and development facilities, hospitals, telecommunications and data processing facilities, and national or regional headquarters. Loans made under the Capital Improvements Revolving Loan Program may be made for a maximum of twenty years, in amounts not to exceed \$1 million per project. The annual interest rate on these loans is 3 percent for taxable activities and 2 percent for tax-exempt activities.

Mississippi Rural Impact Fund Grant Program (RIF)

The Rural Impact Grant Fund (RIF) provides funding for publicly owned infrastructure needs. Funding from this program can be used by rural communities to assist with the location or expansion of businesses. Use of the funds must be directly related to the construction, renovation, or expansion of industry. Eligible projects include transportation facilities directly affecting the site, including roads, bridges, rail lines, or pipelines. Job creation is the goal of the Rural Impact Fund Grant Program. Industries eligible under this program, which must create ten new full-time jobs, include manufacturers, warehouses and distribution centers, research and development facilities, telecommunications and data processing facilities, and national or regional headquarters.

A rural community is defined as a municipality with a population of ten thousand or less, or a county with a population of thirty thousand or less, according to the most recent federal decennial census at the time the application is submitted. The rural community must apply on behalf of a new or expanded industry based on the public infrastructure needs of the project. The

Rural Impact Fund Grant Program provides for a maximum grant amount of \$150,000 per project. No funding was available in this program for 2012. Although this program does not represent a viable funding source for project construction, these funds could support development of rail improvements for specific businesses that would access the dual Class I rail services proposed in this study.

Mississippi Development Infrastructure Grant Program (DIP)

The Development Infrastructure Grant Program (DIP) is available to fund publicly-owned infrastructure. Funding from this program can be used by municipalities and counties to assist with the location or expansion of businesses. Use of the funds must be directly related to the construction, renovation, or expansion of industry. Transportation facilities directly affecting the site, including roads, bridges, rail lines, or pipelines are eligible projects. Job creation is the goal of the Development Infrastructure Grant Program. Municipalities and counties must apply on behalf of a new or expanded industry based on the public infrastructure needs of the project. The Development Infrastructure Grant Program provides for a maximum grant amount per project of \$150,000. Although this program does not represent a viable funding source for project construction, these funds could support development of rail improvements for specific businesses that would access the dual Class I rail services proposed in this study.

Mississippi Port Revitalization Revolving Loan Program

The Mississippi Port Revitalization Revolving Loan Program is available to provide loans to state, county, or municipal port authorities to assist with the location and expansion of businesses and for the improvement of port facilities. Rail spurs are eligible projects. Job creation and the improvements of ports are the goals of the Port Revitalization Revolving Loan Program. State, county, and municipal ports authorized to operate in Mississippi may apply for loans for the port or on behalf of a new or expanded industry. Loans made under the Port Revitalization Revolving Loan Program may be made for a maximum of ten years, in amounts not to exceed \$750,000 per project. The annual interest rate on these loans is 3 percent.

Mississippi Business Investment Act Loan Program (MBIA)

The Mississippi Business Act Loan Program is available to provide loans for public infrastructure. Funding from this program can be used by municipalities and counties to assist with the location or expansion of businesses. Job creation and private investment are the goals of the Mississippi Business Investment Act Program. Municipalities and counties may apply for loans on behalf a new or expanded industry based on the public infrastructure needs of the project. Loans made under the Mississippi Business Investment Act Loan Program may be made for a maximum of ten years. The amount of the loan is negotiated with the Executive Director of the Mississippi Development Authority, but cannot exceed \$15,000 per job created by the eligible business and is matched by one dollar of state money for each three dollars of private investment by the eligible business. The annual interest rate on these loans is negotiated by the Executive Director of the Mississippi Development Authority.

Mississippi Development Authority Development Infrastructure Grants

MDA provides grants to publicly-owned infrastructure used to facilitate the location or expansion of businesses. There must be a direct relationship to the construction, renovation, or expansion of industry for these funds to be allocated. Funding under this program can be used for transportation facilities including rail lines.

Bond Financing

General Obligation Bonds (GO)

Local political entities (cities or counties) with adequate financial liquidity have authority to issue general obligation bonds for the development of public infrastructure. General obligation bonds carry the full faith and credit of the issuing political entity.

Tax Increment Financing

A number of Mississippi communities have utilized Tax Increment Financing (TIF) as a financing mechanism for infrastructure and other community improvement projects. TIF financing allows a government or non-profit entity to capture the increase in tax revenues resulting from new businesses and use it to finance some or all of the cost of the improvements needed to attract the new businesses or new development to the community. Frequently these tax revenues are used to retire the debt from the issuance of bonds that provide the funding to cover the current cost of the infrastructure or other improvements. TIF provides a means to fund needed public improvements by borrowing against the future increase in property tax or sales tax revenues that will result from new or additional businesses that locate in the area served by the TIF improvements.

Public Improvement Districts – Special Assessment Districts

A portion of the funding for the extension of the rail connector could be generated from future rail users. A fee for services and for use of the rail infrastructure could generate some of the necessary revenues to support maintenance and improvements to the rail infrastructure, support the short line railroad's operating expenses, and provide other funds required to facilitate the needed rail services and infrastructure in the park in the future. Structuring an improvement district or assessment district could require additional review of existing legislation, as well as a market analysis to evaluate reasonable fees that support reasonable revenue generation, and also attract new and retain existing businesses in the industrial park and on other property that could be served by the dual Class 1 rail services made available as a result of this project.

Public – Private Partnerships

Public-private partnerships are contractual agreements formed between a public agency and a private sector entity that allow for greater private sector participation in the delivery and financing of transportation projects. Mississippi authorizes the Mississippi Transportation Commission, county boards of supervisors, and the governing authorities of municipalities to contract with other governmental agencies or private entities for the purpose of designing, financing, constructing, operating, and maintaining one or more new toll roads or toll bridges in

the state. The toll road legislation does not specifically address railroad projects, but it demonstrates the willingness of the legislature to allow public-private partnerships.

Design-build is a project delivery method that combines two, usually separate, services into a single contract. With design-build procurements, owners execute a single, fixed-fee contract for both architectural/engineering services and construction. The design-build entity may be a single firm, a consortium, a joint venture, or other organization assembled for a particular project. Under the design-build-finance (DBF) procurement model, one contract is awarded for the design, construction, and full or partial financing of a facility. Responsibility for the long-term maintenance and operation of the facility remains with the project sponsor. This approach takes advantage of the efficiencies of the design-build (DB) approach and also allows the project sponsor to completely or partially defer financing during the construction phase of the project. Owner cash flow constraints and a desire to defer payment are two primary reasons that project sponsors use DBF procurements.

In cases where a project sponsor has cash flow constraints, the sponsor will identify the level of funding that it has available for the project at the time the procurement is released and will require the design-build entity to finance any development costs in excess of that amount over a specified period of time. In other cases, an owner may specify the maximum amount that it can pay a design-builder each year for a project, called Availability Payments. That specified amount and the overall cost of the project would, in turn, drive the length of the repayment period.

Other DBF procurements may be motivated by the sponsor's desire to defer payment for the project. This motivation could be due to lack of current funding or the desire to use the deferred payment to incentivize the design-builder to accelerate the construction of the DBF project. Deferred payment DBF arrangements approximate design-build-finance-operate-maintain (DBFOM) P3 procurements, but without the design-builder assuming long-term operations or revenue risk. In this case, the project sponsor issues a procurement asking bidders to provide the cost for developing the project today, with the payment of that amount promised at a later time.

The advantages to DBF are similar to those of the DB approach, in that the project sponsor can capitalize on the efficiencies of having the design-builder undertake the design and construction of the project simultaneously. With the DBF approach, the short-term financing of all or a portion of the project is also assumed by the private sector. This allows sponsors to advance the construction of the project prior to assembling all of the funding required for the project. The DBF model is particularly beneficial if short-term gap financing provided by the design-builder allows the sponsor to expedite project implementation.

A DBF arrangement is a deferred payment and is not considered debt under usury law. Legally, the project sponsor is purchasing construction services and deferring payment for them. Rather than lending money, the practice involves accepting payment at a later date. The payments themselves can range from small deferred amounts to a schedule of payments over time or payment at the end of the project. For this reason, DB legislation does not usually address financing.

Private Resources

Norfolk Southern Railroad

Based on conversations with staff from Norfolk Southern Railroad (NS), the railroad may be willing to donate the right-of-way owned by NS that is associated with the unused rail line from Nicholson to the Stennis Space Center, or improve this rail line to an agreed-upon point and donate the remaining right-of-way as an in-kind contribution in support of the construction of this rail line. Additional negotiations with Norfolk Southern will be required; however, this is an important contribution in support of this rail project.

Appendix D: Current Study Area Rail Movements and Impacts

As part of the 2011 State Rail Plan prepared by CDM Smith recent Mississippi rail freight flows were economically modeled using the Implan model to understand existing (e.g., year 2009) employment and economic activity associated with the shipment and/or receipt of MS rail freight. To provide additional comparative analysis for this report, the economic impact forecasts derived in this report and the Transearch data were reviewed in conjunction with the Implan model to ascertain year 2009 Study Area employment and economic activity. The underlying objective ensures that the economic impact forecasts of the proposed rail connection are relatively comparable to the previously estimated impacts when parsed for the Study Area.

Study Area Freight Flows

County rail movements observed from the Mississippi Rail Plan (2011) were reviewed to understand recent rail commodity flows into/out of Hancock and Pearl River counties. While the data reflect year 2006 movements, the commodity mix and overall magnitude of movements has not changed significantly. Plastic matter is the predominate commodity currently moved by rail in the Study Area.

Specifically, nearly \$850 million worth of plastic matter moved into or out of the Study Area by rail in 2006. Plastic matter comprised about two-thirds of rail tonnage movements and 90% of rail value for the two counties. Of the 362,798 tons of plastic matter shipped, 12% are inbound (to Pearl River) and 88% are outbound (from both Hancock and Pearl River). The value of such movements averages \$2,340 per ton. Study Area rail tonnage, carloads, and values are shown by flow direction and commodity type in Table D-1.

The State Rail Plan used the Transearch commodity flows to estimate the year 2009 economic impacts associated with rail freight movements (based on the detailed year 2006 flows). This same process was used to quantify the year 2009 impacts associated with rail freight movements originating or terminating in Hancock and Pearl River Counties. Such impact estimates provide a context of the current value of rail service to the local and State economies. The Implan model is outlined below, as are the summary economic impact findings presented in the Plan. This process is then applied to freight flows originating/terminating in Hancock and Pearl River Counties. Doing so provides a snapshot of the year 2009 economic impacts associated with firms that use rail service to transport goods and materials.

State Rail Plan Findings

Rail freight activity in Mississippi supported an estimated 150,950 *total* jobs across the State. A vast majority of these *total* employment impacts arise from rail users who trade goods via the rail system, with the balance attributable to rail transport services. In terms of jobs, *trade-user* related employment impacts total 147,450 jobs (97.7% of total jobs), versus 3,500 (2.3%) *rail transport-service* related jobs. These summary rail-operation and rail-user impacts include the *direct*

impact of goods and services provided, and the multiplier impacts associated with suppliers and income re-spending.

Study Area User-Firm Rail Impacts

In the year 2009, an estimated 1,470 people, earning \$92 million, were employed by rail-user firms in Hancock and Pearl River Counties. The indirect supplier effects and induced re-spending effects resulted in an additional multiplier employment impact of 2,340 jobs. Combined, 3,820 jobs, earning an estimated \$184 million in income, produced \$1.6 billion in output, resulting in a net contribution of \$379 million to the State's GSP.

Table D-1 Study Area Rail Freight Movements (2006)

Commodity by Direction	Tons	Railcars	Value \$(Million)	Value per Ton
Inbound				
Hancock County				
Locomotives Or Parts	4,000	40	\$8.6	\$2,150
Railroad Cars	<u>7,190</u>	<u>324</u>	<u>\$12.3</u>	\$1,710
Subtotal	11,190	364	\$20.9	\$1,870
Pearl River				
Misc Indus Inorganic Chemicals	7,960	80	\$2.6	\$330
Plastic Mater Or Synth Fibres	44,432	520	\$94.0	\$2,120
Nonmetal Minerals, Processed	137,494	1,440	\$47.0	\$340
Railroad Cars	<u>10,000</u>	<u>80</u>	<u>\$21.6</u>	\$2,160
Subtotal	199,886	2,120	\$165.2	\$830
Total Inbound	211,076	2,484	\$186.1	\$880
Outbound				
Hancock County				
Plastic Mater Or Synth Fibres	221,924	2,320	\$526.5	\$2,370
Chemical Preparations, Nec	3,840	40	\$3.8	\$990
Railroad Cars	<u>1,620</u>	<u>1,620</u>	<u>\$3.5</u>	\$2,160
Subtotal	227,384	3,980	\$533.8	\$2,350
Pearl River				
Gravel Or Sand	7,938	80	\$0.0	\$0
Plastic Mater Or Synth Fibres	<u>96,442</u>	<u>1,000</u>	<u>\$228.8</u>	\$2,370
Subtotal	104,380	1,080	\$228.8	\$2,190
Total Inbound	331,764	5,060	\$762.6	\$2,300
Total Movements				
By County				
Hancock County	238,574	4,344	\$554.7	\$2,330
Pearl River	<u>304,266</u>	<u>3,200</u>	<u>\$394.0</u>	\$1,290
Total Study Area	542,840	7,544	\$948.7	\$1,750
By Commodity				
Plastic Mater Or Synth Fibres	362,798	3,840	\$849.3	\$2,340
Nonmetal Minerals, Processed	137,494	1,440	\$47.0	\$340
Other	<u>42,548</u>	<u>2,264</u>	<u>\$52.4</u>	\$1,230
Total Rail Movements	542,840	7,544	\$948.7	\$1,750

Source: MS State Rail Plan, Transearch data, Wilbur Smith Associates

At the close of the space shuttle program, NASA and Stennis announced they would partner with commercial interests to provide space travel and transportation. In this role Stennis has leveraged their facilities, acoustical buffer zone, and transportation infrastructure to attract a number of technology-based businesses, including Orbital Sciences Corporation and Antares, to locate at the space center. The secure facilities at Stennis are linked to 7.5 miles of canals used to transport material from the space center. The Stennis Space Center canal system is connected to the Pearl River through a canal lock system.⁴⁴ The center is also located north of I-10 and south of I-59 via state route 607. However, based upon information provided to the consultant team by Stennis officials, a number of prospective businesses have chosen not to locate at Stennis due to its present lack of access to rail. Because of the confidentiality associated with these business prospects Stennis staff was unable to provide detailed information regarding these opportunities.

⁴⁴ NASA Stennis Space Center, Environmental Resources Document

Appendix F: Hancock County Business Interview Guide

Hancock County Business Interview Guide

Purpose:

This interview guide will be used to identify existing economic development assets, determine economic development issues and opportunities related to transportation develop an understanding of local economic conditions in the eyes of business stakeholders, and begin to understand existing supply chains in Hancock County and adjacent areas. A solid economic justification is needed to support the project moving forward to ensure wise investment of the funds involved.

PART 1: BACKGROUND ON BUSINESSS AND OPERATING CONDITIONS

1) Is this the company's the only location in the Gulf Coast region?

___ **YES** ⇒ Continue to Question 3

___ **NO** ⇒ Please list any other locations in the region

2) How many full-time employees does your company employ in Hancock County? _____

If unwilling to provide an exact or approximate number please provide a categorical answer using the table below. Please check the category applicable to your firm:

- | | |
|----------------------------|---------------------|
| A. ___ Over 1000 employees | E. ___ 50 – 999 |
| C. ___ 500 - 999 employees | F. ___ 25 – 49 |
| B. ___ 250 - 499 employees | G. ___ 10 – 24 |
| D. ___ 100 - 249 employees | H. ___ Less than 10 |

3) In the past 5 years has employment within your business at this location increased, decreased, or remained the same? _____ same _____ increased _____ decreased

4) How many years has your business been in operation at this location? _____

5) How would you classify your business?

_____ Transportation and Warehousing

_____ Aerospace Related

_____ Manufacturing

_____ Construction

_____ Wholesale or Retail Trade

_____ Other (specify) _____

6) What percentage of your products or services are sold:

_____ % Locally or Regionally (Hancock County and Adjacent Counties)

_____ % Mississippi (Other than Locally/Regionally)

_____ % Other Gulf Coast States Outside the Region (AL, LA, FL, TX)

_____ % Nationally (remaining states)

_____ % Internationally

7) How has your business changed in the past 5 years: (Circle all that apply)

- a. Developed new products or services
- b. Utilizing new technology and/or equipment
- c. New customer demands affecting operations
- d. Selling to new U.S. customers
- e. Selling to new International customers
- f. Declining demand for products or services
- g. No measurable change

8) How do you anticipate your business will change in the future? (Circle all that apply)

- a. Develop new products or services
- b. Utilizing new technology and/or equipment
- c. New customer demands affecting operations
- d. Selling to new U.S. customers, if so where _____
- e. Selling to new International customers, if so where _____

- f. Declining demand for products or services
 - g. Invest in additional locations
 - h. No measurable change anticipated
- 9) Place for general notes on business operations and facilities including facility size, presence of loading docks or other specific freight infrastructure, external versus internal space needs etc.

PART 2: TRANSPORTATION ACTIVITIES AND SUPPLY CHAIN

- 10) What are typical hours of operation of your Company's transportation (freight) activities?
- a. Daytime only from _____ a.m. to _____ p.m.
 - b. Day/Evening from _____ a.m. to _____ p.m.
- 11) Does your firm own and/or operate any of its own transportation assets? If so, what types of equipment? **(Please check all that apply)**

_____ Private Truck Fleet

_____ Private Truck Fleet – Special Equipment (e.g., flat-bed, refrigerated, etc.)

_____ Private Rail Cars

_____ Rail Containers

_____ Boat or Barge - Explain:

_____ Other (specify) _____

OUTBOUND TRANSPORTATION

- 12) What are the primary products you ship from your location?
Please list product type and provide STCC code if known:

a _____ b _____

c _____ d _____

13) What are the primary markets/final destinations for these products? Please list the top states or countries; (if the market is within Mississippi, please list cities or counties).

a _____ b _____
c _____ d _____

14) Please describe how your products typically get from your plant/facility to your customers (modes, key routes, etc).

15) What markets / products do you anticipate will grow the fastest over the next 3-5 years?

a _____ b _____
c _____ d _____

16) Who exercises primary control over out-bound transportation decisions?
(If more than one answer applies please provide approximate percentage for each)

a. _____ Your company b. _____ Customers c. _____ A third party

17) What percentage of your outbound freight tonnage moves by: (Equal to 100%)?

a. Federal Express, UPS, other third party logistics firm _____
b. Truck/Road, other than drayage to a terminal _____
c. Truck to Train/Rail _____
d. Truck to Container Ship/Barge _____
e. Truck to Airplane _____
f. Direct to Rail Only _____
g. Rail to Container Ship/Barge _____
h. Other _____

INBOUND TRANSPORTATION

18) What are the primary products you receive at your location? Please list product type and provide STCC code if known:

a _____ b _____
c _____ d _____

19) What are the primary origins of these products? Please list the top states or countries; if the market is within Mississippi, please list cities or counties.

a _____ b _____
c _____ d _____

20) What percentage of your outbound freight tonnage moves by: (Equal to 100%)?

a. Federal Express, UPS, other third party logistics firm _____
b. Truck/Road, other than drayage to a terminal _____
c. Truck to Train/Rail _____
d. Truck to Container Ship/Barge _____
e. Truck to Airplane _____
f. Direct to Rail Only _____
g. Rail to Container Ship/Barge _____

PART 3: TRANSPORTATION NEEDS

21) In general, how well does the current transportation infrastructure meet your needs? What regional transportation infrastructure is in the most need of improvement?

22) Using a scale from 1 to 10, with 10 being the most important, how would you rank the following factors in terms of how they influence your inbound transportation arrangements? Also indicated whether the factor is improving or declining (+ / -).

IMPORTANCE TO YOU

- a. Transit time 1...2...3...4...5...6...7...8...9...10 + / -
- b. On-time/just-in-time delivery 1...2...3...4...5...6...7...8...9...10 + / -
- c. Cost (rates) 1...2...3...4...5...6...7...8...9...10 + / -
- d. Loss and damage 1...2...3...4...5...6...7...8...9...10 + / -
- e. Equipment availability 1...2...3...4...5...6...7...8...9...10 + / -
- f. Shipment visibility / traceability 1...2...3...4...5...6...7...8...9...10 + / -
- g. Safety of the carrier 1...2...3...4...5...6...7...8...9...10 + / -
- h. Other: 1...2...3...4...5...6...7...8...9...10 + / -

23) If "On-time/just-in-time delivery" is one of the crucial factors influencing your inbound transportation, please indicate what defines on-time relative to the appointment time:

___ minutes ___ hour(s) ___ day(s) Other: _____

Railroad Service Questions:

24) Do you currently use any railroad services to ship or receive products?

_____ Yes _____ No – If not, why not?

25) If you use rail services, what type of railroad carrier do you currently receive service from?

- a. ___ Class 1 b. ___ Short line
- c. ___ Both Class 1 and SL d. ___ Other / Don't know _____

Who is your primary rail carrier: _____?

26) What type of rail facilities do you use to for shipping or receiving products? Are any of these more important to your future business than others?

- a. _____ Intermodal b. _____ Bulk transload
- c. _____ Break bulk transload d. _____ Direct railcar service

27) What type of railroad equipment is used to move your products?

- a. _____ Container
- b. _____ Box Car
- c. _____ Hopper Car
- d. _____ Tanker Car
- e. _____ Other _____

28) How would you rate **RAIL** transportation based on the following performance factors? Also indicate whether the service factor has been improving or declining (+ / -).

IMPORTANCE TO YOU

a. Transit time	1...2...3...4...5...6...7...8...9...10	+ / -
b. On-time/just-in-time delivery	1...2...3...4...5...6...7...8...9...10	+ / -
c. Cost (rates)	1...2...3...4...5...6...7...8...9...10	+ / -
d. Loss and damage	1...2...3...4...5...6...7...8...9...10	+ / -
e. Equipment availability	1...2...3...4...5...6...7...8...9...10	+ / -
g. Shipment visibility / traceability	1...2...3...4...5...6...7...8...9...10	+ / -
h. Other	1...2...3...4...5...6...7...8...9...10	+ / -

29) Are there any service or access improvements that would increase your current use of railroad transportation?

- a. No
 - b. Yes, Please explain: _____
-

30) Do you anticipate that your rail freight tonnage (inbound and outbound) will grow over the next 5 years?

- a. Yes
- b. No

31) Estimated growth in your (inbound + outbound) freight tonnage over the next 5 years?

_____ Percent

32) How do you think having access to two class one railroads would improve your transportation of materials and goods/supply chain?

33) What would you consider to be the greatest transportation strength in the region?

PART 4: REGIONAL BUSINESS ENVIRONMENT

34) What three attributes contribute the most to the economic success of your business, please check three:

- | | |
|---|---|
| <input type="checkbox"/> Skilled Workforce | <input type="checkbox"/> Reasonable business costs |
| <input type="checkbox"/> Growing local population | <input type="checkbox"/> Quality public services |
| <input type="checkbox"/> K-12 Schools | <input type="checkbox"/> Accessibility of my business to my customers |
| <input type="checkbox"/> Small town appeal | <input type="checkbox"/> Ability to retain quality Workforce |
| <input type="checkbox"/> Lower fuel costs | <input type="checkbox"/> Higher skilled workforce |
| <input type="checkbox"/> Access to Airport | <input type="checkbox"/> Access to Highways |
| <input type="checkbox"/> Other: _____ | |

Please specify

35) What are the three greatest challenges or threats to your business's economic success?

- | | |
|---|--|
| <input type="checkbox"/> National economy | <input type="checkbox"/> Local workforce |
| <input type="checkbox"/> Transportation | <input type="checkbox"/> Limited availability of skilled employees |
| <input type="checkbox"/> Utility issues | <input type="checkbox"/> Decline in Industry Sector nationally |
| <input type="checkbox"/> Access to Airports | <input type="checkbox"/> Access to Rail |
| <input type="checkbox"/> Other: _____ | |

Please specify

36) Where are your major competitors located? _____

37) Are there any advantages that your competitors have due to their location?

38) What advantages do you have over your competitors because of your location in Hancock County?

39) In your opinion, what are this area's greatest strengths as a place to do business? _____

PART 5: EFFECTS OF REGIONAL DISASTERS AND TRANSPORTATION REDUNDANCIES NEEDED

The following questions are related to the effect of major disasters, particularly Hurricane Katrina on shipments and the transportation system. They are meant to help identify the need for back-up routes/redundancies in the system, particularly for rail access.

40) Was your business operating at the time of Hurricane Katrina and are you able to discuss the effects on your business. If yes, continue with this section. If no, conclude the interview. _____

41)) Recall from prior questions the importance of rail shipments for your business (or lack of importance), at the time of Hurricane Katrina was your business _____ more, _____ less, or the same _____ in terms of dependence on rail shipments at that time compared to today.

42) Describe the level of damage to your business? _____

43) How many business days did you lose? _____ Due to the Hurricane; _____ Due to transportation damage making the shipment of materials and goods impossible.

44) Describe the particular transportation infrastructure damage that affected your business: _____

45) Did you find alternate ways to ship materials and goods? (Yes or No) _____. If yes, approximately how long did it take to get these alternative transportation plans in place? _____

46) Compared to your normal transportation services used to ship materials and goods, how much more did the alternative transportation plan cost on average? How much additional time was involved in the alternative plan for an average shipment?

Cost: (% more than normal):

Time (more than normal for an average shipment):

Thank you for your time and assistance!

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