

Benefit Cost Analysis

FY 2016 FASTLANE Grant Program

APPLICANT: Morgan City Harbor and Terminal District

PROJECT TITLE: *Wharf Extension and Enhancement Project*

It what may become the most transformative surface transportation investment in south central Louisiana in years, the Commissioners of the Morgan City Harbor and Terminal District (Port of Morgan City) are requesting funding from the 2016 FASTLANE Grant Program for its “*Dock Extension and Enhancement*” project. This is a capital works project at the Port of Morgan City’s facility located at 800 Youngs Road, Morgan City, Louisiana, which will support the renovation of the port’s dock by extending it 450 feet to the west and enhancing dock area from the eastern extension to the landside area, thus providing additional laydown area.

The Port’s administrative offices and dock are located along the northern bank of the Gulf Intracoastal Water (GIWW) in Morgan City, Louisiana, east of the GIWW’s intersection with the Atchafalaya River. USCG statistics indicate that there are over 60,000 transits through this area annually. The port has a dock along the GIWW that has over 120,200 ft² of concreted area; however, the dock only has 800’ linear feet along the Intracoastal. This is not enough space to berth multiple vessels simultaneously to transload cargo; and, this restricts the growth of business at the Port of Morgan City (PMC). This project intends to rectify that problem.

Baseline

The PMC site currently has a total of 28.6 acres with 22.49 acres located inside the U.S. Corps of Engineers’ floodwall and 6.11 acres located between the floodwall and Bayou Boeuf. Over the years, the port has been able to compete successfully for funding for infrastructure improvements through the state’s Ports Priority Program. Since 1990, the port has been awarded \$9.75 million for eight projects. These projects have provided a dock (built in two phases); one 20,000 ft² warehouse; cargo-handling equipment; one active rail spur, and miscellaneous storage areas.

The wharf area at the port has approximately 80,000 sq. ft. and is used exclusively for docking and transloading a vessel’s cargo. With a dock length of 800 linear-ft and an authorized 20-ft draft channel, the port is geared to handle small to medium-sized cargo vessels. Specific port cargo handling equipment include the following: three forklifts (an 8,000 lb; a 10,000 lb; and one 15,000 lb); a 35-ton cherry picker; and a 40-ton container handler.

Based on records from the port, annual maintenance for the dock totals approximately \$30,000 to \$35,000 per year. Most of this maintenance is related to utilities (i.e., electrical, water) and replacement (i.e., light fixtures, meters).

Over the last decade, business has been very slow at the dock. Repeated attempts by former port operators to draw business to the location failed; however, when a new executive director took over in September 2013, the port itself became the “new port operator” and became aggressive in its attempts to establish the port as a viable business option for companies. The port’s location is a great asset. It is located on the north bank of Bayou Bouef (Gulf Intracoastal Waterway) approximately 2,000 feet east of its intersection with the lower Atchafalaya River. The site is located within the incorporated limits of Morgan City and is bisected by Young’s Road. The port has benefited from its central location with close proximity to the Gulf of Mexico and several heavily traveled inland waterway segments. The port is well served by surface transportation systems. For example, the site is located 1.1 mi from U.S. Highway 90: with Lafayette 71 mi to the West; New Orleans 68 mi to the East; Baton Rouge 71 mi to the North. The port is also served by the Burlington Northern – Santa Fe Railroad (BNSF) which provides railcar shunting services on a weekly basis.

Outer Continental Shelf (OCS) service providers in the general Morgan City area include the public port (the Morgan City Harbor and Terminal District) as well as private sector shipbuilders and large scale fabrication plants catering to the local, national and international energy markets. These facilities are located primarily along the Atchafalaya River and the Gulf Intracoastal Waterway in the communities of Franklin, Morgan City, Patterson, Bayou Vista, Berwick, Amelia, and Baldwin. In general, the area including the PMC and private offshore-oriented industrial operators located in the above communities has been identified as the Morgan City supply base.

Traditionally, a port’s role in a community is to serve as an intermodal transfer point for goods moving between water and land. As with smaller ports such as the PMC, these goods are either consumed or produced within the local markets and industries or destined for the hinterland. Cargoes typically require water transportation as well as land-based transportation systems to reach their delivery point.

Today, Purina Mills International is the only break bulk tenant at the Port of Morgan City. Purina Mills International currently runs an import/export breakbulk operation out of the Port of Morgan City. The operating costs are dependent on the vessel size deployed in addition to the vessels’ utilization. PMC is assumed to be able to handle increased vessel calls in the future to meet volumes two times that of today. There will be increased trade volume in future years. These increased trade volumes will necessitate either or both of the following: Increased vessel use; and/or, increased number of both, barge trips and ocean trips, in-and-out of the PMC. Future operations could double revenues earned under current operations. The current and future estimated revenues are summarized in the following table:

IMPACT OF ADDING MORE SHIPS CALLS

Operation	Current Annual Estimate	Future Annual Estimate
Barge	\$33,600	\$67,200
Vessel	\$52,830	\$65,610
Rice Exports	\$54,800	\$54,800
Warehousing	\$21,292	\$121,667
Total	\$162,522	\$309,301

Subject to physical infrastructure at the port, additional vessel calls per month could have the potential for increasing barge and vessel-related revenues. Warehousing revenue can only increase through an increase of rates, as the future estimates of \$121,667 is based on 100% use of the warehouse.

Alternatives

In conducting this Benefit Cost Analysis for the FY 2016 FASTLANE Grant proposal being submitted by the Morgan City Harbor and Terminal District, several alternatives to this project are offered for consideration.

1. No Build Alternative

Under this premise, the project is not implemented and no additional space is built. While there may be minimal growth, it would be far less than what would occur if the dock is extended and the eastern dock enhancement is completed. If the “No Build” Alternative is selected, then the port’s dock infrastructure remains the same and no additional space is created; therefore, ships and barges will be delayed in transloading their cargo, or they may have to wait for space on the dock to clear, while idling in the waterway, making them become a water hazard for vessel traffic along the GIWW and Atchafalaya River. This will perpetuate the inefficient use of fuel, the ship/barge and crews.

Also, under the No Build Alternative, ships and vessels could be “hipped” to each other at the dock, but this is inefficient due to the need to move ships and barges back and forth and because “hipped” vessels and/or barges at the dock may cause them to jut out into waterway, posing as a possible maritime hazard.

2. Build Another Dock

This is not an option for several reasons:

- a. There are no available accessible waterfront properties within the jurisdiction of the Port of Morgan City, let alone one with rail service (like at the port). While there is an island across from the facilities of the Port, it is undeveloped, lacks utility service, and accessible only by a small capacity cable-pulled ferry. If port-related vehicles (i.e., cargo trucks) and other vehicles would need to reach this island, then a multi-million bridge would have to be built, making it tall enough to provide over 200 feet of air-space clearance over the GIWW. This, in itself, would be cost prohibitive.
- b. If land was available for development, additional costs would be incurred to purchase the property and then to develop the land into a port facility. Then there would be costs for development (i.e., land clearance, roads, utilities, etc.) a new dock and apron; building accessible roads to the new facility; and, the long-term permitting process. The cost for this would be far more than what is being requested from FY 2016 FASTLANE funding,
- c. Also, since the port is importing cargo from a foreign country and is visited by a foreign-flagged vessel, the new dock/facility would have to go through the process of having the site become a USCG- regulated Section 105 Facility.

That would require the performance of a Facility Security Assessment, and the creation of a new facility security plan (FSP), or at the very least, the creation of an amendment to the current FSP.

3. Rental of Another Dock

Renting another dock may seem to be less expensive at first glance; but, there are no other sites available in the Port of Morgan City jurisdiction that has a dock with rail service, as it currently exists at the Port of Morgan City. In addition, there are no available docks to rent, period, in the district that could provide the same service to vessels and barges that are currently being serviced at the Port of Morgan City (including a rail spur and being designated as a USCG-regulated 105 facility).

Long-Term Outcome and Types of Societal Benefits

The Port of Morgan City’s analysis estimated the project’s expected benefits with respect to each of the five long-term outcomes that the USDOT specified under “Selection Criteria” in the FY 2016 FASTLANE Grant Notice of Funding. For purposes of this project, the analysis focuses on the following long-term outcomes:

- Quality of Life
- Economic Competitiveness
- Safety
- State of Good Repair
- Environmental Sustainability

Each of the five expected outcomes are analyzed separately below, each followed by two matrices showing costs and benefits.

A. Quality of Life

By improving the dock along the GIWW, businesses will be able to ship their goods along Louisiana waterways and access the nation’s inland waterway system. This will remove a great deal of truck traffic from the local, state and national highways and byways. In addition, this will reduce the amount of emissions that develop as a result of vehicles on the roadways, as well as reduce the number of traffic accidents since fewer vehicles will be on the highways.

Also, the grant proposal addresses the need to support existing communities. Since the jurisdiction of the Port of Morgan City includes the city of Morgan City and the town of Berwick, the Port helps to sustain these municipalities and the surrounding unincorporated areas of St. Mary Parish, as well as the surrounding parishes of Terrebonne, St. Martin, Iberia and Assumption, by being an economic engine, creating jobs for the local region, creating vibrant communities and helping to support the local tax base. The Port alleviates traffic on the local roadways by providing the water system as a marine highway for the shipping of materials, which reduces the wear-and-tear on local roadways and bridges and the amount of pollution from automobiles and trucks.

Also, the Port’s request improves the “Quality of Life” of communities and neighborhoods. The Port is located near a residential area. Seaports are usually located in great cities and are a key reason why certain communities flourish. “When discussing livability, one cannot overlook how quality of life in America is improved by providing our citizens the world’s most robust access to market goods. Because of seaports, consumers enjoy less expensive options for purchasing food, clothing, medicine, fuel, technology, finished goods and building materials. Having less-expensive choices has allowed American families to better weather the economic downturn” (Nagle, 2010).

Additionally, this project will improve the quality of living and working environments and the experience of people in communities across the United States by shifting cargo operations to the marine modes of transportation and reducing the number of trucks that transport cargo on interstate highways. The project is positive for several measures of livability, including the following: congestion cost savings at the PMC, congestion cost savings on roads, and noise avoidance on roads.

Truck miles avoided in the build scenario mean less congested roads. The cost that truck-driven congestion imposed on other vehicles can be substantial. Improvements at the port, by making rail freight more efficient, reduce diversion to trucks and congestion for all the vehicles that remain on the highways, shorten travel times, and decrease vehicle operating expenses.

Under existing conditions, cargo operations at the PMC are not optimal because of the imperfect state of the dock. This creates congestion at the PMC that impacts the amount of time spent handling cargo/containers. Implementation of the project would reduce current and future levels of congestion at the port.

Therefore, the build scenario implies reduced operational times per vehicle at the port, lower vehicle emissions and noise, and reduced maintenance and repair of the vehicles and the yards. Although all these benefits are tangible and sensible, due to the lack of data to substantiate assumptions and the intension to produce conservative estimates of benefits, port officials can only evaluate congestion time savings for truck drivers at the port.

Morgan City Harbor and Terminal District

Wharf Extension and Enhancement 2016 FASTLANE Grant Application

Present Value of Trucking Time Benefit

Year	Calendar Year	Annual Truck Miles Saved	Annual Number of Trips Saved	Annual Number of Hours Saved at 29.09 hours per trip	Annual Payroll Dollars Saved for Travel Time at \$23.70 per hour	NPV of Travel Time Savings 7.0%	NPV of Travel Time Savings 3.0%
1	2017	12,288,000	7,680	223,411	\$5,294,845	\$4,948,454	\$5,140,627
2	2018	12,288,000	7,680	223,411	\$5,294,845	\$4,624,723	\$4,990,900
3	2019	12,288,000	7,680	223,411	\$5,294,845	\$4,322,171	\$4,845,534
4	2020	12,288,000	7,680	223,411	\$5,294,845	\$4,039,412	\$4,704,402
5	2021	24,576,000	15,360	446,822	\$10,589,691	\$7,550,303	\$9,134,760
6	2022	24,576,000	15,360	446,822	\$10,589,691	\$7,056,358	\$8,868,699
7	2023	24,576,000	15,360	446,822	\$10,589,691	\$6,594,727	\$8,610,388
8	2024	25,600,000	16,000	465,440	\$11,030,928	\$6,420,101	\$8,707,916
9	2025	25,600,000	16,000	465,440	\$11,030,928	\$6,000,094	\$8,454,288
10	2026	26,624,000	16,640	484,058	\$11,472,165	\$5,831,867	\$8,536,368
11	2027	27,648,000	17,280	502,675	\$11,913,402	\$5,659,972	\$8,606,495
12	2028	27,648,000	17,280	502,675	\$11,913,402	\$5,289,693	\$8,355,821
13	2029	27,648,000	17,280	502,675	\$11,913,402	\$4,943,638	\$8,112,447
14	2030	27,648,000	17,280	502,675	\$11,913,402	\$4,620,223	\$7,876,162
15	2031	28,672,000	17,920	521,293	\$12,354,639	\$4,477,890	\$7,929,973
16	2032	28,672,000	17,920	521,293	\$12,354,639	\$4,184,944	\$7,699,003
17	2033	28,672,000	17,920	521,293	\$12,354,639	\$3,911,162	\$7,474,760
18	2034	29,568,000	18,480	537,583	\$12,740,722	\$3,769,520	\$7,483,831
19	2035	29,568,000	18,480	537,583	\$12,740,722	\$3,522,916	\$7,265,856
20	2036	29,568,000	18,480	537,583	\$12,740,722	\$3,292,445	\$7,054,229
					\$209,422,168	\$101,060,612	\$149,852,458

ASSUMPTIONS

- 1 barge = 3,500 tons; 1 truck = 25 tons

-8 Barges/month X 3,500 tons/barge = 28,000 tons/month

-(28,000 tons/month) / (25 tons/truck) = 1,120 trucks off of road/month

-(1,120 trucks off of road/month) X (12 months/year) = 13,440 trucks off road/year

-The 1600 mile trip with a 55 MPH Average Takes 29.09 Hours Per Trip

-We did not adjust for load/unload time as the barges will have load/unload time as well

-The Payroll Cost Per Hour came from the Revised Departmental Guidance on Valuation of Travel Time in Economic Analysis; Table 3 (Revision)

-We used a 7.0% and a 3.0% Discount Rate

-There may be some immaterial mathematical inconsistencies due to rounding of fractional amounts.

Morgan City Harbor and Terminal District

Wharf Extension and Enhancement 2016 FASTLANE Grant Application

Present Value of Increased Barge Time Cost

Year	Calendar Year	Annual Truck Miles Saved	Annual Number of Trips Saved	Annual Number of Barge Trips Per Year	Annual Number of Hours for the Barge Trips	Annual Payroll Dollars Incurred for Travel Time at \$51.21 Per Hour	NPV of Travel Time Savings 7.0%	NPV of Travel Time Savings 3.0%
1	2017	12,288,000	7,680	96	5,376	\$275,305	\$257,294	\$267,286
2	2018	12,288,000	7,680	96	5,376	\$275,305	\$240,462	\$259,501
3	2019	12,288,000	7,680	96	5,376	\$275,305	\$224,731	\$251,943
4	2020	12,288,000	7,680	96	5,376	\$275,305	\$210,029	\$244,605
5	2021	24,576,000	15,360	192	10,752	\$550,610	\$392,577	\$474,961
6	2022	24,576,000	15,360	192	10,752	\$550,610	\$366,895	\$461,127
7	2023	24,576,000	15,360	192	10,752	\$550,610	\$342,892	\$447,696
8	2024	25,600,000	16,000	200	11,200	\$573,552	\$333,812	\$452,767
9	2025	25,600,000	16,000	200	11,200	\$573,552	\$311,974	\$439,580
10	2026	26,624,000	16,640	208	11,648	\$596,494	\$303,227	\$443,848
11	2027	27,648,000	17,280	216	12,096	\$619,436	\$294,290	\$447,494
12	2028	27,648,000	17,280	216	12,096	\$619,436	\$275,037	\$434,460
13	2029	27,648,000	17,280	216	12,096	\$619,436	\$257,044	\$421,806
14	2030	27,648,000	17,280	216	12,096	\$619,436	\$240,228	\$409,520
15	2031	28,672,000	17,920	224	12,544	\$642,378	\$232,827	\$412,318
16	2032	28,672,000	17,920	224	12,544	\$642,378	\$217,596	\$400,309
17	2033	28,672,000	17,920	224	12,544	\$642,378	\$203,360	\$388,649
18	2034	29,568,000	18,480	231	12,936	\$662,453	\$195,996	\$389,121
19	2035	29,568,000	18,480	231	12,936	\$662,453	\$183,174	\$377,787
20	2036	29,568,000	18,480	231	12,936	\$662,453	\$171,190	\$366,784
						\$10,888,885	\$5,254,636	\$7,791,564

ASSUMPTIONS

-It takes 1600 miles for one one-way trip for barge/truck

-Years 1-4 is calculated at 30 trips annually

-Years 5-20 is calculated at additional trips due to construction completed

-8 barge trips per month X 12 months/year =96 barge trips/year (Years 1-4)

-56 hours /barge trip

-We did not adjust for load/unload time as the barges will have load/unload time as well

-We used a 7.0% and a 3.0% Discount Rate

-The average barge trip has one deck hand and one captain and takes 56 hours

(Deck Hand \$17.32/hour + Captain \$33.89/hour = \$51.21/hour average)

-Tug Captains

Salary Range \$33.89/hour

The U.S. Bureau of Labor Statistics includes tugboat captains in its category of captains, mates and pilots of water vessels. These professionals command the operations of ships and other water vessels and may supervise workers. Their average salary as of May 2010 was \$33.89/hour, or \$70,500/year

http://www.ehow.com/info_77433256_average-salary-deckhand.html

-There may be some immaterial mathematical inconsistencies due to rounding of fractional amounts.

B. Economic Competitiveness

This grant proposal enhances the port's economic competitiveness, as well as for the companies that will use the port's facilities. Implementing the infrastructure extension and enhancement project improves its capacity to handle exports and/or imports. For example, there will be additional berthing space for ships to transload cargo; and, there will be additional lay-down areas of concrete.

This project will rebuild the physical infrastructure of the Port which will improve the local business climate. Infrastructure improvements can get goods and services to their markets. Inadequate infrastructure decreases access to economic opportunities and the ability to integrate into wider state, national and international markets. Programs to build and enhance ports bestow substantial economic benefits, such as job creation and business creation and retention to a community. Modernizing physical infrastructure can help improve the image of a distressed region, too.

If additional companies are able to use the port, more people can be hired to work at the port. An increase in jobs will off-set any losses that are occurring elsewhere in the local economy. With more people working, there will be an increase in local spending, business revenue and tax dollars for government programs.

Also, export/trade development and promotion enables firms to expand their market area and possibly extend the life-cycle of products or services that have exhausted their existing markets. Typically, firms do not have the resources to explore or develop an export marketing plan. Exporting can contribute to a firm's sales volume and create new jobs for the local economy.

St. Mary Parish's transportation network gives it access to the entire NAFTA region, in which U.S. companies can export products and services with low tariffs.

Also, the Port's request will improve the area's resiliency during emergencies, such as hurricanes. By having updated, modernized facilities, the Port will be able to remain in operation when a hurricane approaches. All other area ports will be out of operation for a while since they are not protected from a storm's tidal surge or high winds. Most of these area ports could be out of business for weeks, as what happened when Hurricanes Katrina, Rita, Gustav and Ike impacted this area. The Port of Morgan City could serve as an alternate site for them until they are able to return to full operations. When a storm hits this region, a lot of physical damage is done to neighboring ports and their employees evacuate this area, leaving the other ports without a workforce. Because the Port of

Morgan City is considered a “safe harbor,” it could provide these area ports with a location to bring in relief equipment and organize their recovery efforts.

The BCA contained in this application concludes that the “Dock Extension and Enhancement” project will promote economic competitiveness with shipper cost savings in association with truck diversion to rail and marine transportation modes. In the no-build scenario, diversion to trucks is anticipated, creating a bottleneck that increases the generalized costs of fuel, time, reliability, and others items for shippers. The implementation of the project allows shippers that would have diverted to continue operations at the lower costs of maritime freight (especially for low inventory-cost commodities) realizing direct monetary cost savings.

Barge transportation is the most fuel-efficient mode of freight movement moving one cargo 576 miles per gallon versus moving a tone of cargo only 155 miles by truck. Fuel cost savings reduces shipping and export costs to the users, agricultural producers and manufacturers. Factors involved in the assessment of economic competitiveness include the following:

- Reduces Shippers’ Costs
 - Less time for ship to stay in port/travel time savings
 - Less Labor Costs
 - Less Equipment Rental Costs
 - Less Fuel Costs
 - Due to less idling in River
 - Due to less distance for equipment to store cargo
- Can transload multiple ships simultaneously
- Can store more cargo on dock area
- Improves and enhances long-term system efficiency in USA
- Based on a one-way 1600 mile trip to deliver cargo, there is Fuel Cost savings of \$115,928,431 (NPV 7%) and one of \$171,898,427 (NPV 3%).

Morgan City Harbor and Terminal District

Wharf Extension and Enhancement 2016 FASTLANE Grant Application

Present Value of Trucking Fuel Benefit

Year	Calendar Year	Annual Truck Miles Saved	Gallons of Fuel Saved (Avg. 6 MPG)	Annual Fuel Savings (Cost \$4.01/Gal)	NPV of Fuel Savings 7.0%	NPV of Fuel Savings 3.0%
1	2017	12,288,000	2,048,000	\$8,212,480	\$7,675,215	\$7,973,282
2	2018	12,288,000	2,048,000	\$8,212,480	\$7,173,098	\$7,741,050
3	2019	12,288,000	2,048,000	\$8,212,480	\$6,703,830	\$7,515,583
4	2020	12,288,000	2,048,000	\$8,212,480	\$6,265,262	\$7,296,682
5	2021	24,576,000	4,096,000	\$16,424,960	\$11,710,769	\$14,168,315
6	2022	24,576,000	4,096,000	\$16,424,960	\$10,944,644	\$13,755,645
7	2023	24,576,000	4,096,000	\$16,424,960	\$10,228,640	\$13,354,996
8	2024	25,600,000	4,266,667	\$17,109,333	\$9,957,788	\$13,506,266
9	2025	25,600,000	4,266,667	\$17,109,333	\$9,306,344	\$13,112,879
10	2026	26,624,000	4,437,333	\$17,793,707	\$9,045,418	\$13,240,189
11	2027	27,648,000	4,608,000	\$18,478,080	\$8,778,803	\$13,348,958
12	2028	27,648,000	4,608,000	\$18,478,080	\$8,204,489	\$12,960,154
13	2029	27,648,000	4,608,000	\$18,478,080	\$7,667,746	\$12,582,673
14	2030	27,648,000	4,608,000	\$18,478,080	\$7,166,118	\$12,216,188
15	2031	28,672,000	4,778,667	\$19,162,453	\$6,945,355	\$12,299,650
16	2032	28,672,000	4,778,667	\$19,162,453	\$6,490,986	\$11,941,407
17	2033	28,672,000	4,778,667	\$19,162,453	\$6,066,342	\$11,593,599
18	2034	29,568,000	4,928,000	\$19,761,280	\$5,846,650	\$11,607,669
19	2035	29,568,000	4,928,000	\$19,761,280	\$5,464,159	\$11,269,582
20	2036	29,568,000	4,928,000	\$19,761,280	\$5,106,690	\$10,941,342
				\$324,820,693	\$156,748,345	\$232,426,108

ASSUMPTIONS

-1,600 miles per trip

-6 Miles Per Gallon is the Average MPG of the Trucks

-We used \$4.01 Per Gallon for Fuel

-We did not adjust the dollar amounts for inflation over time

-We used a 7.0% and a 3.0% Discount Rate

-There may be some immaterial mathematical inconsistencies due to rounding of fractional amounts.

Morgan City Harbor and Terminal District

Wharf Extension and Enhancement 2016 FASTLANE Grant Application

Present Value of Increased Barge Fuel Cost

Year	Calendar Year	Number of TEU (Loads) Per year	Annual Number of Barge Trips Per Year	Annual Number of Barge Miles Per Year	Annual Number in Tons of Barge Freight	Annual Gallons of Barge Fuel Used	Annual Cost of Barge Fuel Used	NPV of Fuel Used 7.0% (F/(1.07)^	NPV of Fuel Used 3.0% (F/(1.03)^
1	2017	7,680	96	153,600	192,000	533,334	\$2,138,668	\$1,998,755.49	\$2,076,377
2	2018	7,680	96	153,600	192,000	533,334	\$2,138,668	\$1,867,995.79	\$2,015,900
3	2019	7,680	96	153,600	192,000	533,334	\$2,138,668	\$1,745,790.46	\$1,957,185
4	2020	7,680	96	153,600	192,000	533,334	\$2,138,668	\$1,631,579.87	\$1,900,179
5	2021	15,360	192	153,600	384,000	1,066,668	\$4,277,337	\$3,049,681.99	\$3,689,668
6	2022	15,360	192	153,600	384,000	1,066,668	\$4,277,337	\$2,850,170.09	\$3,582,202
7	2023	15,360	192	153,600	384,000	1,066,668	\$4,277,337	\$2,663,710.36	\$3,477,866
8	2024	16,000	200	153,600	400,000	1,111,112	\$4,455,559	\$2,593,175.97	\$3,517,260
9	2025	16,000	200	153,600	400,000	1,111,112	\$4,455,559	\$2,423,528.95	\$3,414,815
10	2026	16,640	208	153,600	416,000	1,155,556	\$4,633,781	\$2,355,579.54	\$3,447,969
11	2027	17,280	216	153,600	432,000	1,200,001	\$4,812,004	\$2,286,148.37	\$3,476,294
12	2028	17,280	216	153,600	432,000	1,200,001	\$4,812,004	\$2,136,587.26	\$3,375,043
13	2029	17,280	216	153,600	432,000	1,200,001	\$4,812,004	\$1,996,810.52	\$3,276,740
14	2030	17,280	216	153,600	432,000	1,200,001	\$4,812,004	\$1,866,178.06	\$3,181,301
15	2031	17,920	224	153,600	448,000	1,244,445	\$4,990,226	\$1,808,687.63	\$3,203,036
16	2032	17,920	224	153,600	448,000	1,244,445	\$4,990,226	\$1,690,362.27	\$3,109,744
17	2033	17,920	224	153,600	448,000	1,244,445	\$4,990,226	\$1,579,777.82	\$3,019,169
18	2034	18,480	231	153,600	462,000	1,283,334	\$5,146,171	\$1,522,566.24	\$3,022,833
19	2035	18,480	231	153,600	462,000	1,283,334	\$5,146,171	\$1,422,959.10	\$2,934,789
20	2036	18,480	231	153,600	462,000	1,283,334	\$5,146,171	\$1,329,868.32	\$2,849,310
							\$84,588,790	\$40,819,914	\$60,527,681

ASSUMPTIONS

- The Average Number of Truck Loads (TEU) Per Barge is 80
- The Trip Miles for the Barge is 1600 (This is the same as the Trucks)
- The Average Tons per TEU is 25
- The Average Fuel Consumption for the Barge is 576 Miles Per Ton Per Gallon
- A Barge Uses 1 Gallon of Fuel to Move 1 Ton of Cargo 576 Miles
- (1 Ton/ 576 miles x 2000 Tons / Barge Load X 1600 Miles Per Round Trip = 5,555.56 Gallons of Fuel Per Barge Trip)
- We used \$4.01 Per Gallon for Fuel
- We did not adjust the dollar amounts for inflation over time
- We used a 7.0% and a 3.0% Discount Rate
- As referred to above, the Value of the Costs of Truck Crashes was \$91,112
- There may be immaterial mathematical inconsistencies due to rounding of fractional amounts
- 96 barges/year X 80 TEUs/barge = 7,680 TEUs/year
- 96 barge trips/year X 1600 miles/trip = 153,600 miles/year
- 7,680 TEUs/year X 25 avg tons/TEU = 192,000 avg tons/year

C. Safety

There are safety benefits that will be derived from this project. For example, by being able to bring in more ships to the port's dock to transport cargo, less trucks will be on the highway. This will reduce the number of truck-related traffic accidents and deaths.

Barge Transportation has few accidents per other modes of freight transportation. It is estimated that the annual truck miles saved by diverting freight transportation to the marine corridor could reduce accidents due to the reduction of miles traveled by 106,000,000 miles.

- Increases space for machine equipment and humans to co-exist on dock, reducing chances for collision on dock;
- Increase in space allows drivable equipment (i.e., forklifts, trucks) to operate on east extension without going into water possibility
- Reduces ship/barge traffic accidents by getting ships/vessels out of waterway
- Reducing collisions on highways is a major benefit from this project. There is a reduction in collisions on the highway, generation cost savings amounting to \$13,462.21 (NPV 7%) and of \$19,961,782 (NPV3%).

Morgan City Harbor and Terminal District

Wharf Extension and Enhancement 2016 FASTLANE Grant Application

Present Value of Trucking Reduced Collision Benefit

Year	Calendar Year	Annual Truck Miles Saved	Reduced Accidents @ .63 per million miles traveled	Annual cost of truck collision savings \$91,112 Avg. Cost	NPV of Collision Savings 7.0%	NPV of Collision Savings 3.0%
1	2017	12,288,000	7.74144	\$705,338	\$659,194	\$684,794
2	2018	12,288,000	7.74144	\$705,338	\$616,070	\$664,849
3	2019	12,288,000	7.74144	\$705,338	\$575,766	\$645,484
4	2020	12,288,000	7.74144	\$705,338	\$538,099	\$626,684
5	2021	24,576,000	15.48288	\$1,410,676	\$1,005,793	\$1,216,862
6	2022	24,576,000	15.48288	\$1,410,676	\$939,993	\$1,181,419
7	2023	24,576,000	15.48288	\$1,410,676	\$878,498	\$1,147,009
8	2024	25,600,000	16.128	\$1,469,454	\$855,236	\$1,160,001
9	2025	25,600,000	16.128	\$1,469,454	\$799,286	\$1,126,214
10	2026	26,624,000	16.77312	\$1,528,233	\$776,876	\$1,137,149
11	2027	27,648,000	17.41824	\$1,587,011	\$753,977	\$1,146,490
12	2028	27,648,000	17.41824	\$1,587,011	\$704,652	\$1,113,097
13	2029	27,648,000	17.41824	\$1,587,011	\$658,553	\$1,080,677
14	2030	27,648,000	17.41824	\$1,587,011	\$615,470	\$1,049,201
15	2031	28,672,000	18.06336	\$1,645,789	\$596,510	\$1,056,369
16	2032	28,672,000	18.06336	\$1,645,789	\$557,486	\$1,025,601
17	2033	28,672,000	18.06336	\$1,645,789	\$521,015	\$995,729
18	2034	29,568,000	18.62784	\$1,697,220	\$502,146	\$996,938
19	2035	29,568,000	18.62784	\$1,697,220	\$469,295	\$967,901
20	2036	29,568,000	18.62784	\$1,697,220	\$438,594	\$939,709
				\$27,897,591	\$13,462,508	\$19,962,178

ASSUMPTIONS

-The Value of Collision Reduction Based Upon 2001-2003 Average Costs of Truck Crashes

Source: Ted Miller, Eduard Zaloshnja, Rebecca Sicer, Revised Cost of Large Truck and Bus Involved Crashes (2006), Adjusted to 2005 Dollars; US DOT Federal Motor Carrier Safety Administration Commercial Motor Vehicle Facts, Nov. 2007

-One barge = 80 trucks

-A one-way trip from Morgan City, LA to Minneapolis, MN is 1600 miles (barge/truck)

-We used a 7.0% and a 3.0% Discount Rate

-There may be some immaterial mathematical inconsistencies due to rounding of fractional amounts

Morgan City Harbor and Terminal District

Wharf Extension and Enhancement 2016 FASTLANE Grant Application

Present Value of Increased Barge Collision Cost

Year	Calendar Year	Number of TEU (Loads) Per year	Annual Number of Barge Trips Per Year	Annual Number of Barge Miles Per Year	Increased Accidents @ .028 for Every Billion Miles Collisions	Annual Cost of Barge Collision Incurred at an \$91,112 Avg Cost	NPV of Annual Maintenance Cost 7.0%	NPV of Annual Maintenance Cost 3.0%
1	2017	7,680	96	153,600	0.000154	\$13.99	\$13.08	\$13.59
2	2018	7,680	96	153,600	0.000154	\$13.99	\$12.22	\$13.19
3	2019	7,680	96	153,600	0.000154	\$13.99	\$11.42	\$12.81
4	2020	7,680	96	153,600	0.000154	\$13.99	\$10.68	\$12.43
5	2021	15,360	192	307,200	0.000307	\$27.99	\$19.96	\$24.14
6	2022	15,360	192	307,200	0.000307	\$27.99	\$18.65	\$23.44
7	2023	15,360	192	307,200	0.000307	\$27.99	\$17.43	\$22.76
8	2024	16,000	200	320,000	0.000320	\$29.16	\$16.97	\$23.02
9	2025	16,000	200	320,000	0.000320	\$29.16	\$15.86	\$22.35
10	2026	16,640	208	332,800	0.000333	\$30.32	\$15.41	\$22.56
11	2027	17,280	216	345,600	0.000346	\$31.49	\$14.96	\$22.75
12	2028	17,280	216	345,600	0.000346	\$31.49	\$13.98	\$22.09
13	2029	17,280	216	345,600	0.000346	\$31.49	\$13.07	\$21.44
14	2030	17,280	216	345,600	0.000346	\$31.49	\$12.21	\$20.82
15	2031	17,920	224	358,400	0.000358	\$32.65	\$11.84	\$20.96
16	2032	17,920	224	358,400	0.000358	\$32.65	\$11.06	\$20.35
17	2033	17,920	224	358,400	0.000358	\$32.65	\$10.34	\$19.76
18	2034	18,480	231	369,600	0.000370	\$33.67	\$9.96	\$19.78
19	2035	18,480	231	369,600	0.000370	\$33.67	\$9.31	\$19.20
20	2036	18,480	231	369,600	0.000370	\$33.67	\$8.70	\$18.65
						\$554	\$267	\$396

ASSUMPTIONS

-The Value of the Increased Barge Collision Cost was set at \$91,121 , the same as the Truck Collision Cost as a result of Non-Availability of Barge Collision Cost Statistics

-The Increased Cost of Barge Collision is .028 for Each Billion Ton Miles

-8 barges travel to MN each month X 12 months = 96 barges/year. Increase in barges occur after completion of project.

-It's a 1600 mile trip by barge to MN one way. Barges do not return to Morgan City.

-We used a 7.0% and a 3.0% Discount Rate

-As referred to above, the Value of the Costs of Truck Crashes was \$91,112

-There may be immaterial mathematical inconsistencies due to rounding of fractional amounts

D. State of Good Repair

The proposed project is consistent with efforts to maintain transportation facilities in a state of good repair. The new dock improvement will eliminate existing inefficiencies and eliminate a physical barrier to the layout of cargo storage by providing a flat, rigid and consistent surface to increase safety and reduce transit time, generally increasing functionality and the efficient movement of goods and services through the PMC. The dock extension and enhancement will upgrade surface transportation assets. The port has out-grown its existing dock. If left unimproved, the port will fail in reaching an effective mode.

The project is part of a phased capital improvement plan developed by the port to upgrade port facilities and expand capacity at its riverfront facilities to meet existing demands and attract new business. The proposed project is capitalized up front, using asset management approaches to optimize long-term cost structure. The cost estimate of \$15,000,000 was derived from a breakdown of construction items from a preliminary design analysis and based on recent bid prices for similar projects, including factors for contingencies and inflation.

Consequently, the following benefits are derived:

- Reduces maintenance and repair costs
- Keeps facility open to handle ships and cargo
- More area to store cargo
- Improves Port's existing infrastructure
- Maintaining a dock in good condition can prolong the use of it for years beyond its normal life-cycle. It appears that over the years, with maintenance, preservation and upgrades, there are benefits that may total approximately \$549,130 (NPV 7%) and \$798,533 (NPV 3%).

Morgan City Harbor and Terminal District

Wharf Extension and Enhancement 2016 FASTLANE Grant Application

Present Value of Maintenance and Operations Cost

Year	Calendar Year	Annual Maintenance Cost	NPV of Annual Maintenance Cost 7.0% (F/(1.07)^	NPV of Annual Maintenance Cost 3.0% (F/(1.03)^
1	2017	\$39,000	\$36,449	\$37,864
2	2018	\$41,000	\$35,811	\$38,646
3	2019	\$44,000	\$35,917	\$40,266
4	2020	\$46,000	\$35,093	\$40,870
5	2021	\$48,000	\$34,223	\$41,405
6	2022	\$51,000	\$33,983	\$42,712
7	2023	\$51,000	\$31,760	\$41,468
8	2024	\$51,000	\$29,682	\$40,260
9	2025	\$51,000	\$27,741	\$39,087
10	2026	\$51,000	\$25,926	\$37,949
11	2027	\$59,000	\$28,030	\$42,623
12	2028	\$59,000	\$26,197	\$41,381
13	2029	\$59,000	\$24,483	\$40,176
14	2030	\$59,000	\$22,881	\$39,006
15	2031	\$59,000	\$21,384	\$37,870
16	2032	\$67,000	\$22,695	\$41,752
17	2033	\$67,000	\$21,210	\$40,536
18	2034	\$67,000	\$19,823	\$39,355
19	2035	\$67,000	\$18,526	\$38,209
20	2036	\$67,000	\$17,314	\$37,096
		\$1,103,000	\$549,130	\$798,533

ASSUMPTIONS:

-We Did not Adjust the Dollar Amounts for Inflation over time

-We Used a 7.0% and a 3.0% Discount Rate

-The Annual Maintenance Cost Per Year will provide funds for maintainig, replacing light systems, electrical boxes/wiring, pipes/valves, and fendering systems.

-There may be Immaterial Mathematical Inconsistencies due to rounding of fractional amounts

E. Environmental Sustainability

Environmental costs are increasingly considered as an important component in the evaluation of transportation projects. The environmental impacts of vehicle use and exhaust emissions can impose wide-ranging social costs on people, material, and vegetation. The negative effects of pollution depend not only on the quantity of pollution produced, but also on the types of pollutants emitted such as carbon monoxide, volatile organic compounds, nitrogen oxides, particulate matter, sulfur dioxide and carbon dioxide, as well as the conditions under which the pollution is released. The environmental cost reduction is calculated as the difference between the cost of vessel pollution and truck pollution.

CO₂ emissions will be reduced over time due to the reduction of trucking carbon emissions. Barge transportation is the most fuel efficient mode of freight transportation when compared to shipping by rail or truck.

In summary, this project has the following benefits regarding environmental sustainability:

- Reduces emissions
- Less damage to wetlands from idling in river
- Reduces consumption of fossil fuels
- Protecting the environment is important with any project. Based on the various data, there is a CO₂ cost savings of \$8,351,838 (NPV 7%) and \$12,622,695 (NPV 3%).

Morgan City Harbor and Terminal District

Wharf Extension and Enhancement 2016 FASTLANE Grant Application

Present Value of Trucking Carbon Reduction Emissions Benefit

Year	Calendar Year	Annual Truck Miles Saved	Annual Gallons of Fuel Saved (Avg. 6 MPG)	Annual Metric Tons of CO2 Saved	CO2 Emissions Price Per Metric Ton	Annual Dollars Saved Due to Reduced CO2 Emissions Per Metric Ton	NPV of CO2 Emissions Savings 7.0%	NPV of CO2 Emissions Savings 3.0%
1	2017	12,288,000	2,048,000	20,619	\$24.30	\$501,049	\$468,271	\$486,456
2	2018	12,288,000	2,048,000	20,619	\$24.80	\$511,359	\$446,641	\$482,005
3	2019	12,288,000	2,048,000	20,619	\$25.30	\$521,669	\$425,837	\$477,401
4	2020	12,288,000	2,048,000	20,619	\$25.80	\$531,978	\$405,844	\$472,656
5	2021	24,576,000	4,096,000	41,239	\$26.30	\$1,084,576	\$773,288	\$935,565
6	2022	24,576,000	4,096,000	41,239	\$26.80	\$1,105,196	\$736,438	\$925,584
7	2023	24,576,000	4,096,000	41,239	\$27.30	\$1,125,815	\$701,101	\$915,391
8	2024	25,600,000	4,266,667	42,957	\$27.80	\$1,194,202	\$695,037	\$942,714
9	2025	25,600,000	4,266,667	42,957	\$28.30	\$1,215,681	\$661,250	\$931,718
10	2026	26,624,000	4,437,333	44,675	\$28.80	\$1,286,646	\$654,065	\$957,385
11	2027	27,648,000	4,608,000	46,393	\$29.30	\$1,359,329	\$645,807	\$982,008
12	2028	27,648,000	4,608,000	46,393	\$29.80	\$1,382,525	\$613,858	\$969,675
13	2029	27,648,000	4,608,000	46,393	\$30.30	\$1,405,722	\$583,325	\$957,228
14	2030	27,648,000	4,608,000	46,393	\$30.80	\$1,428,919	\$554,159	\$944,684
15	2031	28,672,000	4,778,667	48,112	\$31.30	\$1,505,898	\$545,807	\$966,578
16	2032	28,672,000	4,778,667	48,112	\$31.80	\$1,529,954	\$518,248	\$953,416
17	2033	28,672,000	4,778,667	48,112	\$32.30	\$1,554,009	\$491,960	\$940,201
18	2034	29,568,000	4,928,000	49,615	\$32.80	\$1,627,380	\$481,483	\$955,914
19	2035	29,568,000	4,928,000	49,615	\$33.30	\$1,652,187	\$456,844	\$942,219
20	2036	29,568,000	4,928,000	49,615	\$33.80	\$1,676,995	\$433,367	\$928,511
						\$24,201,089	\$11,292,629	\$17,067,311

ASSUMPTIONS

- CO2 Emissions from a Gallon of Diesel = 2,778 Grams X 0.99 X (44/12) = 10,084 Grams = 10.1 kg/Gallon = 22.2 Pounds/Gallon/2205 Pounds Per Ton: EPA - Office of Transportation; Average Carbon Dioxide Emissions Resulting from Gasoline and Diesel Fuel, 2005 page2; <http://www.epa.gov/otaq/climate/420f05001.pdf>
- 6 Miles Per Gallon is the average MPG of the Trucks
- We used Cost Per Metric Ton for the Cost of Carbon as Shown in the Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866 (February 2010)
- We used a 7.0% and a 3.0% Discount Rate
- There may be some immaterial mathematical inconsistencies due to rounding of fractional amounts.

Morgan City Harbor and Terminal District

Wharf Extension and Enhancement 2016 FASTLANE Grant Application

Present Value of Increased Barge Carbon Emission Cost

Year	Calendar Year	Number of TEU (Loads) Per year	Annual Number of Barge Trips Per Year	Annual Number of Barge Miles Per Year	Annual Number in Tons of Barge Freight	Annual Gallons of Barge Fuel Used	Annual Metric Tons of CO2 Generated	CO2 Emissions Price Per Metric Ton	Annual Dollars Due to Increased CO2 Emissions Per Metric Ton	NPV of Fuel Used 7.0% (F/(1.07)^	NPV of Fuel Used 3.0% (F/(1.03)^
1	2017	7,680	96	153,600	192,000	533,334	5,370	\$24.30	\$130,482	\$121,945.55	\$126,681.30
2	2018	7,680	96	153,600	192,000	533,334	5,370	\$24.80	\$133,167	\$116,312.82	\$125,522.24
3	2019	7,680	96	153,600	192,000	533,334	5,370	\$25.30	\$135,851	\$110,895.17	\$124,323.24
4	2020	7,680	96	153,600	192,000	533,334	5,370	\$25.80	\$138,536	\$105,688.58	\$123,087.59
5	2021	15,360	192	364,800	384,000	1,066,668	10,739	\$26.30	\$282,442	\$201,377.21	\$243,636.91
6	2022	15,360	192	364,800	384,000	1,066,668	10,739	\$26.80	\$287,812	\$191,781.00	\$241,037.66
7	2023	15,360	192	364,800	384,000	1,066,668	10,739	\$27.30	\$293,181	\$182,578.51	\$238,383.13
8	2024	16,000	200	380,000	400,000	1,111,112	11,187	\$27.80	\$310,990	\$180,999.26	\$245,498.71
9	2025	16,000	200	380,000	400,000	1,111,112	11,187	\$28.30	\$316,584	\$172,200.60	\$242,635.10
10	2026	16,640	208	395,200	416,000	1,155,556	11,634	\$28.80	\$335,064	\$170,329.66	\$249,319.24
11	2027	17,280	216	410,400	432,000	1,200,001	12,082	\$29.30	\$353,992	\$168,179.11	\$255,731.44
12	2028	17,280	216	410,400	432,000	1,200,001	12,082	\$29.80	\$360,033	\$159,858.93	\$252,519.86
13	2029	17,280	216	410,400	432,000	1,200,001	12,082	\$30.30	\$366,074	\$151,907.60	\$249,278.42
14	2030	17,280	216	410,400	432,000	1,200,001	12,082	\$30.80	\$372,115	\$144,312.45	\$246,011.58
15	2031	17,920	224	425,600	448,000	1,244,445	12,529	\$31.30	\$392,161	\$142,137.25	\$251,713.33
16	2032	17,920	224	425,600	448,000	1,244,445	12,529	\$31.80	\$398,426	\$134,960.57	\$248,285.73
17	2033	17,920	224	425,600	448,000	1,244,445	12,529	\$32.30	\$404,690	\$128,114.58	\$244,844.27
18	2034	18,480	231	438,900	462,000	1,283,334	12,921	\$32.80	\$423,797	\$125,386.29	\$248,936.17
19	2035	18,480	231	438,900	462,000	1,283,334	12,921	\$33.30	\$430,257	\$118,969.78	\$245,369.83
20	2036	18,480	231	438,900	462,000	1,283,334	12,921	\$33.80	\$436,718	\$112,856.18	\$241,800.06
									\$6,302,372	\$2,940,791	\$4,444,616
ASSUMPTIONS											
-The Average Number of Truck Loads (TEU) Per Barge is 80											
-The Trip Miles for the Barge is 1600 (This is the same as the Trucks)											
-The Average Tons per TEU is 25											
-The Average Fuel Consumption for the Barge is 576 Miles Per Ton Per Gallon											
-A Barge Uses 1 Gallon of Fuel to Move 1 Ton of Cargo 576 Miles											
(1 Ton/ 576 miles x 2000 Tons / Barge Load X 1600 Miles Per Round Trip = 5555.56 Gallons of Fuel Per Barge Trip)											
-CO2 Emissions from a gallon of diesel = 2,778 grams X 0.99 X (44/12) = 10,084 grams = 10.1 kg/Gallon = 22.2 Pounds/Gallon/2205 Pounds Per Ton; EPA - Office of Transportation: Average Carbon Dioxide Emissions Resulting from Gasoline and Diesel fuel, 2005. page 2; http://www.epa.gov/otaq/climate/420f05001.pdf											
-We did not adjust the dollar amounts for inflation over time											
-We used a 7.0% and a 3.0% Discount Rate											
-There may be immaterial mathematical inconsistencies due to rounding of fractional amounts.											

Morgan City Harbor and Terminal District

Wharf Extension and Enhancement 2016 FASTLANE Grant Application

Benefit Cost Summary

		NPV of 7.0%		NPV of 3%	
	Present Value of Trucking Time Benefit	\$101,060,612		\$149,852,458	
	Present Value of Increased Barge Time Cost	(\$5,254,636)		(\$7,791,564)	
1	Net Present Value of Time Benefit		\$95,805,976		\$142,060,894
	Present Value of Trucking Fuel Benefit	\$156,748,345		\$232,426,108	
	Present Value of Increased Barge Fuel Cost	(\$40,819,914)		(\$60,527,681)	
2	Net Present Value of Fuel Benefits		\$115,928,431		\$171,898,427
	Present Value of Trucking Carbon Reduction Emissions Benefit	\$11,292,629		\$17,067,311	
	Present Value of Increased Barge Carbon Emission Cost	(\$2,940,791)		(\$4,444,616)	
3	Net Present Value of Carbon Reduction Emission Benefit		\$8,351,838		\$12,622,695
	Present Value of Trucking Reduced Collision Benefits	\$13,462,508		\$19,962,178	
	Present Value of Increased Barge Collision Cost	(\$267)		(\$396)	
4	Net Present Value of Reduced Collision Benefit		\$13,462,241		\$19,961,782
5	Net Present Value of All Benefits		\$233,548,486		\$346,543,798
6	Present Value of Maintenance and Operation Costs		\$549,130		\$798,533
7	Present Value of Construction Costs		\$15,000,000		\$15,000,000
8	Less Present Value of Remaining Capital Value		(\$2,325,771)		(\$4,983,082)
9	Net Present Value of All Costs		\$13,223,359		\$10,815,451
10	Net Present Value = 5 - 9		\$220,325,127		\$335,728,347
11	Benefit / Cost Ratio = 5/9		(17.66 to 1.00) 17.66		(32.04 to 1.00) 32.04

Affected Population

The Morgan City Harbor and Terminal District’s “*Wharf Extension and Enhancement*” will have different impacts over the course of the life-time of the project (estimated to be 50 years). Evidently, by being able to transfer the shipping of cargo from truck, the project will reduce the number of trucks on the highway and reduce the amount of emissions in the atmosphere. This action will, also, reduce the number of accidents on the highway involving trucks.

- Shippers/vessel operators
- Local workers

Conclusion

Based on the information included in this analysis, the Port of Morgan City’s “*Dock Extension and Enhancement*” project will have a benefit of 32.04 to 1 (at NPV 3.0%) and a 17.66 to 1 benefit ratio (at 7.0% NPV). The project is determined to be feasibly beneficial.

Current Status and Problem to be addressed	Change to Baseline/ Alternatives	Types of Impacts	Population Affected by Impact	Economic Benefit	Summary of Results	Page Reference in BCA
25-year old Dock is not large enough to meet future demands and to expand export/import opportunities	450’ foot extension, and additional laydown area of @ 64,000 sf	Increased export/import capacity; time and fuel cost savings; State of Good Repair through the reduction of long-term maintenance and repair costs	Shipping carriers; Exporters and Importers	Monetized value of reduced travel times, fuel consumption, emissions and safety benefits	The benefits to cost analysis indicates a benefit of 32.04 to 1 (at a 3.0% NPV) and 17.66 to 1 (at a 7.0% NPV)	Pages 6-20

References

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