



# PUBLIC INVESTMENT IN INFRASTRUCTURE AND ITS IMPACT ON ECONOMIC DEVELOPMENT



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Whether it is the roads we travel on or the ports and rail that bring our goods to the marketplace for consumers to purchase, infrastructure impacts our everyday life. It is the lifeline to the biggest economy in the world. The focus of my research paper is public investment in infrastructure and its impact on economic development. Several areas of interest will be covered.

We will be discussing the condition of the American Infrastructure System the cost of inadequate roads and the investment needed in order to have an optimal functioning system. We will look at Louisiana's System and how it stacks up in system investment and the economic impact of its infrastructure. This paper will also look at our rail and port systems in Louisiana. I will give instances where I played a role in infrastructure development. Finally, we will discuss how infrastructure spending stimulates our economy, creates jobs and how infrastructure ties into what I learned in the Louisiana Certified Economic Developer Program.

### The National Infrastructure System

When President Eisenhower proposed the Interstate Highway System in the 1950's the United States was a visionary when it came to world-class infrastructure. It revolutionized how we as a country traveled and transported consumables to market. Fast forward 60 years and a different story is prevalent. Our national network of highways is old, antiquated, and dangerous. So how did the narrative change in this period of time? Reduced funding to rehabilitate the infrastructure system. The Federal Government has not raised the Federal Gasoline

Tax since 1993 when it was increased to 18 cents per gallon. With inflation, it would be worth around 7 cents in 2018. Inflationary pressures in conjunction with higher material costs to build and maintain our system have gotten us into the situation we are in today. What impact will this have on the nation's economy if we do not address this pressing issue? Figure 1 highlights the original yearly funding gap between 2016 and 2025, the actual projected yearly funding gap - between 2016 and 2025 and the total funding gap between 2016-2025. Figure 2 highlights the

original average projected funding gap between 2016-2040, the actual yearly funding gap between

2016-2040, and the total funding gap between 2016-2040. Figure 3 defines the cost to American GDP lost business sales and job losses by 2025. These projections were compiled by The American Society of Civil Engineers.

Figure 1. Average Investment Gap Surface Transportation 2016-2025

Original Projected Yearly Funding Gap 2016-2025	New Projected Yearly Funding Gap 2016-2025	Total Projected Funding Gap 2016-2025
\$91 Billion Yearly	\$110 Billion Yearly	\$1.10 Trillion

Source: American Society of Civil Engineers

Figure 2. Average Investment Gap Surface Transportation 2016-2040

Original Projected Yearly Funding Gap 2016-2040	New Projected Yearly Funding Gap 2016-2040	Total Projected Funding Gap 2016-2040
\$157 Billion Yearly	\$173 Billion Yearly	\$4.3 Trillion

Source: American Society of Civil Engineers

Figure 3. Lost Economic Impacts by Year 2025

Lost GDP	\$3.9 Trillion
Lost Business Sales	\$7 Trillion
Lost Jobs	2.5 Million

Source: American Society of Civil Engineers

### The Louisiana Infrastructure System

We have looked at the nation as a whole. Now we will look at the State of

Louisiana's infrastructure system and how it measures up, the investments we have made in recent

years and what we should do going forward. How does Louisiana's infrastructure stack up?

Unfortunately, our system of roads and bridges have been neglected for decades. Louisiana like the Federal Government has not raised its gas tax in quite some time. The last time Louisiana

increased its gas tax was 1989. The gas tax value in 1989 was 16 cents. The value of the tax three decades later, adjusted for inflation is worth approximately 7 cents. Louisiana ranks 50<sup>th</sup> in transportation investment (Investment, 2016). The lack of investment has created in absolute terms a \$13 billion dollar backlog that shows no signs of being addressed anytime soon. So, how has this lack of investment affected our system? The Transportation Infrastructure Investment plan looks at this issue.

The TIIP was issued in 2016 by The Task Force for Transportation Infrastructure Investment. The task force was created by Governor Edwards to evaluate deficient areas of our transportation network and recommend actions to have a competitive and world-class infrastructure system to spur growth and development. Louisiana has a sprawling system to maintain in fact it is the tenth largest system in the country (Investment, 2016). The State has 16,635 miles of roadways, 12,788 bridges, 70 airports, 39 deep, shallow and coastal ports, and 19 freight railroads (Investment, 2016). The lack of investment in conjunction with a sprawling system has left our state with a third rate infrastructure system. Forty-two states have better pavement conditions, 47 states have better bridge conditions, and 45 states have lower fatality rates (Investment, 2016).

Baton Rouge and New Orleans make up 2 of the nation's 5 worst regions for truck commerce. Congestion is a real challenge for Louisiana roads and given that \$734 billion dollars worth of goods are transported to and from sites and 44 percent of freight is shipped by truck, it is critical that we address this issue (Group,2017). Louisiana's urban road usage has increased 41 percent over the last ten years while system capacity has increased by only one percent (Investment, 2016).

This statistic alone explains why New Orleans and Baton Rouge have challenges with truck commerce. How important is it that we have a superior system? Area Development's annual corporate survey finds that highway accessibility is the number one factor when choosing a location. The prime objective is to minimize the cost of getting a company's goods to market. The

condition of our highways and the ease of how goods can travel across the system is a big determining factor on whether a company locates to an area.

We will discuss the cost of our aging highway infrastructure System. I will highlight the findings by TRIP, a research entity out of Washington D.C., that gives a perspective of how much time and money our system is costing our state. Driving on poor roads cost Louisiana drivers an additional \$6.5 billion dollars a year in additional driving cost due to congestion delays and traffic accidents (Group, 2017). TRIP formulated the cost to average motorist in Louisiana’s largest metropolitan areas in the form of additional vehicle operating cost, congestion, delays and traffic crashes. Figure 4 highlights the cost drivers pay for due poor infrastructure in Louisiana’s major metropolitan areas. Figure 5 highlights metropolitan roads in poor condition. Figure 6 highlights lost driver hours due to congestion.

Figure 4. Louisiana Metropolitan Annual Driver Losses

Metropolitan Area	Yearly Driver Losses
Baton Rouge	\$2,466
Lafayette	\$2,024
New Orleans	\$2,171
Shreveport	\$1,894

Source: Tripp Research Group

Figure 5. Louisiana Metropolitan Roads in Poor Condition

Metropolitan Area	Roads in Poor Condition
Baton Rouge	39%
Lafayette	41%
New Orleans	39%
Shreveport	38%
State Wide	26%

Source: Tripp Research Group

Figure 6. Hours Lost by Drivers in Louisiana Metropolitan Areas

Metropolitan Area	Hours Lost By Drivers
Baton Rouge	47 Hours

Lafayette	26 Hours
New Orleans	45 Hours
Shreveport	27 Hours

Source: Tripp Research Group

Louisiana has significant opportunity cost due to inadequate surface transportation infrastructure. TRIP did an analysis of Louisiana’s GDP in the years 2000-2015. Louisiana’s GDP grew by 16 percent while the United States GDP grew 27 percent. The numbers confirm that the lag in GDP growth for Louisiana is attributed to inadequate infrastructure maintenance.

### Rail Infrastructure and Economic Impacts

Two modes of transportation that may get less attention is our rail and port infrastructure.

Rail is important in Louisiana. We are one of a few states that have all 6 Class One railroads that travel through the state along with 14 short line railroads. The system consists of 2,730 route miles excluding leases and trackage rights (Smith, Louisiana Rail Plan 2015). The state’s freight railroads carried over 120 million tons of freight or almost 1.9 million rail cars of various commodities which originated or ended within the state in 2009 (Smith, Louisiana Rail Plan 2015).

The leading commodities are as follows: Chemicals and Allied Products (36.7 million tons); Coal

(22.4 million tons); Farm Products (12.0 million tons); Nonmetallic Minerals (10.2 million tons); and Food or Kindred Products (7.5 million tons) (Smith, Louisiana Rail Plan 2015). The Total rail freight flows in the state are forecast to increase through 2040 at a compound annual growth rate of 1.7 percent (Smith, Louisiana Rail Plan 2015).

The economic impact of our rail system goes beyond the transport of goods and services.

Rail service providers generate 2,930 direct jobs (8,810 total jobs including multiplier effects). Rail freight users generate 189,650 direct jobs. Combining the total rail freight and visitor users job impacts of 486,090 (including the 295,610 multiplier job impacts). Rail transport-services jobs yield a total rail- related employment impact of 494,900 jobs. Rail transport pays \$25.2 billion dollars in income and a total economic output of \$134.6 billion dollars. The jobs created by rail, contribute a significant amount of taxes that can be traced to the railroad industry. The \$3.6 billion dollars in indirect taxes associated with rail transport account for about 27.2 percent of total statewide indirect tax collections (\$13.2 billion dollars) (Smith, Louisiana Rail Plan 2015).

The indirect impact goes even further. Rail accessibility provides cost and logistical opportunities

that allow companies in the state to be competitive in the global marketplace. Railroads are up to four times more fuel efficient than trucks on the basis of ton-miles transported. Greenhouse gas emissions are directly related to fuel consumption, every ton-mile of freight moved by rail instead

of truck reduces greenhouse gases by up to 75 percent (Smith, Louisiana Rail Plan 2015). This is

very important given how business and industry is becoming more environmentally conscious.

The diversion of freight traffic to rail also increases the safety of our highway system (Smith, Louisiana Rail Plan 2015).

As efficient as rail is as a mode of transportation, it does have its challenges. Short line railroads face a challenge in its capability to handle 286,000 pound car weights as Class One railroads can. In many instances the maximum amount of weight that short line rail can handle is 263,000 pounds, which creates shipping inefficiencies that cost business more money transporting

its goods to market. The challenge of creating a more efficient short line is money. The Louisiana

rail study looks at the twenty year needs of 286,000-pound upgrades. It will cost \$205 million dollars to upgrade the tracks to be able to meet those needs. When you include other system demands the price tag goes up to \$256 million dollars (Smith, Louisiana Rail Plan 2015). Capacity

constraints appear to be impacting New Orleans. The National Rail Freight Infrastructure Capacity

and Investment Study state the challenge that rail in New Orleans faces . The study rated the rail plant in New Orleans as near capacity. Without improvements, the strain on capacity will result in slower interchanges between eastern and western carriers. In turn, this will create inefficiencies in transportation and other logistical systems (Smith, Louisiana Rail Plan 2015).

Given its impact on transportation and the economy, what is the state and industry doing to

improve the rail system ? The State in conjunction with LADOTD is looking at several options to

fund capacity and performance improvements to our rail system. In December of 2017, Louisiana

sent its proposed Freight Mobility Plan to address challenges to shipping freight to the

marketplace. One action that DOTD performed in 2016 was to lift the ban on the use of state funds

for rail projects. The department is building a system for the management and use of any funds

that may come from federal grants, public-private partnerships, or other sources. The rail industry

recognizes the critical nature of investing in upgrading its infrastructure. Louisiana is an example.

Union Pacific recently announced an \$87 million dollar upgrade to its system. The improvements

include \$48 million dollars to maintain track and \$18 million dollars to maintain bridges.

Important projects include a \$16 million dollar project along the rail line between Alexandria and Shreveport to replace 149,977 crossties and install 56,869 tons of ballast. Another major

Investment is a \$12 million dollar project between Luling and Livonia to replace 82,152 crossties



and install 39,693 tons of ballast (RT&S Mag., 2018). Government and Private Industry agree that we must solve our systems bottlenecks. The biggest issue to the problem is the funding it takes to address the inefficiencies in the system.

### Port Infrastructure and Economic Impacts

Ports also play an integral part of our infrastructure system. Forty-one percent of all waters that flow in the United States flows through Louisiana. In 2012, ports and waterways facilitated the movement of over 26 percent of all tonnage shipped throughout the state (Smith, 2017).

Louisiana's waterway network of 2,800 miles is second only to that of Alaska (Smith, 2017).

The Country's two largest waterway corridors, the Mississippi River and the Gulf Intracoastal Waterway meet in Louisiana (Smith, 2017). Louisiana's waterway system provides a vital link to markets from the Upper Midwest to the lower Mississippi Valley and the Gulf of Mexico (Smith, 2017). Four Louisiana ports ranked in the top fourteen in total trade 2011. The Port of South Louisiana ranked 1<sup>st</sup>. Other rankings include The Port of New Orleans 5<sup>th</sup>, The Port of Baton Rouge 11<sup>th</sup> and The Port of Lake Charles ranked 14<sup>th</sup> (Authorities, 2011). Louisiana's system of ports and waterways are important to the vitality of the United States economy. We will discuss the challenges the system faces, the solutions to solve those challenges and how the state and private industry fare in getting funding for projects to solve the systems issues.

One of the more pressing issues is that of New Orleans a rail, port, and transportation hub it is where a large amount of rail and truck traffic and the density of development around the port makes it difficult to address congestion issues with capacity enhancements. (Smith, 2017). Key landside freight bottlenecks at the Port of New Orleans include.

- Operational issues with accessibility to the port. The port has had a terminal appointment system. Since 2003 to help manage truck flows at the Napoleon Avenue Container Terminal.
- Limitations on operating hours set by terminal operators preclude the operation of night gates that could assist in shifting more traffic to off-peak hours (Smith, 2017).
- Another challenge at the New Orleans Port is the Tchoupitoulas Street/ South Peters Street Corridor. Significant freight traffic from I-10 intertwines with passenger and pedestrian traffic because of the streets close proximity to tourist and historic attractions. It makes it very difficult to fix since capacity improvements would require condemning a large amount of property.

These are the top challenges at the Port of New Orleans.

I will address challenges that affect ports throughout the state. Trucks traveling to The Port of Caddo-Bossier have no access to Louisiana 3132, a road that provides direct access to I-20 and I-49. They must use Louisiana Highway 1 and several additional local routes to reach 3132. Louisiana Highway 1 South from Port Fourchon to US 90 needs to be elevated to mitigate flood risk (Smith, 2017). In Southwest Louisiana, with the expansion of liquefied natural gas, if a proposed LNG export terminal is built in Cameron Parish, a bridge to Monkey Island and extension of Davis Road will be necessary for terminal access (Smith, 2017). Our system of ports has antiquated equipment that cannot adequately handle growing tonnage requirements. The Port of South Louisiana's existing cranes is obsolete. New rubber-tired gantry cranes would be more mobile and would enable the port to offload vessels on one side of the dock and load them on the other (Smith, 2017). The Port of New Orleans expects to receive larger Post-Panamax ships after the Panama Canal expanded in June of 2016. New cranes are needed there to accommodate these vessels.

We will transition from those challenges to a universal issue that affects almost every

port in the state channel depth. Channel depth is affected by a number of issues that include flooding, channel width, and sedimentation. In the Central Louisiana region, the challenge that we face is getting the Red River dredged to a 12-foot depth. The Red River's current dredging depth of 9 feet makes it less efficient to ship goods and products to its final destination. Cleco, one of Central Louisiana's oldest and largest companies, uses the river to ship lignite and coal to its Rodemacher Power Plant for the production of electricity. The Red River System is the only lock and dam system from Cairo, Illinois south that is not dredged at a 12-foot depth. The project to widen the navigation depth to 12 feet did get listed in the US Army Corps of Engineers Section 7001. The process will be included in the 2017 Report to Congress on Future Water Resources Development Projects. This is a significant milestone, but, it is only half the battle. A new Resource Development Act authorization must be enacted before a feasibility study can proceed to address this issue. In Southwest Louisiana, Port Manchac's channel is shallow, long, and narrow. The result of this is that many petroleum product barges must be light-loaded to allow for safe navigation. Port officials would like to straighten and deepen the route for efficiency and safety purposes. (Smith, 2017). The Port of Lake Charles has several issues that include failure to maintain its authorized width. It is not wide enough to accommodate two-way traffic. This creates an unsafe environment and costly congestion delays. Disposal capacity of silt is an ongoing issue. This problem will only continue to grow with the explosion of growth in the liquefied natural gas industry. Accessibility to ports along the Mississippi River is a big challenge. The Corps of Engineers does not provide dredging above Baton Rouge. Several ports in the system are affected, by this issue including Lake Providence, Avoyelles, Point Coupee, Vidalia, and Madison. The Port of Lake Providence has persistent (non-drought related) low water issues (Smith, 2017).

Louisiana's challenges with flooding have created havoc with the lock systems, especially

the Red River's system of locks. The Red River system was hit hard during the flooding of 2016.

Locks closed due to high water which resulted in delays and economic issues associated with the closures. The Port of Caddo-Bossier lost tenants and contracts due to lock closure that resulted in

flooding. Maintenance and repairs are needed to keep the locks up and running. This issue is a common one. Adequate funding must be present to address this challenge. The problem with how

projects are funded by the Corps is that they base the funding on the number of tons a facility ships

not the number of vessels or economic value that port activity contributes to the economy (Smith, 2017).

We must address the issue of funding for our ports. Our port facilities play a vital role in how our

farmers, oil and gas exploration companies, ranchers and manufacturers get their product to the rest of the world. Louisiana per capita ranks number one in the country in foreign dollars invested

into its economy. Sasol made a huge investment in the Lake Charles area to export LNG to Asia

and points beyond. Syrah Resources an Australian based company chose Vidalia to develop a graphite processing facility. The number one reason it chose Vidalia is its access to the Mississippi

River (Development, 2018).

### Personal Role in Promoting Infrastructure and Economic Development

Finally, I want to focus on what I have done to promote infrastructure investment to stimulate economic development. There are two roles that I played in advocating investment in

infrastructure projects. The first role I will discuss is that of an elected official. I was the Mayor of The Town of Ball, Louisiana, from 2011-2014. It is a town of about 4,000 people and is Rapides Parish's third largest municipality. During my administration as Mayor and with the cooperation of our parish government, we were able to pave over a dozen streets in our town. This

was important because it enhanced the look of our town and attracted residences to settle in our community. It boosted our property and sales tax revenue that, in turn, gave the town an opportunity to provide better services to its citizens. We added a national chain sandwich shop and a local donut shop to the community during this time. I have to believe that the investment in

the town's infrastructure contributed to the growth in our business community.

The biggest project that I worked on during my time as Mayor was the Paradise Elementary School project. Paradise Elementary School is located on US Highway 165 in Ball. This highway handles approximately 20,000 cars daily. Each day before and after school when parents were dropping off their children and picking them up it created a congestion issue. Cars were parking on the side of the road as far as a quarter mile from the school creating a dangerous situation. If a car ran off the roadway it would put parents and children at risk and, in some cases,

block entry into established businesses in the town. We worked with our parish police jury and school board to fund an access road behind the school to reroute parents off of the highway to the road behind the school eliminating the risk and congestion that was created when vehicles parked on the highway. The project was truly a cooperative effort that enhanced safety and eliminated impact on businesses affected by road congestion. The total cost of the project was approximately

approximately \$200,000 which was divided up by the three government bodies. This is a true example of how collaboration benefits all involved in a community.

The second role, I will discuss is my role as Chairman of the Central Louisiana Chamber of Commerce Infrastructure Committee. In my role as committee chair, the committee would compile a report of important road and port projects vital to our economy in Central Louisiana. Some of the projects that we advocated for is the widening of the Red River to a twelve-foot depth and funding for Interstate 14. Interstate 14 is known as the ports to forts interstate because it would connect ports in Southeast Texas with military installations in Fort Benning Georgia. The biggest project that we accomplished was the Alexandria/ Pineville Beltway Project. On July 24, 2013, Mayor Jacques Roy of Alexandria and myself presented the project to the Louisiana Department of Transportation. We were able to get the beltway listed as a Priority A Megaproject. This is important because it addresses designing the most efficient design of infrastructure projects in our area. The Beltway will take into account things like traffic, drainage, and growth. The Alexandria/ Pineville Beltway Project is the blueprint to how our community will grow and prosper.

In conclusion, infrastructure is the backbone that ignites economic growth. The challenge we face is adequate funding to modernize our system to handle the growing demands of a changing global economy. Without infusions of cash to our state and federal highway trust funds, along with port and rail issues, it has become more difficult for our system to transport goods to the marketplace. The inefficiencies created by the stress on the infrastructure system hit our pocketbooks in the form of increased fuel and transportation cost. This creates an increased cost

of goods that we as consumers purchase. Traffic congestion creates an opportunity cost due to the

amount of fuel lost because of sitting in clogged roads. Critics say that we cannot raise the gasoline

tax because it would take money from hard-working Americans. I would say the exact opposite.

According to the Business Roundtable's September 2015 report *Road to Growth The Case for*

*Investing in America's Transportation Infrastructure* up to \$320 billion dollars in economic output

would be generated in 2020 if infrastructure investment were boosted by one percent of GDP per year. 1.7 million jobs would be created over the first three years by an \$83 billion dollar

infrastructure package. Three dollars in economic activity is created by every \$1 dollar invested in infrastructure. FDR invigorated our nation's economy during the great depression by investing

in projects such as, the TVA that created jobs and opened commerce by people spending their earnings in the communities that they lived in. Infrastructure is something I took to heart in every

class I took. I learned how important ports are to Louisiana. Given how much foreign direct investment is funneled to our state. I learned the importance of marketing a site and retaining business. The real estate reuse and redevelopment course stressed how important a sites accessibility to an interstate is. The marketing course confirmed the importance of interstate accessibility. This paper highlights issues that stood out to me. In conclusion, infrastructure is vital to the very existence of our economy and our communities. We must make the case to maintain a world-class infrastructure system to remain a world-class economy.

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