Achieving Strategic Sustainability at the Little Rock Port Authority

Forming a Sustainability Strategy
University of Arkansas at Little Rock
Master of Public Administration Program

Capstone Project Team Members

Christopher Bell
Bianca Brock
Bailey Gambill
April Hickman
Kenneth Jones
Asween Marco
Bethany Meadows
Bruno Showers
Monica Smith

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Executive Summary

As domestic and international businesses consider port authority locations for their operations, many are looking to ports with active sustainability plans and practices (e.g., see Roh et al. 2016). The Little Rock Port Authority (LRPA) has expressed interest in increasing sustainability efforts to promote the economic and site development of the port. In adopting a Sustainability Resolution, the LRPA Board of Directors catalyzed the future of LRPA sustainability. The intent of the Resolution is to establish a sustainable port that strives to create a livable and healthy industrial community, synergistically incorporating public and private investments, assure clean land, air and water, improve working environments and build infrastructure that will thrive for future generations” (LRPA, Sustainability Resolution, 2015).

Having adopted a Sustainability Resolution, the LRPA demonstrates evident readiness to implement sustainable goals and practices that positions the port to become a leader in sustainability. Sustainable practices have become an important facet by which organizations are now judged; organizations are looking to reduce their environmental impacts, while maintaining high quality, economical production. Research shows that sustainable development is possible through the simultaneous balancing of concerns over economic development, social equity, and environmental quality, known as the “triple bottom line” (TBL) or “3 E’s” of sustainable development (Henriques and Richardson 2004; Rohacs and Simongati 2007).

In this contemporary and competitive environment, port authorities must remain at the forefront of these competitive trends; as a result, the LRPA must act on the LRPA Board
of Directors’ edict and aggressively pursue a sustainability platform. To do so, the study team suggests the LRPA consider:

- establishing a Sustainability Council;
- hiring a Sustainability Officer; and,
- developing a Strategic Sustainability Plan.

The first recommendation calls for the consideration of establishing a **LRPA Sustainability Council** comprised of members of the LRPA industrial community, sustainability experts from the community, and a representative from the LRPA Board of Directors and the LRPA administration. The justification of such a council is detailed in Section I of this report.

The Sustainability Council must be established in concert with the hiring of a **Sustainability Officer**, who is charged with organizing and leading the council. As also outlined in Section I of this report, the Sustainability Officer works with LRPA industrial/business tenants, shippers, barge services, and other supply-chain stakeholders to develop and support sustainability initiatives, as well as to identify operational efficiencies and assess and align sustainability operations and practices among stakeholders/tenants within the port.

Finally, the Sustainability Officer, working in collaboration with the LRPA Sustainability Council, must initiate, develop, and implement a **Strategic Sustainability Plan**. Elements for guiding such a master plan are identified in Section II and include various “best practices” from other ports incorporating sustainability as part of their standard operations.
Section I

**Recommendation:**

*Create a Sustainability Council and hire a Sustainability Officer*

The Little Rock Port Authority is seeking to improve its competitive standing vis-à-vis other ports across the county by exploring operating practices and processes to serve the state, community, and LRPA tenants by positioning the port as an attractive option to potential businesses and industries. Part of the contemporary competitive advantage necessary for ports to engage potential business and industry clients, particularly global operations, is a sustainability component that advantages these clients both economically and ecologically.

This project research seeks to inform the direction of the LRPA Board of Directors’ Sustainability Resolution through assessment of contemporary sustainability efforts and practices at the LRPA and other U.S. and global ports. In proposing possible directions for the LRPA Board of Directors’ consideration, the information in this report seeks to aid in setting forth a plan of action for developing, incorporating, and maintaining sustainable practices such that these practices become an integral part of how the port conducts business. In doing so, organizations exploring port locations are inclined to call on the LRPA as a destination to be considered for their operations. Moving forward with a sustainability plan only increases the potential for economic growth for the LRPA, the area, and the state, as well as positions the LRPA to compete with other inland ports for business interests well into the future.
The Sustainability Council

~ Companies are monitoring the impact they’re having environmentally and on society, and the appointment of the CSO [Chief Sustainability Officer] reflects an underlying need for companies to not only monitor but also improve their performance.
Gerdeman 2014

To catalyze the LRPA in creating a sustainability strategy that can lend to developing a competitive edge in the port locational/recruitment enterprise, it is recommended that the LRPA create a port Sustainability Council and hire a Sustainability Officer to spearhead this effort.

While establishing a Sustainability Council and hiring a Sustainability Officer may be new to the LRPA, there are many examples of ports with sustainability offices; the following ports, which are all peer competitor ports, have such offices: The Port of Norfolk (VA), The Port of Houston (TX), and the Port of Mobile (AL). In fact, since the LRPA is an “operator” port, i.e., a port authority directly responsible for port operations, it has more flexibility to directly implement and control sustainability practices within the port (as opposed to having another agency/division dictating their pursuit of sustainable practices/operations). As the LRPA controls rail transit and other daily operations, the port is in an excellent position to directly influence sustainable practices and operations.

Standard protocols for establishing a Sustainability Council (and office) begin with hiring or designating a sustainability officer. It is especially important for “landlord” ports, such as the LRPA, to coordinate these efforts among tenants/clients; otherwise tenants/clients will have difficulty organizing, relating, and promoting information about sustainability opportunities to these entities.
The Sustainability Officer

~ Ports that have invested in personnel exclusively concerned with boosting their overall sustainability have realized the most significant gains ~
Kreis et al. 2014

A Sustainability Council needs a Sustainability Officer to effectively manage workforce and operation efforts. In addition to the community at large, Sustainability Officers work with tenants, shippers, barge services, and other supply-chain stakeholders in order to support sustainability initiatives, as well as identify efficiencies for port operations and among these stakeholders/tenants. In addition, at least in coastal ports, these offices often develop sustainability assessments in accordance with the Sustainability Reporting Framework from the Global Reporting Initiative (www.globalreporting.org). The establishment of a Sustainability Officer position is critical in ensuring successful sustainability efforts. For example, the Memphis Port Authority exemplifies the importance such a position lends to port operations; the Director of the Memphis Port Authority spends significant time and energy developing sustainability policies himself and, in doing so, compromises the success of sustainability efforts at the port mainly because there is no one to coordinate and organize daily duties and logistics of such an undertaking. A sustainability program can only be successful if the port administration or authority is willing to invest in sustainability; a sustainability council without leadership is not likely to successful.

In considering the job duties and responsibilities for the Sustainability Officer, it is recommended that the individual in this position first conduct an assessment of all sustainable practices currently employed at the port. An inventory of current sustainability practices can identify opportunities and requisites across the port, as well
as offer a scope of activities and resources available onsite (at the LRPA) and what crossover/collaborative exchanges are potentially viable among port tenants; as well, such an inventory can inform those clients considering the location as to crossover/collaborative exchanges available for their operation byproducts. The Sustainability Officer can also coordinate activities with the Little Rock Sustainability Commission to further create further linkages between the LRPA and area businesses and communities.

**Current Sustainable Practices at the LRPA**

To establish interest and need, as well as to assess current intra-port sustainability practices, the research team contacted industries located at the LRPA to assess their current, planned, or preferred practices. To contextualize results from port companies, the research team offers “zones of port sustainability and control” as produced by Kreis et al (2014: 29) in their research on sustainable practices at U.S. Inland ports. These areas of influence stem from areas “. . . over which ports typically exercise some control . . .” and those in which it does not have control, but influence (Kreis et al 2014: 28). Key for the LRPA is to have a Sustainability Council and Sustainability Officer controlling, influencing, and collaborating with current port tenants to effectuate change in the direction of sustainability, especially given the interest in sustainability by port companies.
The research team consulted with thirteen industry representatives for whom contact information could be established and verified. Of these thirteen representatives, ten – which constitutes one-third of total port tenants – were able to address information about the following questions concerning their sustainability practices:

- What are your sustainable practices?
- Why is sustainability important to your company?
- What does sustainability mean to the company?
- What are you unable to do (with regard to sustainability), but would like to do?

Overall, of the ten industry representatives who responded to the research team’s inquiries, these representatives indicate a definite interest in sustainability. Relative to

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1 Industries consulted include: Ring Container; Delta Plastics; Natural State Recycling and Waste Management; Skippy; Novus; George Fisher; LM Windpower; Welspun; LSI (SSA Marine); Interstate Signways; DP&L; Lexicon; and Sage V Foods.
the importance and meaning of sustainability to the company, those representatives contacted all noted that sustainability is relevant to their companies. Though the relative importance of sustainability varies across companies, all noted sustainability is a prominent component of their standard operating practices. In fact, three indicated that their company has well documented sustainability policies with relevant information available on their websites, five indicated that their company has varying levels of sustainable practices in place (ranging from recycle bins in offices to replacing equipment for environmental reasons), and the remaining two representatives indicate that their company has no formal policy on sustainable practices, but does promote sustainability in general.

These industry representatives provided a host of ways that their company supports sustainability, both within the port, as well as throughout the company. Though some companies are more active than others, nearly all engage sustainable practices. Specific examples include:

- the use of propane powered lifts instead of gas lift;
- a strict adherence to maintaining clean waterways;
- the transition to a stronger, more lightweight product;
- adherence to sustainability as part of corporate mission to innovate for excellence, or to model responsible environmental behavior;
- the recycling (by most companies, either company-wide or through individual offices) of office waste, plastic bottles, cardboard, and plastics, as well as provide a dumpster for employees to dispose of recyclable materials from home;
- utilizing facilities and production methods that minimize environmental damage;
- the conservation of water from production cycles, which also results in energy savings; and,
- the reuse of waste water as a source for methane gas production (that is used to power the treatment facility; done in collaboration with the City of Little Rock).

Each representative was asked if there was anything their company would like to be able to do with regard to sustainability that they are currently are not able to do (“What are
you unable to do (with regard to sustainability), but would like to do?”). Each representative eagerly identified opportunities to further engage in sustainable practices; yet, nearly each comment requires collaboration in order to execute these “wish list” items. In fact, four of the thirteen representatives surveyed said they would like to pool efforts and/or recycle some portion of their waste and excess materials produced from their manufacturing processes. For example, Ring Container had previously been recycling their used hairnets and earplugs via efforts in Tennessee. They ceased this operation because increased freight costs made this practice cost-prohibitive. However, it is important to note that there remains an opportunity to repurpose byproducts of this manufacturer. Two other representatives indicated an interest in pooling resources for paper and plastic recycling port-wide, while another representative noted the company’s interest in (and existing opportunity for) recycling metal scraps and waste. Even those representatives that had not given this question much thought intimated interest in engaging with other port companies to identify opportunities for advancing sustainability at the port.

In addition to speaking with these ten industry representatives, the research team also reviewed available information on all 30 industries calling the LRPA home. From this cursory review of industry materials and websites, there is varied interest in sustainability; more importantly, no company dismisses it. As a result, given the existing commitment to sustainability by industries located at the LRPA, it behooves the LRPA to align with its constituent industries, take advantage of existing collaborative opportunities, and build on their commitment to integrate sustainability as an operating principle at the port; such activity can create synergies among tenant industries and attract other similarly positioned industries, especially if such industries can complement current practices (i.e., have use for existing products or byproducts in their operations/manufacturing processes).
Section II
Coastal and Inland Port Sustainability: Media, Mitigation, & Best Practices

To initiate a sustainability effort, the research team identifies several areas of emphasis and offers some examples of “best practices” from other ports; this information is meant to familiarize the LRPA with options available to it, its tenants, and potential clients as it moves forward with a sustainability strategy.

In this section, information is provided on:
1) sustainable resources and practices;
2) the business approach to sustainable practices; and,
3) examples of sustainable operations delineated by environmental media (e.g., air, water, etc.) and port mitigation activities.

A systematic assessment of port policies and practices for sustainability is a feasible first step towards creating a culture of sustainability. A formal sustainability office, led by a sustainability officer, is required to organize and implement such an effort. As well, guidance for conducting such an assessment is provided by the Environmental Protection Agency (EPA); this guidance, known as the Environmental Management Systems (EMS) approach, provides a process for moving ports to sustainable practices. Broadly defined, EMS are policies designed to establish environmental considerations as part of how daily operations are conducted and the development of strategic plans to guide future port sustainable progress and innovation (US EPA 2017b).

A systematic approach to integrating sustainable practices into port policies must be led by the sustainability officer, who can identify sustainability metrics and assess the port’s...
progress toward achieving its goals. In considering enhancements of port policies, it is beneficial to look at those implemented by other coastal and inland ports.

As port authorities are fixtures in promoting local economic development, the LRPA should embark on the development of a master plan for sustainability that can provide it with a framework to guide future industrial recruitment and economic expansion opportunities. Such a deliberate, practical, approach to planning is imperative in combatting the potential adverse effects posed by port operations in terms of ambient air disposition, land attributes, and water quality. A well-rounded approach to planning must include consultation and collaboration with stakeholders to achieve the necessary commitment port-wide to improve the air, land, and water quality of the port.

The research team followed EPA guidance for establishing the various approaches to port sustainability planning. The EPA has a ports focus, which is “. . . an EPA initiative with goals to reduce air pollution and greenhouse gases, to achieve environmental sustainability for ports, and improve air quality for near-port communities” (US EPA 2017b). Recognizing that ports are pollution producers, the EPA, in recognizing their vitality for economic growth and development, provide ports guidance on reducing effluents and emissions (US EPA 2017b). Though completely voluntary, the EPA encourages ports across the county to engage in the following sustainable practices:

1. Establish anti-idling policies

2. Expand off-peak operations hours to avoid congestion

3. Retrofit compatible machinery with verified technologies to use cleaner fuels and operate more efficiently

4. Develop an Environmental Management System

5. Complete an emissions inventory
6. Develop educational programs on air pollution and emissions reductions for terminal operators and fleet owners

7. Substitute electric power for diesel power

8. Substitute rail or barge transport in lieu of trucking (US EPA 2017b).

These practices suggested by the EPA to achieve sustainable port goals, though voluntary, are actions that must be encouraged through proper planning and adoption of policies consistent with port sustainability plans. To plan properly, port authorities must be versed in the various environmental media and mitigation practices available.

The research team provides a discussion, which by all means is not exhaustive, of port-relevant environmental media and mitigation practices, as well as some best practices exhibited at various ports across the globe. These environmental media and mitigation areas include: air; water; energy; and, technology and infrastructure.

**Clean Air**

As port operations depend on nearly every transportation mode, ports are conductors of air pollution. To transport goods and materials, ports depend on barge, ship, truck, and train traffic, all of which emit noxious emissions. As port logistics continue to expand, so do these emissions. These air pollutants typically manifest in the form of gas emissions that affect air quality.

The Port of Long Beach uses a simple system to combat air pollution – Vessel Speed Reduction (VSR). VSR is exactly as it sounds – ships slow down as they near the harbor – and the port uses financial incentives to encourage ships to slow their entry into the port to 12 knots (Port of Long Beach, n.d.).
Given their transport dependence, many ports are beginning to consider alternative models to reduce the emissions resulting from port operations; these alternatives provide another impetus for incorporating sustainable practices into daily operations.

Air pollution is essentially the discharge of noxious pollutants into the air (Mackenzie 2016). The EPA reports that there are nearly 39 million people living near port areas. The emission of gases, primarily from diesel emissions, can cause many health-related issues such as cancer and heart and lung disease, while also contributing to climate change (US EPA, 2016a). The EPA describes some of the most common forms of air pollutants as “(PM2.5), nitrogen oxides (NOx), air toxics, and carbon dioxide (CO2)” (US EPA, 2016a, pg. 1). The EPA suggests some of the most effective methods for mitigating air pollution is to replace older diesel fleets, reduce idling, and use clean fuels (US EPA, 2016a). Obviously, these changes can be incorporated into the LRPA strategic sustainability plan, but accommodations must be made to promote such changes over time in a manner consistent with sound fiduciary management practices.

**Clean Water**

According to the EPA, six major amendments were added to the former Federal Water Pollution Control Act of 1972, creating the new Clean Water Act (CWA). The CWA contains the following mandates: (1) the regulation of water pollution, (2) the ability to create and
Promotion of clean water practices for ports is imperative in protecting the waterways that are vital to business operations. Obviously, as port facilities are located on navigable water bodies, port functions are likely to affect the quality of the water body. As a result, ports should remain extremely conscientious of operations to ensure prevention of unwanted discharges into the water, as well as monitoring waste levels and any other threats to water quality.

In addition to water quality and clean water initiatives, water management is another important facet of a port strategic sustainability plan. While water pollution is a concern for port operations, so too is the port’s overall ‘water footprint.’ A water footprint is used to measure how much fresh water industries consume and pollute (Water Footprint Network, n.d.). Water footprint studies are used to examine a company’s dependency on water, the effect of the company’s water use on the environment, and govern programs specifically designed to combat water pollution, (3) standards for official water quality, (4) the unlawfulness of dumping waste in U.S. bodies of water, (5) specific funds for the improvement of sewer systems, and (6) acknowledgement of the importance to address nonpoint source pollution, or runoff from multiple pollutants into a single source of water (CWA, 2017; NSP, 2016).
the effect of water use on the company’s energy supply (Water Footprint Network, n.d.). Some industrial manufacturing methods used to cool and process materials depend on the daily consumption and discharge of large amounts of fresh water, often straining resource capacities of nearby communities (Water Footprint Network, n.d.). Additionally, the EPA reports that over the past decade, businesses face problems of rising costs of water and wastewater services “well above the consumer price index” (US EPA, 2017d). Having a Sustainability Officer who can monitor the port’s water footprint can assist port tenants in managing their water use, and thus their bottom line. This office also has the potential to create collaboration among resident industries to share resources when possible. For example, one industry may be able to reuse discharged water from another industry in its operations processes.

In managing water resources, the research team notes that water footprints are separated and characterized into three types: rainfall/soil moisture, surface/groundwater, and the amount of water required for the “assimilation of pollutants” (Water Footprint Network, n.d.). The three components used to assess the water footprint are characterized as grey, blue, and green. The Water Footprint Network (n.d.) defines the grey, blue, and green components of water footprinting as below:

A green water footprint is the measure of water absorbed into soil into the root zone and absorbed by plants. Green water
footprints are useful when considering water for farming and horticultural practices.

A blue water footprint is the measure of surface or groundwater evaporated taken from one body of water and returned to another body of water, or returned at different time.

A grey water footprint is used to measure the amount of fresh water used to treat polluted water to meet ‘specific water quality standards.’ Grey water considers the source of the water: water discharged from directly pipelines to a freshwater source, or water discharged indirectly as a source of runoff or leached into the soil” (Water Footprint Network, n.d.).

Studying water footprints not only provides industries with important knowledge about water use effects on the environment, it also provides insight as to how industries can reduce water use and simultaneously increase profits. A better understanding of water use can also reduce the utility costs of a company. The EPA encourages businesses and industries to pursue water efficiency, recognizing that these efforts can reduce operating costs as well as water and energy consumption (US EPA, 2017d).
**Energy Efficiency**

Energy efficiency – the maximization of business output per resource unit – is necessary to achieve sustainable operations. Energy efficiency is typically couched in terms of environmental effects, but it is a necessary component of achieving all three objectives in the “triple-bottom line” or “3 E’s” of sustainable development – environmental quality, economic development, and social equity (Henriques and Richardson 2004; Rohacs and Simongati 2007). While inland ports typically lack financial resources to completely overhaul their energy consumption practices, there are processes that can overcome this primary challenge. Most inland ports, like the Little Rock Port Authority, have to adopt strategies that incrementally reduce their use of energy.

Efforts to increase energy efficiency typically start small, for instance by exchanging traditional incandescent lights for energy efficient lights, or by putting lighting systems on a timer. These investments have tremendous potential and yields; e.g., the Port of Savannah has saved 30 percent on lighting costs since switching to photosensitive light switches, while the Port of Vancouver reduced electricity consumption by 13 percent by installing zone lighting and making bulb upgrades (Georgia Ports Authority 2012: 18).

The Port of San Diego reduced energy use 12 percent in four years, which translates into one million kilowatt hours of electricity, or enough electricity to power 85 average households per year. In 2011, the Port’s energy and water conservation saved an estimated $316,000 in utility costs (Port of San Diego Green Port Program Guide 2011).
Entergy, an electric power production company operating in the mid-south, offers technical assistance and incentives to both small businesses\(^2\) and large industrial users\(^3\) of which the LRPA and port tenants can take advantage. For tenants with high electricity use, collaboration with Entergy to conduct an energy audit may be a cost effective way to identify opportunities to make industrial processes more efficient. As previously mentioned, larger coastal ports, e.g., like the Ports of Seattle, Vancouver, and Savannah, have introduced idling policies that, when combined with emission restrictions, are curbing air emissions at these ports (US EPA 2017b). These efforts to prevent stationary idling (and thus, emissions) include the introduction of electrical connections for trucks to use for an alternative power source.

Another example of successful energy-efficient practices at U.S. ports is provided by the Port of San Diego; the port collaborated with San Diego Gas and Electric to improve energy efficiency through education and planning with the ultimate goal of long-term reduction in port energy usage. These collaborative projects include: an energy efficiency education program; a program for the tracking of energy usage at port buildings relative to consumption at similar facilities in the region; and, a port-wide energy audit (Port of San Diego 2012).

**Sustainable Technology/Infrastructure**

Corporate sustainability, while not formally incorporated into many companies’ operations, is highly supported in their informal corporate systems (Epstein et al. 2012) and is being embraced by corporations throughout the world (Nicolaescu 2015). In fact,

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\(^2\) Small business (Entergy Arkansas 2017b).

\(^3\) Large industrial users (Entergy Arkansas 2017a).
In 2016 the Port Authority of New York & New Jersey (PANYNJ), was awarded the 2016 Green Fleet award (Johnson 2016). A green fleet or eco-fleet is comprised of vehicles – cars, trucks, and machines created to reduce pollution. According to the Port Authority of New York & New Jersey vehicle statistics, 700 sedans, SUVs, and minivans) out of 884 are green vehicles, which results in a nearly 80 percent green sedan fleet. The Port Authority of New York & New Jersey has also “greened” its heavy duty vehicles (snow truck remover, airport rescue firefighter) and now there are 352 of 355 total vehicles that are green (PANYNJ 2017).

Research by Hashmi et al. (2014) reveals U.S. corporations are quite active in promoting corporate sustainability; in fact, “[a]nalyses revealed that U.S. corporations engage in eight activities related to sustainability: investing in energy-efficient methods, generating electricity from solar power, generating electricity from wind power, using biofuels, trading carbon credits, supporting environmental organizations, generating electricity from biomass, and generating electricity from hydropower” (Hashmi 2014: 673). As is evident, there is much interest in sustainable technology across corporate America.

With environmental or sustainable technologies finding acceptance from boardroom to workroom, understanding these technologies is important. Environmental technologies are innovations in production, procedures, design, and delivery that minimize environmental effects of these activities on our natural environment (Shrivastava 1995). As Shrivastava (1995: 185) notes, these innovations “include both hardware, such as pollution control equipment, ecological measurement instrumentation, and cleaner production technologies . . .” as well as “. . . operating methods, such
As companies begin to respect and “recognize the financial value of stakeholder reactions to social and environmental performance, and they incorporate it into their decision-making” (Epstein et al 2015: 42), technological sustainability practices are becoming commonplace. For example, roads are critical for traffic flow, so the Port Authority of New York New & New Jersey (PANYNJ) utilizes a warm mix asphalt (WMA) technology when building new roads. The WMA improves conditions for workers, protects neighborhood air quality and reduces use of fossil fuels (The Port Authority of New York & New Jersey 2017).

The Ports of Mobile, Houston, and New Orleans have made significant investments in moving to electrical equipment from fuel-based equipment. These equipment changes include cranes, refrigeration units, and on-site vehicles like trucks and trams. Because the upfront capital cost of replacing equipment is expensive, replacement is timed such that it coincides with the end of the lifecycle of the old equipment. Conversion to electric power immediately lowers operating costs, which allows for recouping of investments very quickly (Kreis, 2014).

as waste management practices (materials recycling, waste exchange), and conservation-oriented work arrangements such as car-pooling used to conserve and enhance nature.” Particularly relevant to companies located at ports is the focus of environmental technologies “to improve the ecological performance of manufacturing processes, which is achieved by redesigning production systems to reduce environmental impacts, using cleaner technologies, using higher efficiency production techniques, minimizing waste at source, and maximizing fuel and energy efficiency” (Shrivastava 1995: 187).
Another area in which sustainable technology is proving valuable is in the efficient handling of cargo. Ports that are implementing programs to streamline the process of loading and unloading barges to reduce the transfer time for goods, which lessens the idling time for barges and trucks. The Port of St. Louis invested $20,000,000 in building their new Municipal River Terminal, an upgrade that will eliminate one handling stage per container, leading to additional long-term savings (Kentucky Transportation Center 2014).
Section III
Strategic Sustainability Plan

In adapting to changing emphases in business, especially as more emphasis is placed on environmentally sustainable practices (Hashmi 2015; Shrivastava and Hart 1995), the LRPA must study and adapt to sustainability efforts and practices, particularly as it becomes an accepted, economically viable nuance of industrial operations. In fact, as of January 2015, the Board of Directors for the LRPA adopted a Sustainability Resolution that professed to:

establish a sustainable port that strives to create a livable and healthy industrial community, synergistically incorporating public and private investments, assure clean land, air and water, improve working environments and build infrastructure that will thrive for future generations (LRPA, Sustainability Resolution, 2015).

Through this recognition by the LRPA Board of Directors, the LRPA is embarking on a practical strategy to assess and adopt sustainable practices port-wide that can better position the LRPA to compete with other U.S. ports and trade zones across the country. Such a planning effort, albeit long term, when combined with the LRPA Board of Directors’ vision and its executive leadership, can undoubtedly grow the LRPA’s reputation as a premier choice for domestic and global business and industrial location and partnerships. To see this vision to fruition and adapt to contemporary industry practices, a strategic sustainability plan is a requisite first step in the process.
Recognizing the ‘Business of Sustainability’ for Ports

The extant research emphasizes that sustainable development is not achieved in a vacuum, but is only possible through the simultaneous balancing of concerns over economic development, social equity, and environmental quality, known as the “triple bottom line” (TBL) or “3 E’s” of sustainable development (Henriques and Richardson 2004; Rohacs and Simongati 2007; Hashmi 2015). Sustainability receives interest from industry due to the potential benefits, including lower costs and increased productivity, which are ultimately beneficial for corporate profitability (Tueth 2010). Such a balance is particularly germane for the port industry, which faces challenges that many traditional business firms do not; unlike firms that can focus more narrowly on their specific product and profitability, port authorities operate with numerous stakeholders that all together form “the backbone of international trade, providing direct linkages from international to regional or local transport systems and trade chains...” (Cheon, Dowall, and Song 2010). This interdependence on barge, truck, and rail industries, in addition to state and local governments, means that port authorities have a broader audience and thus, effect on local and regional economies. This project report identifies those benefits that can accrue to the port authority, its tenants, and the broader community by developing sustainability practices that help stimulate the regional economy, attract new business development, and ultimately improve profitability among members of the port industry, including port tenants and other members of the supply chain (Port of Los Angeles 2011; Port of San Diego 2012).

Several ports already have adapted to this new business environment and, in addition to fulfilling traditional port-related functions, also assume economic development functions. This transition to economic development increases the diversity of revenue streams available to the port, thereby increasing fiscal resiliency. Ports across the country have embraced and enjoyed success as economic development organizations.

The Port of Cincinnati was reconstituted in 2008 to identify and implement economic development initiatives (Port of Greater Cincinnati 2013).
Strategic Sustainability Planning

As the port is an integral part of the state’s economic development strategy, it is very important that a strategic sustainability plan is developed in concert with all port stakeholders and heeds the ‘3Es’ of economics, equity, and environment in moving forward with a strategic plan. In recommending this course of action, a sustainability officer is critical for working with port administration to ensure pertinent information is assessed prior to initiating a strategic planning process. Strategic plans must also consider sustainability practices of ancillary markets, as well as supply chain practices for current and future companies located (or considering locating) at the port. Another aspect of the planning process should include an information dissemination component; this component must focus on providing information to industry constituents about opportunities available through the port. For example, though long-term in nature, the Sustainability Council can develop a “port sustainability dashboard” or “web portal” for sharing sustainable opportunities across the business and conservation communities. A dashboard can educate port constituents on sustainable performance of the LRPA and the companies housed at the port; a portal can provide information about sustainable collaborative opportunities available at the port (e.g., sharing information about an available industrial need/byproduct in hopes of identifying another entity that can supply/use the product). In planning for a strategic direction, considerations are necessary for assessing the influence of port activity on employment, job development, revenues, particularly within a framework of sustainability. In doing so, the LRPA is able to assess the dynamics of its currency within the state and region.

Another aspect of the strategic planning process must include an educational component to ensure that stakeholders and constituents are operating from similar perspectives; moreover, such public education forums must also become a regular feature of the LRPA. The Port of Houston provides an excellent example of this practice by conducting a monthly public meeting on the fourth Tuesday of every month (Port of Houston n.d.-a); this port also seeks community input through an electronic request form and invites professionals affiliated with the Port of Houston to conduct
presentations to increase awareness on various issues (Port of Houston n.d.-b). Sessions have focused on general interest information as well as incorporating information on environmental stewardship, port history, local economic effects, port industry developments/practices, small business development programs for serving exiting port businesses, environmental advocacy, and the maritime industry.

**Strategic Planning & Stakeholder Partnerships**

The Little Rock Port Authority must create a strategic plan for port growth inclusive of sustainable practices. Yet, such a plan can only be successful by partnering with the local community. The plan should include key stakeholders, including port employees and small businesses, and should develop long term and short term goals with planned increments for assessing progress and success of the plan. Such a plan should lead, or at least influence, policies for incorporating sustainability into port operations and activities. Adapting the seven point approach used by The Port of Erie, the research team identifies the following components of a sustainability plan for the LRPA:

*Action Identification* – The Director is responsible for choosing those objectives and goals to review during a quarter.

*Performance Measures* – The Director and the board is responsible for selecting performance measures or indicators of progress.

*Regional Partnering* – The Director should coordinate with agencies interested in sustainable development and operations.

  Partnering must include agencies and organizations such as the Little Rock Sustainability Committee, Entergy, Keep Little Rock Beautiful, Little Rock Wastewater, the University of Arkansas Cooperative Extension Service, the Arkansas Natural Resources Commission, the Arkansas Economic Development Commission,
Arkansas Water Resources Center, and the Arkansas Department of Environmental Quality. As well, other organizational representatives must be included in this conversation, e.g., the Little Rock & North Little Rock Chambers of Commerce retention and expansion specialists, the City of Little Rock’s Sustainability Officer, Regional Recycling and Waste Reduction District, the Arkansas Energy Office, the US Green Building Council Arkansas, and the Arkansas Waterways Commission.

**External Partnerships** – The LPPA should seek to establish relationships with other organizations, both public and private, that have similar sustainability objectives (see above).

**Strategic Governance** – All plan actions should adhere to the organizational mission.

**Progress Reporting** – The Director is responsible for reporting progress to the board.

**Annual Review** – The Director reviews all evaluation information to identify areas of opportunity (Erie Port Authority n.d., p. 12).
References


