



PORT MUSKOGEE

SUCCESS FLOWS FROM MUSKOGEE

STRATEGIC PLAN

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A STRATEGIC PLAN IS ESSENTIAL FOR THE PORT TO BE PREPARED FOR THE EVER-CHANGING LANDSCAPE OF **DEVELOPMENT OPPORTUNITIES** DRIVEN BY FLUCTUATING SUPPLY CHAINS, **RESILIENT INFRASTRUCTURE NEEDS** TO COMBAT WEATHER-RELATED EVENTS, AND AN UNPRECEDENTED AMOUNT OF **FEDERAL FUNDING** OPPORTUNITIES. THE STRATEGIC PLAN WILL HIGHLIGHT POTENTIAL NEW DEVELOPMENT AND AREAS FOR EXPANSION, INCLUDING THE WAYS IN WHICH **FUTURE DEVELOPMENT IS AIMING TO IMPROVE ECONOMIC OPPORTUNITIES, BEAUTIFICATION, AND ENVIRONMENTAL RESOURCES.**



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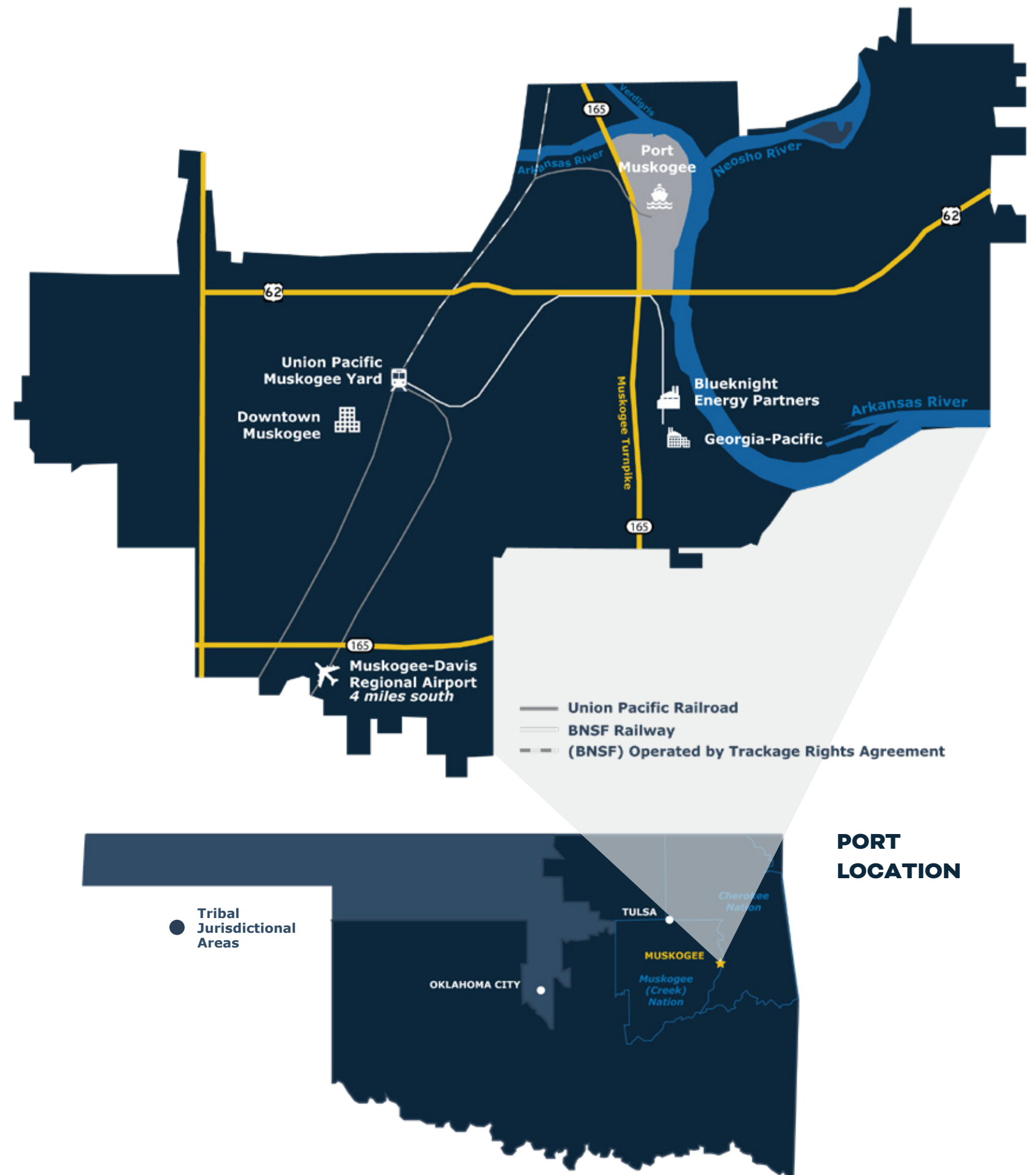
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OUR PATH FORWARD

PORT MUSKOGEE STRATEGIC PLAN

In May 2019, Port Muskogee (the Port) experienced historic flooding with a 30-foot rise of the Arkansas River, leaving a large portion of Port property underwater for two weeks. Waterfront facilities at the Port were severely impacted. The high water caused critical infrastructure damage such as soil washout under rail lines, damage to electrical systems, and building foundation issues.

The Port desires another 50 years of service life from infrastructure assets and plans to implement measures to help mitigate future environmental impacts and support continuous growth. It is vital that an effective strategic plan for the Port's business and operations be developed alongside flood mitigation efforts. To facilitate that, a critical Waterfront Infrastructure Assessment and Resiliency Study was conducted to prioritize needed repairs and replacements and identify mitigation measures to withstand future flooding events. This Strategic Plan builds on those studies to document the current state of Port assets and makes recommendations for the Port's future development and economic growth.



1.1 PROCESS & APPROACH

The development of this plan was directed by the understanding of where the Port is today and where we want to go, guided by a shared vision of how the Port can best achieve these goals. The resulting Strategic Plan illustrates past and current conditions, and future needs with a step-by-step guide to achieving our goals with site-specific opportunities, facility constraints, and existing systems taken into consideration.

With that intent, our process focused on:

- **Understanding Business Goals and Objectives**
A planning workshop was conducted with key stakeholders, including Port staff, commissioners, major tenants, the terminal operator, and Port partners. The workshop provided critical input on planned improvement projects, impacts to existing operations, timelines and schedules, regulatory issues, and potential development opportunities.
- **Establishing Growth Opportunities**
As a result of the planning workshop, we established and recorded future growth opportunities including site logistics, production, building footprints, and utility system capacities.
- **Observing Existing Conditions**
Existing conditions were documented by conducting inspections and analyzing materials, equipment, infrastructure, and operations during site visits. This information was documented in a GIS database for future use.
- **Developing Preliminary Design**
Preliminary designs was developed for critical projects based on goals, growth opportunities, and existing condition observations, to better serve the Port’s current tenants and position the Port for growth.
- **Finalizing Implementation Phases**
We developed a phased implementation plan to understand the project readiness, estimated cost, and potential schedule for each of these preliminary designs over time.
- **Continued Update and Maintenance to Strategic Plan**
The Strategic Plan is a living document to help the Port address current conditions while remaining flexible in changing markets. Burns & McDonnell will work with the Port and key stakeholders to maintain the document’s relevancy as projects progress and conditions change.

Strategic Plan Framework

The Plan first establishes the Port’s six goals, then provides important background information, describes the current state of the Port and the challenges it’s solving for, proposes strategies to address these challenges, and suggests next steps.



1.2 GOALS & OBJECTIVES

Port Muskogee has a vision to have assets that can serve the Port’s needs and withstand weather events while supporting growth and future development for the next 50 years.

To achieve our vision and mission, and drive the development of this Strategic Plan, the Port has established the following goals:

1

IMPROVE SAFETY
In all improvements and planned activities, the Port considers safety a top priority and seeks to incorporate updates and elements that enhance the safety of Port staff, terminal operator staff, dock workers, truck drivers, rail and barge operators, and the public.

2

IMPROVE FLOOD MITIGATION AND PRIORITIZE RESILIENCY
Identify flood mitigation and resiliency strategies to better prepare the Port for future flooding and other weather-related events. As the Port repairs and improves assets, plans will include building back stronger, not just to previous conditions.

3

PLAN FOR FUTURE GROWTH AND DEVELOPMENT
Determine improvements intended to enhance Port property, making it more attractive to developers and more flexible for future opportunities. The Port is an economic driver in the region, working closely with the City of Muskogee (the City), Muskogee County, and the State of Oklahoma to identify investment opportunities for businesses that will create well-paying jobs for those in the Muskogee area. The Port seeks improvements that will improve the flow of goods to market and create opportunities for the community surrounding it.

“

THE MISSION OF THE MUSKOGEE CITY-COUNTY PORT AUTHORITY IS TO PROMOTE THE OPTIMUM DEVELOPMENT OF PORT FACILITIES AND ACTIVITIES TO ENSURE THE CONTINUED VIABILITY OF THE MCCLELLAN-KERR ARKANSAS RIVER NAVIGATION SYSTEM AND TO ENCOURAGE THE RETENTION, EXPANSION, AND LOCATION OF INDUSTRY FOR THE BENEFIT OF THE CITY OF MUSKOGEE, MUSKOGEE COUNTY AND THE STATE OF OKLAHOMA.

”

4

IMPROVE THROUGHPUT
As part of future growth and development, the Port seeks to improve throughput to meet future demand by maximizing existing resources. By identifying efficiencies, alleviating bottlenecks, and implementing targeted improvements, the Port can help transport more goods in less time, thus improving profitability, tenant satisfaction and attraction alike.

5

IMPROVE AIR QUALITY
Reduce mobile source emissions on Port property by seeking opportunities with efficient operational improvements and alternative fueling infrastructure. These efforts improve the air quality, and therefore health and quality of life, of the communities surrounding the Port.

6

IDENTIFY AND MAXIMIZE FUNDING SOURCES
Develop a strategic approach to federal funding that the Port can use to apply for grants as the Infrastructure Investment and Jobs Act is implemented over the next five years, as well as other funding opportunities as they arise.

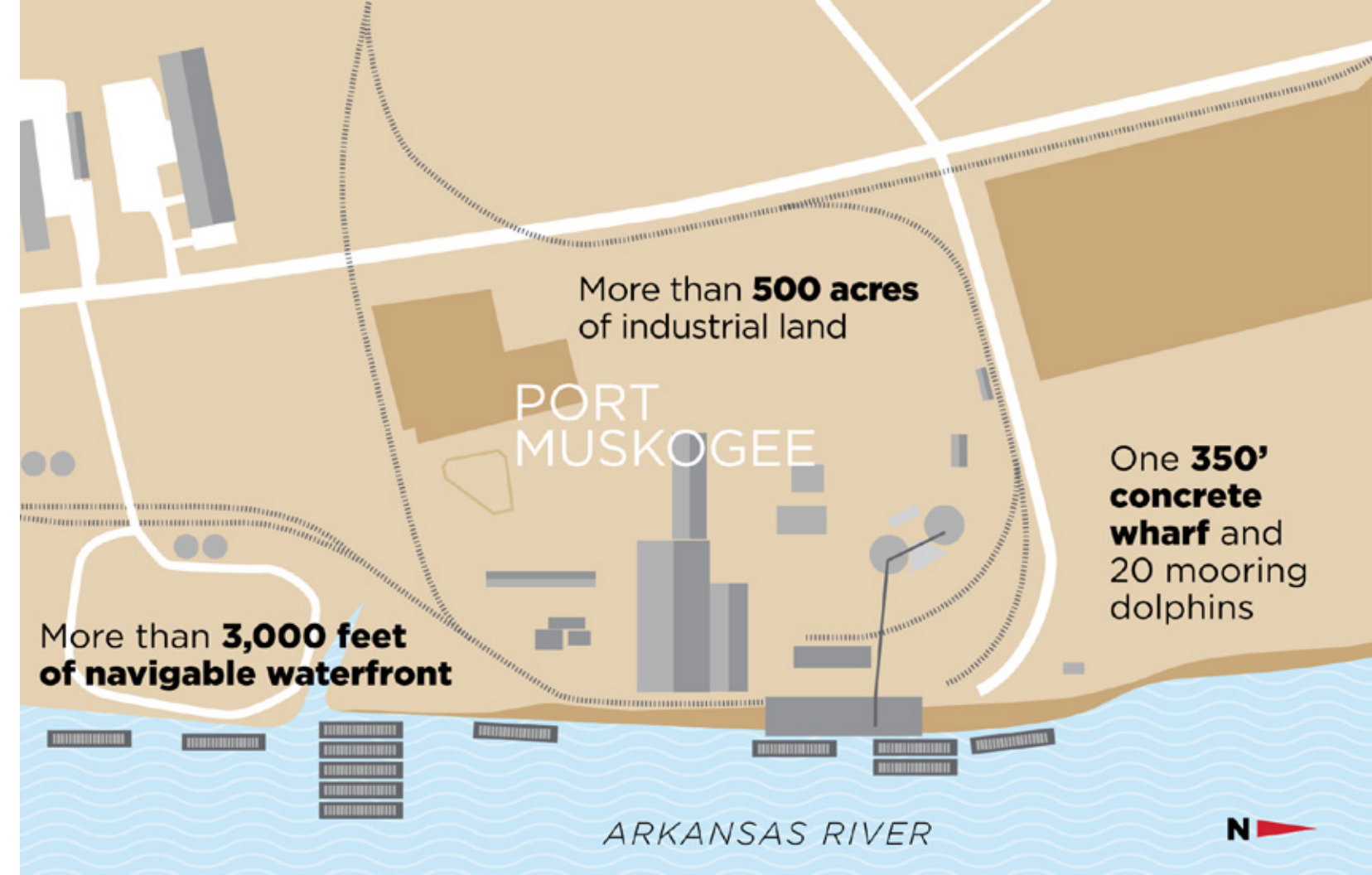
BACKGROUND

2.1 PORT MUSKOGEE OVERVIEW

Under statutory authority provided by the Oklahoma Legislature, the City of Muskogee and the Board of County Commissioners for Muskogee County created the Muskogee City-County Port Authority, known as Port Muskogee, in 1970 in response to a \$1.3 billion federal investment in the construction of the McClellan-Kerr Arkansas River Navigation System (MKARNS). The Port is located at River Mile 393.8 of the MKARNS, the nation's most inland, all-weather waterway - home to nearly 85 industries employing more than 6,000 people with more than \$300 million in annual payrolls, including hydropower generation facilities providing renewable, low-cost electricity. The waterway, also known as Marine Highway 40, supplies water for industries and municipalities, provides recreation to its communities, and allows for the efficient movement of goods and waterborne commerce.

Muskogee offers several strategic advantages, such as a central location, diversity of transportation methods, and favorable trade

designation. The Port is centrally located off the Muskogee Turnpike, near US 64 and US 69 providing north-south access, and US 62 and OK 165 providing east-west access, as shown in the map on page 5. The Port is within 20 minutes of I-40, 40 minutes of I-44, and has indirect access to I-35 via I-40 two hours to the west. The Port sits at the confluence of the Arkansas, Verdigris, and Grand Rivers. The area also connects several freight rail networks, with direct access to the Union Pacific Railroad (UPRR), and is near the Muskogee-Davis Regional Airport. The regional airport, equipped with full-service capabilities 24 hours a day, further expands the Port's supply chain capabilities and redundancies. The Port is designated as Foreign Trade Zone 164, which gives Port industries a competitive edge through reduced costs and increased profitability. Several manufacturing and agricultural industries immediately surround the Port, including Blueknight Energy Partners, Georgia-Pacific Manufacturing, and Quality Liquid Feeds Inc., to name a few.



Other Plans or Relevant Planning Documents

The current Port Strategic Plan was originally developed in 1962 as an evaluation of the Port facility needs and potential. The plan included an analysis of the existing land uses, proposed transportation upgrades, potential funding opportunities, potential revenue and costs, and proposed land use type locations. The intent of the study was to plan and prepare for the installation and development of Port Muskogee. The 1962 Port Strategic Plan was followed by the Plan for the Location, Financing, and Development of the Muskogee Port and Industrial Park in 1965 (1965 Plan). The 1965 Plan details additional strategies and opportunities for Port Muskogee development, including maps of the industrial park development, characteristics, utilities, and uses.

The City of Muskogee Comprehensive Plan and Future Land Use, adopted June 4, 2012, contains the vision for the City and designated the Port area east of the Muskogee Turnpike (State Highway 351) from the City of Muskogee boundary on the southern end north to the Arkansas River for Heavy Industrial Zoning. The City set aside this area for development and intends to maintain the concentration of manufacturing and industrial land uses which, though providing significant regional employment, are not easily combined with other uses.

Within the Heavy Industrial Zoning designation, the area north of U.S. Highway 62 and east of the Turnpike is included in the Port Strategic Plan.

This area is noted as being “lands adjacent to the Arkansas, Verdigris, and Grand Rivers, including the lands within the jurisdictional boundaries of Port Muskogee”. The land should be preserved for uses requiring water access.

The City of Muskogee also envisions updates and improvements providing access to Port development. South of Highway 62, the area is intended for industrial uses of varying intensity. The area west of the Muskogee Turnpike should be less intensely industrial as it approaches residential development, while development east of the Muskogee Turnpike is suitable for a more industrial focus. Complementing this approach, the City of Muskogee has zoned most of the area as Port Industrial with some areas as Light

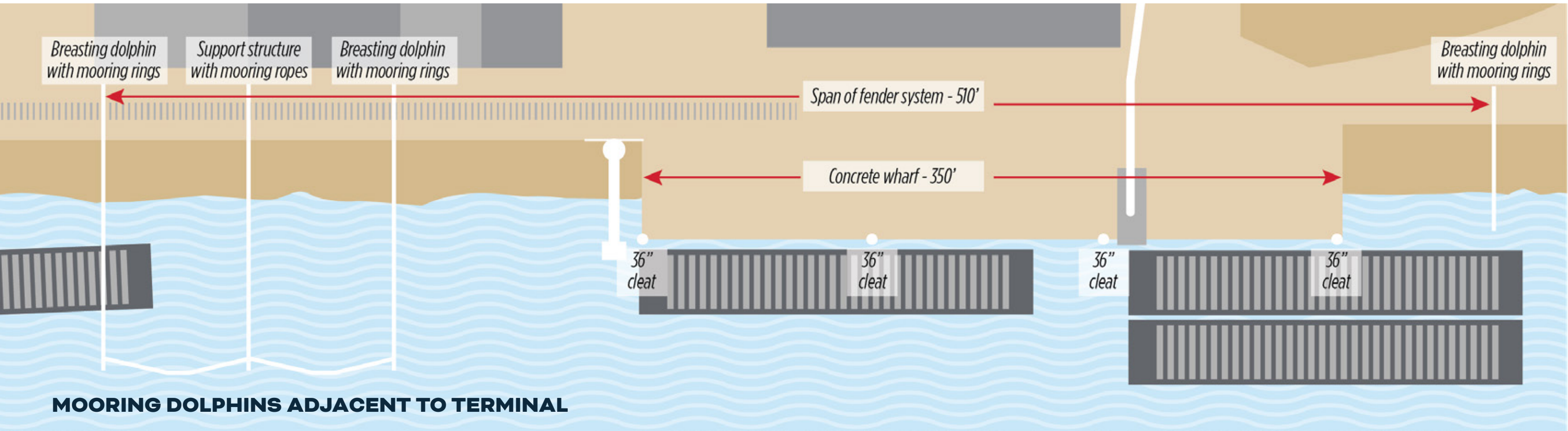
Industrial. The City zoning maps may require updating to identify additional areas of the Port recently zoned to Port Industrial. Updates to the zoning regulations could impact development plans within the Port but would require public hearings to amend. Strategies included in this Plan comply with the City of Muskogee Comprehensive Plan.

Future land-use restrictions or modifications could alter this Strategic Plan. In addition to the Port, departments and entities that may be a part of the approval process depending on the change include the City of Muskogee, State of Oklahoma, United States Army Corps of Engineers (USACE), Federal Emergency Management Administration (FEMA), Environmental Protection Agency (EPA), Railroad entities, and Oklahoma Department of Transportation (ODOT).

STATE FLOOD MITIGATION RECOMMENDATION

ODOT contracted a preliminary engineering report for the **addition of new mooring dolphins at several ports along the MKARNS**. The report recommended upgrades to obsolete and deficient mooring structures to ensure they could withstand another flood event; during the 2019 flood, river water overtopped the existing mooring structures and rendered them operationally nonfunctional. In addition, all the dolphins show serious damage including coating failures and surface rust, and several of the structures have been taken out of service.

The ODOT report proposes installation of 20 new monopile mooring dolphins at the Port, as shown in the figure below, which are intended to replace and supplement existing structures. **Of the 20 new dolphins proposed, 17 will be placed downriver of the loading dock and the other three will be placed upriver.** Two of the dolphins support an overhead crane used to load and unload barges. These dolphins will remain in place and the new monopiles will be driven adjacent to the existing structures. The design anticipates three monopiles used per barge to provide redundancy for mooring lines. The graphic below depicts the dolphins immediately adjacent to the terminal. The total cost for installation of the 20 dolphins is \$12,817,000. No funding has been secured at the time this plan was written.



MOORING DOLPHINS ADJACENT TO TERMINAL

2.2 PLANNED PROJECTS & IMPROVEMENTS

The flood flows in 2019 doubled those of the most recent major flood over 30 years prior, reaching an estimated 675,000 cubic feet per second (cfs). As a result, barges broke loose and caused damage to downstream river infrastructure. Operations on the river were delayed for four months, costing the State of Oklahoma daily losses of up to \$20.7 million in Gross Domestic Product (GDP). After the historic 2019 flood, the Port began an aggressive approach to repair, rebuild, and plan for the future.

A Flood Protection Improvement Project, partially funded through an Economic Development Administration (EDA) Grant, is a critical first step involving levee-type construction to a height meeting minimum flood elevation. The current project plans include embankment construction, installation of drainage structures/manholes and appurtenances, flood and erosion control countermeasures, and raising the elevation of some parcels to meet minimum flood elevation.

Additionally, the Port is evaluating a Security Improvement Project consisting of the design, procurement, and installation of fencing, security cameras, and equipment around the perimeter

of the port, as well as a new secured entrance gate. A Port Entrance Improvements Project is under consideration to potentially realign N. 43rd Street at the intersection of E. Harris Road to accommodate the new secured entrance gate. The new alignment would also provide safer turning radii at the intersection.

The Rail Access Project, partially funded by a 2018 BUILD grant, will enhance railroad access to meet current Class I railroad safety and engineering standards for manifest and unit train service, modernize an existing at-grade highway/rail crossing on Oklahoma State Highway 16, and construct 9,746 feet of new railroad track to reverse the direction of and improve interchange with the Union Pacific Railroad (UP) and other Port industries.

The Rail Improvements Project, planned for construction in 2022, is intended to improve capacity and operations of the Port marshalling yard while also realigning Batfish Road to eliminate a grade crossing. Finally, the Port is planning a Terminal Road Improvements Project to create a formal paved roadway network within the Port's main terminal.

2.3 INFRASTRUCTURE ASSESSMENT

A critical Waterfront Infrastructure Assessment and Resiliency Study was conducted in November 2021 to prioritize needed repairs and replacements due to the flood and identify mitigation measures to withstand future flooding events. A condition baseline was obtained for facilities, equipment, structures along the waterfront, railways, utilities, the electrical system, and stormwater system. Each element assessed for condition was also given a priority ranking. The Waterfront Infrastructure Assessment also developed preliminary designs and order-of-magnitude cost estimates for several recommended improvements.

Strategies included in this Strategic Plan were developed with these priority rankings in mind and include many of the Infrastructure Assessment recommended improvements.

TOP 10 IMPROVEMENTS RECOMMENDED BY WATERFRONT INFRASTRUCTURE ASSESSMENT AND RESILIENCY STUDY

1. Build new dockside rail and bulkhead
2. Replace main dock to include a protective face and build new 80' heavy-lift dock, which will be required to maintain operations while the dockside rail is being reconstructed
3. Replace the three existing overhead cranes with 40-, 25-, and 25-ton cranes
4. Relocate transit warehouse
5. Upgrade and repair grain elevator (BTR) to include the roadway
6. Develop new laydown yards
7. Reconstruct rail and modify existing roadway network throughout the terminal to improve operations
8. Relocate rail scales
9. Expand rail transloading yard area
10. Develop container storage, install overhead container crane, and develop laydown area

RECOMMENDED IMPROVEMENT PROJECTS* & ALIGNMENT WITH PORT GOALS AND OBJECTIVES

INFRASTRUCTURE ASSESSMENT RECOMMENDATION IDENTIFIED IN TABLE ON LEFT

*FROM WATERFRONT INFRASTRUCTURE ASSESSMENT AND RESILIENCY STUDY

Project	Safety	Flood Mitigation	Growth	Throughput	Air Quality
1 New Dockside Rail and Bulkhead					
2 Main Dock Replacement and Heavy-lift Dock					
3 Replacement of Three Overhead Cranes					
4 Transit Warehouse Relocation					
5 Grain Elevator Upgrade and Repair including Roadway					
6 New Laydown Yards					
7 Operational Rail Reconstruction and Roadway Network Modification					
8 Rail Scales Relocation					
9 Rail Transloading Yard Area Expansion					
10 Container Storage Development, Overhead Container Crane Installation, and Laydown Area Development					



PROPOSED
EXISTING
ALTERNATE



THE FUTURE OF PORT MUSKOGEE

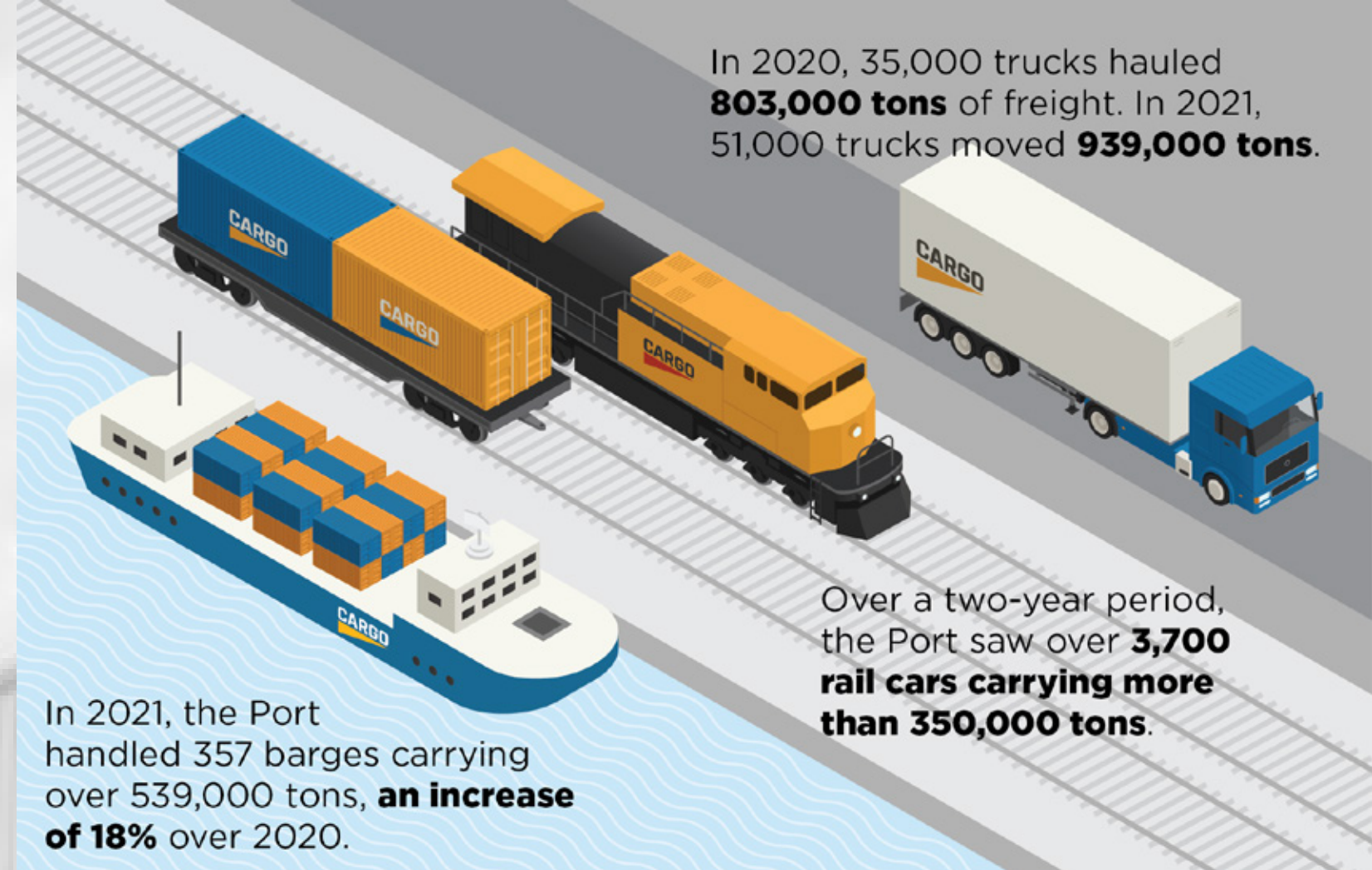
This rendering shows several of the recommendations from the Waterfront Infrastructure and Resiliency Assessment, as shown in the previous table, as well as additional recommendations made in this Strategic Plan. Renderings are provided as an attachment.

LEGEND FOR TOP FIVE RECOMMENDATIONS:

- A. New Dockside Rail and Bulkhead
- B. Main Dock Replacement and Heavy-lift Dock
- C. Replacement of Three Overhead Cranes
- D. Transit Warehouse Relocation
- E. Grain Elevator Upgrade and Repair

WHERE WE ARE NOW

The Port is an economic driver in the region, working closely with the City of Muskogee (the City) and Muskogee County (County) to identify investment opportunities for businesses that will create well-paying jobs for those in the Muskogee area. Consisting of both public and private port terminals, the Port offers more than 500 acres of industrial land, one 350-foot concrete wharf, and 20 mooring dolphins, along more than 3,000 feet of navigable waterfront. The Port provides a link of cargo between ports along the Mississippi, Ohio, and Illinois Rivers and international ports through the Gulf of Mexico. It services a regional agricultural and manufacturing hinterland, as well as users located within the industrial parks adjacent to the Port. The Port is a critical connection between the nation's heartland and major markets and export hubs through the MKARNS and its connectivity to the Mississippi River and inland waterway network.



The Muskogee City-County Port Authority has an active workforce development effort, including full-time staff devoted to ensuring businesses located at Port facilities and industry within the City and County have the resources they need to grow and thrive. Engagement with the community surrounding the Port will continue to grow as anticipated projects are planned and developed. A proactive approach to community engagement will allow for more informed decision making and successful project planning, as well as build invaluable relationships and trust with local residents and organizations.

Currently, 14 industries rely on the Port for raw materials. Those businesses represent 2,500 jobs in the Muskogee area. As of the time this plan was created, Port Muskogee economic development staff is working on 19 projects, possibly creating **2,246 NEW JOBS AND \$2,699,173,700 OF INVESTMENT**.



Under contract with the Port, Bruce Oakley, Inc.’s (Oakley) Terminal-Muskogee provides a variety of barge, rail, and truck transloading services in the public terminal area of the Port. Oakley’s Terminal Muskogee handles large volumes of bulk and break bulk commodities, including containers, steel pipe, coil, plate, beam, sand, salt, feldspar, clay, granite fines, coal, coke, fertilizer, grain, paper, scrap, glass, and ore.

Cargo shipped by barge transportation included commodities that likely supported local and regional industries, including over 136,000 tons of steel coils, 112,000 tons of clay, and 79,000 tons of fertilizer.

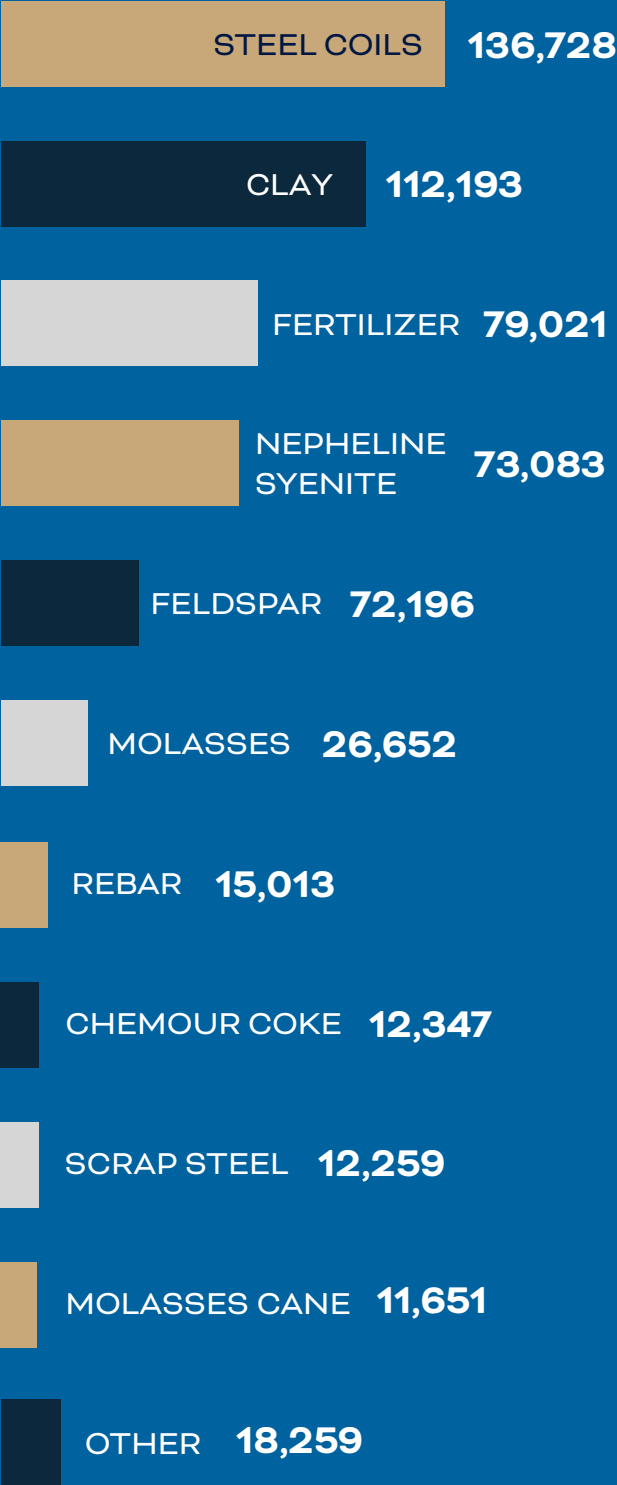
Given the efficiency associated with barge transportation and containerization, the Port expects the demand for barge transportation to increase in the future, in turn increasing demand on existing facilities.

ANNUAL AVERAGE DAILY TRAFFIC ON PORT ROADWAYS

Port Roadway	Average Annual Daily Traffic* (AADT), 2020	Percent Trucks
Muskogee Turnpike	17,100	13%
Turnpike Northbound Exit Ramp to E. Harris Road	910	27%
Turnpike Northbound Entrance Ramp from E. Harris Road	430	29%
Turnpike Southbound Exit Ramp to E. Harris Road	470	27%
Turnpike Southbound Entrance Ramp from E. Harris Road	1,300	10%
E. Harris Road	1,300	9%
N.E. 51 st Street E.	1,300	9%

*Data, reported by the Oklahoma Department of Transportation, includes both single unit and combination trucks. Conventional combinations are tractors with one semitrailer up to 48 feet in length or with one 28-foot semitrailer and one 28-foot trailer, and can be up to 102 inches wide.

2021 BARGE
TONNAGE BY
COMMODITY



3.1 TRAFFIC FLOW & ACCESS

Port Muskogee serves as an important transportation hub at the epicenter of Southwest, Southeast, and Midwest America. Trucking and some rail transportation currently support waterborne commerce at the Port, transporting cargo further inland to other industrial centers.

E. Harris Road has direct connectivity to the Muskogee Turnpike and serves as the sole means of entry to and exit from the Port. Though the Port is connected to multiple interstates and highways in the region, the Muskogee Turnpike interchange provides the only direct access to a highway. This lack of route redundancy is a significant operational challenge which reduces efficiency and throughput, as well as a safety risk.

Within the Port property, traffic is distributed onto multiple route options

allowing for sufficient circulation and unhindered access to each Port tenant, though additional signage would improve wayfinding. The truck routes within Oakley’s Terminal Muskogee are unmarked and unpaved. As previously mentioned, the Port is planning to create a formal paved roadway network within the Terminal. These improvements are urgently needed as the Port experienced a 45.7 percent increase in truck traffic, from 35,572 trucks entering the Port in 2020 to 51,856 in 2021.

Trucks carried the majority of tonnage through the Port in 2021 at 938,832 tons. The Port experiences seasonal peaks related to fertilizer shipments that cause queuing. As a result, truck traffic often must pull off onto the shoulder. These seasonal peaks will

require further investigation to make the best use of available data. Access control was the Port’s primary vulnerability identified by a Port Security Assessment conducted by the Cybersecurity and Infrastructure Security Agency in January 2021. There is no infrastructure, such as an entry gate or security booth, at the entrance to the Port. Fencing does not entirely enclose the Port, leaving the rail marshaling area exposed. Where fencing does exist, it is rusting in some places due to stormwater runoff flows. Members of the River Oak neighborhood adjacent to the Port frequently cross through unfenced Port property to access recreational destinations such as the Arkansas River, hills suitable for sledding, and the Muskogee War Memorial Park, which poses significant safety hazards due to

the Port’s heavy industrial activity and lack of pedestrian facilities. Lighting throughout the Port is damaged and ineffective, which makes it difficult for personnel to identify potential intruders and carry out operations safely in low light conditions. Many light poles throughout the Port are leaning and have broken fixtures, and the light cast from existing fixtures is uneven, causing glares and shadows that reduce visibility.

This Assessment led to the Security Improvement Project previously described. The Port has prioritized its security and addressing the vulnerabilities identified in the Assessment. As such, the Port applied for a 2022 FEMA Port Security Grant that included many of the elements of the Project.



3.2 RAIL

The Port is served by Union Pacific Railroad (UPRR) by way of their Cherokee Subdivision. The Port track connects to the UPRR mainline west of Highway 16 and south of the Arkansas River and heads east to the marshalling yard on the west side of the Muskogee Turnpike. From the marshalling yard, it continues east with one track crossing under the Muskogee Turnpike to serve several Port tenants. UPRR's heavily traveled main line, connecting Chicago and Houston, goes through Muskogee, and UPRR's Muskogee Yard is within a few miles of the Port. UPRR delivers cars to the Port's marshalling yard five days a week.

Current rail-served tenants include the following:

- Metals USA
- Proform Group
- Ergon Asphalt and Emulsions
- Quality Liquid Feeds (QLF)
- Vallourec Star
- Blueknight Energy Partners (BKEP)
- Georgia-Pacific
- BTR (Oakley)
- Paragon

A number of those tenants are served by way of a small loop that is bordered by the Arkansas River to the east, Harold Scoggins Boulevard to the north, and Don Cayo Drive to the south. A spur traverses north to serve the Vallourec site, and another spur that served the former Fansteel site and traverses south, terminating north of U.S. Highway 62. In total, the Port maintains and operates approximately 35,000 linear feet of track within the Port and leases 12,000 linear feet of track to Port tenants. Port staff currently serves all tenants by shoving rail cars from the marshalling yard to tenant facilities.

The current Port track network is comprised of 85lb to 115lb rail, much of which was installed as early as 1970. Existing track horizontal curvature ranges from 8.5 to 16-degree curves. UPRR's maximum allowable curve is 10 degrees, so many of the curves throughout the Port are substandard yet continue to function for Port operations. These tight curves require operators to use slower speeds for safety reasons, which reduces efficiency and throughput. There are also several tight turnouts within curves, which can cause maintenance challenges.



LEGEND

- Existing Track (including 2022-2023 Planned Construction Track)

The Port maintains and operates approximately **35,000** linear feet of track within the Port and leases **12,000** linear feet of track to Port tenants.

3.3 WATERFRONT INFRASTRUCTURE

Port Muskogee's main terminal, Terminal-Muskogee, is currently operated by Oakley, who handles large volumes of bulk and break-bulk commodities, as previously described in the start of this section.

The terminal has multiple transfer capabilities including barge to rail or truck, rail to barge or truck, and truck to barge or rail; scales up to 200-ton capacity; harbor service with 1,200 horsepower towboats; and 3,000 feet of navigable waterfront providing ample fleeting and staging areas for up to 75 barges. Dock access is comprised of a 350-foot concrete wharf along the main dock and 20 mooring dolphins, with three berths totaling 679 linear feet of capacity. In 2021, the berths handled 357 barges carrying a total of 539,402 tons.

The existing main dock was constructed when the Port was established and the MKARNS became navigable in 1970. The dock was designed for a uniform vertical live load of 600 psf and H20-S16 roadway loading.

These structures sustained severe damage during the May 2019 flood, causing safety concerns for dock workers and requiring limited capacity operations. The Waterfront Infrastructure Assessment conducted in November 2021 included above-water and underwater assessments of primary structural elements, which informed several prioritized recommendations to improve safety and code compliance, state of good repair, and establish preventative maintenance practices moving forward.



Berths, Docks, & Terminals

- The terminal has **multiple transfer capabilities** which include, barge to rail or truck, rail to barge or truck, and truck to barge or rail
- **Scales up to 200-ton capacity**
- Harbor service with **1,200 horsepower towboats**
- **3,000 feet** of navigable waterfront providing ample fleeting and **staging areas for up to 75 barges**
- Dock access is comprised of a **350' concrete wharf** along the Main Dock and 20 mooring dolphins, with 3 berths totaling **679 linear feet of capacity**



GOALS

As previously described, the Port has established six goals to achieve our vision and mission and drive the development of this Strategic Plan. Specific strategies have been identified to guide the Port’s progress toward meeting these goals. This is a dynamic plan that can be updated as projects progress and new opportunities present themselves.

4.1 IMPROVE SAFETY

IN ALL IMPROVEMENTS AND PLANNED ACTIVITIES, THE PORT CONSIDERS SAFETY A TOP PRIORITY and seeks to incorporate updates and elements that enhance the safety of Port staff, terminal operator staff, stevedores and dock workers, truck drivers, rail and barge operators, and the public.

Travel ways within the Port are specifically for 18-wheeler container trucks, work trucks, and railroads. There are no designated pedestrian walkways for employees, causing a pedestrian safety concern. Due to the lack of pedestrian infrastructure, there is also a lack of pavement markings or signage that would

indicate to trucks or railroad engineers that a pedestrian could be crossing the travel way. The Port also lacks basic signage indicating streets and wayfinding to support travelers of all modes. While employees are aware of the large vehicles in the area and practice safe crossings, accidents and lapses can happen, and some truck drivers, rail/barge operators, and members of the public are not as familiar with the Port.

The safety risk posed by lack of pedestrian infrastructure is further exacerbated by several weaknesses in the Port’s physical security that allow members of the public to cut through the Port to reach several community

amenities. Inadequate lighting and fencing, as well as the current lack of infrastructure at Port entrances, make it difficult for personnel to control access to the Port, including identifying and responding to potential intruders. Cybersecurity and digital security, such as cameras and remote access to critical data, are also gaps the Port will need to address.

The Port property includes sufficient space to develop greenspaces and pedestrian facilities. Adding greenspaces to a working environment can decrease stress levels, as well as improve employee wellbeing and concentration. Facilities to support safe pedestrian behavior are critical to ensure employees and guests can safely access these amenities.

STRATEGIES:

Secondary Access

Plan a secondary means of connectivity to a divided highway and ingress/egress to the Port. Additional connectivity to the Port could also provide emergency access during weather-related events as well as additional routing options to attract future tenants. Potential location and routing would require coordination with the City of Muskogee and further assessment.

Security Improvements

To enhance physical security for Port staff and tenants, as well as to better protect members of the community, high-security fencing should be installed around the perimeter of the Port, excluding property directly abutting the water. Security booths with gates should be installed at the Port’s current and proposed second entry point to provide a visual check and identification verification for all people and vehicles entering the Port. Gates should include technology such as badges to facilitate digitally-controlled entry outside of business hours when personnel may not be physically managing the gate. Additional lighting should also be installed throughout the Port to assist with visibility. A cybersecurity risk assessment should be conducted to identify potential risks and develop a mitigation implementation plan. A digital twin or similar digital model of the Port would greatly assist in monitoring Port security, identifying vulnerabilities, and continuing to plan for the future.

Rail Track Inspection

Existing rail tracks are not up to current standards, which makes them difficult to maintain and poses additional safety risk. Current infrastructure condition suggests there may be deficient rail weights and ties throughout the Port property. The Port should continue to engage a track inspector to identify deficient track, ties, and ballast, and plan to upgrade accordingly through future maintenance efforts. Additionally, there are multiple substandard curves and turnouts throughout the Port property, which cause maintenance challenges and pose a safety risk of derailment. Future improvements will aim to reduce the number of substandard curves and turnouts and ensure new construction meets or exceeds recommended safety standards.

Greenspace

Add dedicated greenspace and recreational areas away from heavy vehicle or rail traffic. A landscape buffer adjacent to major travel ways and non-port properties should be considered with future development within the Port. Additional landscaping provides not only respite areas for Port employees but can also provide a buffer between Port operations and the surrounding community to reduce noise pollution and improve aesthetics. Considering use of native plants and pollinators in landscaping will contribute to the community's sustainability. The greenspace and recreational areas should also be easily accessible by pedestrians around the Port. Other employee and pedestrian amenities that will be considered as Port properties are developed include:

- Asphalt running trails/pedestrian walking facilities around the Port.
- A recreational outdoor gym and picnic areas in pockets around the Port.
- Pedestrian route maps to benches and seating areas.
- Landscaping to the main terminal entrance to enhance its prominence, the travel way leading to the main port scales, and throughout the Port property as feasible.

Pedestrian Facilities

To improve safety and quality of life for Port employees, pedestrian facilities and recreational areas should be incorporated into future Port improvements. Designated sidewalks and pavement markings should be provided within the Port facility. In addition to improving pedestrian safety, these improvements will also inform truck drivers and railroad engineers where to look for pedestrians. Additional site lighting would further increase employee safety and the Port should consider energy-efficient and solar-powered bulbs as well as dark sky technologies to reduce light pollution and assist with environmental justice, as noted in the Infrastructure Assessment Section 5.13 General Site Lighting.

Clear Pavement Markings and Signage

To enhance the safety and efficiency of truck movement, mark new pavement with appropriate pavement markings, crosswalks, warnings, and traffic directions. Consistent colors that will show in all weather conditions, such as thermoplastic high visibility markings, should be utilized.

Clear Pedestrian Markings and Signage

Pedestrian walkways need to be well marked using consistent colors as described for pavement markings. Pedestrian crossing signs should be added along the roadways to alert vehicles of the possibility of nearby pedestrians. It is imperative to inform pedestrians that truck and train traffic has the right-of-way within the Port, since that is not standard practice for the public. If providing a designated sidewalk is not appropriate, a dedicated pedestrian pathway should be delineated with bright yellow paint, to keep pedestrian and vehicular traffic separate. Clearly marked building exits and crossing zones are also recommended. Exit areas near doorways should be marked red and crosswalks added to direct pedestrians away from the buildings along a safe route. Having designated pedestrian crossings will reduce the number of interactions that occur between pedestrians and vehicles. Pedestrian stop signs should be added at all points of interaction between travel ways and pedestrians, whether those are midblock crossings, overhead door entrances, or roadway intersections. Signs should also be added to indicate that trucks have the right-of-way. Bollards and railings could also be provided in areas that are near high vehicle traffic.

Pedestrian signage



4.2 IMPROVE FLOOD MITIGATION & PRIORITIZE RESILIENCY

IDENTIFY FLOOD MITIGATION AND RESILIENCY STRATEGIES TO BETTER PREPARE THE PORT FOR FUTURE FLOODING AND OTHER WEATHER-RELATED EVENTS.

As the Port repairs and improves assets, plans will include building back stronger, not just to previous conditions. According to the Oklahoma Standard Hazard Mitigation Plan, the frequency of extreme precipitation events has increased, with the most events in historical record occurring over the past three decades. More extreme precipitation and wind events, and consequently severe flooding events, are expected to increase in frequency and severity in the coming decades. The Waterfront Infrastructure Assessment and Resiliency Study included numerous recommendations to support flood mitigation and enhance resiliency of Port infrastructure.

The Port utilizes a variety of drainage solutions for stormwater runoff. The primary devices used are closed pipe systems, ditches, and overland flow. The 2019 flooding event highlighted deficiencies in the system, identified in the Waterfront Assessment Report. Maintaining the site stormwater system through the strategies suggested in this plan will help mitigate future flooding.

STRATEGIES:

Drainage Solutions

Minimize the additional impervious area added to the Port and incorporate flood mitigation measures into future projects and improvements. These mitigation measures include:

- Remove debris and regrade existing channels and roadside ditches to promote positive water drainage to the outfall point.
- Repair or replace existing storm structures and pipes that are failing or collapsed.
- New buildings suggested in this plan, such as the proposed new flexible-use warehouse, are to be built at an elevation above the 100-year floodplain.
- Regrade and stabilize the ground around storm collection structures that appear to have substantial debris.
- Regrade existing open areas and roadways around the Port to convey drainage to the surrounding storm water collection system.
- Utilize different materials for parking spaces such as permeable pavers.
- Utilize green infrastructure such as rain gardens — perennial, native plants nestled in a steep-sloped area with berm or stones along the water's exit route to slow overflow — that provide greenspace and landscaping benefit while diverting water from parking lots and roadways to vegetation.
- Establish a secondary flood evacuation access route to the Port as further discussed in section 4.4 to reduce risk associated with flood events should anything prevent access at E. Harris Road.

Main Drainage Channel Options

The Port has several options available to improve the main drainage channel.

- Repair and strengthen the existing waterway by installing bank stabilization to prevent erosion around the existing waterway, and regrading and sloping the existing waterway to maintain consistent drainage flow away from the Port.
- Install a concrete channel, as the channel would allow for more usable land but would leave the stream open. The channel will also help prevent erosion and will not require bank stabilization.
- Construct a closed pipe system for the stream, as the system would allow for more usable land around the stream.
- Pave existing gravel roadways throughout the Port to improve drainage to the closed pipe system already in place.
- Repair potholes and damaged pavement in existing roadways to prevent localized flooding and further damage to the existing pavement.

4.3 PLAN FOR FUTURE GROWTH & DEVELOPMENT

DETERMINE IMPROVEMENTS INTENDED TO ENHANCE PORT PROPERTY, ATTRACT DEVELOPERS AND BE FLEXIBLE FOR FUTURE OPPORTUNITIES.

The Port recognizes its role as an economic driver for the City and County of Muskogee and to help create a variety of well-paying job opportunities for the surrounding community.

STRATEGIES:

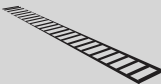
New Rail Service

There are multiple open parcels that could be rail-served with a proper amount of planning. Open parcels with the potential to be rail-served represent an opportunity for increased revenue through tenant leasing and rail car storage/switching, as well as emissions reduction and air quality improvement through modal efficiency. Direct rail served parcels have the potential to expand the Port’s cargo handling capabilities and increase throughput. Specific Port opportunities for direct to parcel rail service or storage are outlined below. The Port’s planned projects need to be considered as potential future rail improvements and track layouts are developed.

SIZE & CAPACITY OF PARCELS WITH OPPORTUNITY FOR NEW RAIL SERVICE

Parcel	Approximate Acreage	Car Capacity (60 foot cars)
Marshalling Yard	58	972
Tract A	49	37
Tract G	28	13
Parcels 1, 2, and 3	17	6
P Yard	14	10
Lion Oil Inc.	5	4
New Warehouse	5	6 (Warehouse) 42 (Total)

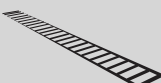
New Rail Service Opportunities



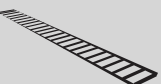
Marshalling Yard
Working from the UPRR connection to the east, there is a parcel with available space for a significant amount of track and capacity for an additional 970 rail cars west of the Turnpike. While the Port is not likely to build out track for the entire yard at once, it is good to know what track capacity is available. This could be utilized for transloading, direct rail to warehouse, or car storage for UPRR or other rail users. A car storage marketplace, such as Commtrex, could be helpful in locating companies in need of large car storage opportunities.



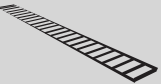
Tract A Spur
There are two options on the west side of Tract A. The first option is a loop that extends Lead Track 1 to travel around the northwest perimeter of Tract A, crossing Batfish Road and Harold Scoggins Boulevard, and allowing a Crossover track to tie into Lead Track 1 south of Harold Scoggins Boulevard. This option cannot be constructed without at least a partial construction of the Metals USA Realignment. The second option is to install a spur not crossing Batfish Road, but instead aligning down the east side of Batfish Road, ending prior to Harold Scoggins Boulevard, and allowing for rail service and car storage for Tract A.



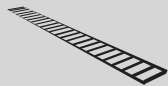
Tract G Extension
Construction of 1,340 linear feet of new track extending the western spur, that currently ends in front of Proform Group Inc. just north of Don Cayo Drive. This extension will provide rail access down the eastern side of Tract G, an open 28-acre parcel, and then connect back into Lead Track 5 to the south.



Parcels 1, 2, and 3
A spur south of Harold Scoggins Boulevard and west of Port Place, coming off the new siding track, is planned for construction in 2022.

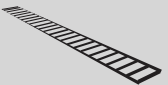


P Yard Service
Construction of a new spur off Lead Track 1 just north of Harold Scoggins Boulevard, consisting of 765 linear feet of new track and one new #9 turnout to provide rail service to the P Yard.



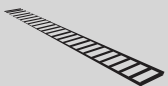
New Warehouse Service

Construction of approximately 2,640 linear feet of new track, including one new #9 turnout, from Lead Track 1 traveling north through the P Yard and onto the east side of a planned new warehouse on the north side of Harold Scoggins Boulevard. The new track will allow the port rail operator to transload woodpulp, its primary projected commodity, and other materials into the planned multipurpose, flexible warehouse.



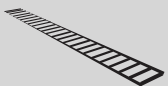
Metals USA Realignment

Heading east from the Turnpike in a counterclockwise direction, there is a proposed turnout that leads to a series of tracks serving Metals USA, Proform Group, and a new north service for Lion Oil, which has been identified by stakeholders as a valuable addition. This new series of tracks includes a connection to existing track that continues to curve to the east and serve Ergon, BKEP, QLF, and others along the Arkansas River and improves curvature and turnouts in the proposed new track.



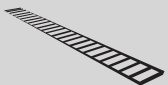
Quality Liquid Feeds (QLF) Extension

Construction of a 60-foot extension of the existing track serving QLF, a national liquid feed supplement manufacturer, to alleviate congestion in the Port’s marshalling yard and provide additional capacity for operations. By increasing the volume and efficiency with which QLF cars are loaded and unloaded, the Port creates the opportunity for additional business with the local and regional QLF locations, as well as adds a redundancy in the network should there be supply chain interruptions.



Paragon Realignment

There is a proposed connection to the Sand Lead to serve Paragon shoving from the south rather than around from the north. This allows for the removal of the existing Paragon Lead from the north, which provides for more space for material storage. The Port will need to assess the impacts to existing buildings and loadout infrastructure.



Future Connection

South and east of BKEP is a proposed wye connection which would connect Lead Track 5 south of the Old South Loop to the BTR Spur south of the grain elevator. This allows for an additional spur to be installed east to support a QLF expansion. Port staff should confirm QLF could be served from the north through BTR spur until the south property is acquired, allowing the wye to be built. There are challenges associated including property acquisition, environmental constraints, grading, and conflicts with existing infrastructure.

Heavy-lift Dock

A new heavy-lift dock can have a smaller footprint but be capable of supporting a uniform live load on the order of 1,000 to 2,000 lb/ft². The heavy-lift dock will allow the Port to increase capacity of existing cargo such as grain and establish the capacity to handle new cargo such as fertilizer. Truck access to the dock will need to be provided.

Container Dock

Over the past few decades there has been a growing trend to transport cargo in containers. Containers provide a standardized form for the handling of cargo and result in a significant reduction in Port handling and shipping costs compared to general cargo. Long term, the Port should consider a dedicated Container Dock. A container-on-barge service, shifting the transport of cargo by rail or truck to barge, would decrease emissions and improve air quality in the Muskogee region and along the MKARNS. This type of operation would require a container crane that would be capable of loading and offloading barges. Port Muskogee is well positioned to plan for containerized operations.

Dock Capacity

Determination of appropriate uniform live loads and vehicular wheel loads is important to the economic design of waterfront structures. Many existing facilities need to be upgraded in this area because of contemporary transportation practices, in addition to the structural deficiencies described above. In the past, general cargo facilities were designed for uniform live loads on the order of 500 to 600 lb/ft² and for standard highway trucks and forklift trucks of perhaps 5-to-10-ton capacity. Today, with the dominance of containerized cargoes, deck loads of 800 to 1,200 lb/ft², truck cranes, and forklift vehicles of up to around 50 tons or more capacity are common. Therefore, it is recommended that any improvement plans for the berths accommodate this capacity and include the addition of a heavy-lift dock, replacement of the main dock, and future consideration for a container handling wharf.

DOCK UNIFORM LIVE LOADS & VEHICULAR WHEEL LOADS

<i>Past Considerations</i>		<i>Current Considerations</i>	
Highway/Forklift Truck Capacity	5-10 tons	Highway/Forklift Truck Capacity	Up to 50 tons
Deck Uniform Live Loads	500-600 lb/ft²	Deck Uniform Live Loads	800-1,200 lb/ft²

Fertilizer Transportation Infrastructure

Moving fertilizer around the country requires sound infrastructure, including safe roads, bridges, and modern inland waterways. Currently, fertilizer is primarily distributed by rail in the U.S., however a significant amount is also imported from and exported to other countries. These primarily come into the U.S. via a port of entry, which are typically located on the coast to accept shipments via ocean-going vessels. Inland ports, located near rivers and rail lines, provide the vital link to aid in getting this product to and from the ports of entry to market. In 2017, 27 percent of all fertilizer imports and exports moved through the Port of New Orleans, which is conveniently located along the Mississippi River and served by Port Muskogee. As previously discussed, the Port currently serves the fertilizer industry and should consider improvements to expand capabilities for enhanced service. To leverage this opportunity, the Port should plan for providing docks capable of efficiently loading and unloading fertilizer destined for international shipping. The recommended heavy-lift dock and upgraded main dock can be leveraged to efficiently load and unload fertilizer destined for international shipping. The proposed new mooring dolphins would also be needed for unloading and loading barges in a double stack configuration to maximize production rates.



SITE DEVELOPMENT

ONE OF THE PORT'S GREATEST ASSETS IS ITS AVAILABLE LAND FOR DEVELOPMENT.

The Port is currently engaged with several interested potential customers for development of open parcels. While each new customer may have unique needs and specifications, the Port can begin to prepare for future site development within its existing property by updating drainage solutions that will mitigate future flooding events. Additionally, the Port can begin installing extensions and/or laterals to the gas mains, water mains, sanitary sewer, and electrical infrastructure. Any transformers or electrical components should be installed above the base flood elevation of 519.65 feet.

In addition to improvements and development within the Port's main facilities, the Port owns property or has plans to acquire property for future development outside its current footprint. These areas represent opportunities for additional tenants and development. The development of these parcels will require a more extensive review of roadway, rail, and utility infrastructure needs.

The Port should consider a site development plan to establish options and needed improvements for these key properties and areas. A plan would consider facility locations and convenient access to transportation corridors and intermodal freight transportation with major demographic reach to confirm logistic functions can be achieved. Additionally, a plan would uncover any perceived deficiencies that would be considered for mitigation or development avoidance. A market and economic analysis would identify likely end-user verticals to aid in site planning and marketing. Finally, allowances for flexibility to specialized development needs should be considered.

The Port owns 39 miles of rail corridor south of the main Port property that is currently inactive and would need upgrades to be operational in the future. Options the port should consider for development of this rail corridor include:

- Vacate the entire right-of-way to adjacent property owners.
- Identify potential rail-served properties along the corridor and develop a plan to upgrade the corridor for the ability to serve those potential properties.
- Develop a "rails to trails" community recreation path.

There is an opportunity to eliminate at-grade rail crossings throughout the city. The Port will need to assess these operational challenges and explore the opportunity to divert through traffic from the city to the Port along an alternative route.

4.4 IMPROVE THROUGHPUT

IMPROVE THE FLOW OF GOODS TO MARKET AND ENHANCE EFFICIENT MOVEMENT OF CARGO.

The Port plays a critical role transporting cargo further inland to industrial hubs and connecting the rural community surrounding the port to national and international trade markets.

While considered a small port, Port Muskogee handles a significant volume of material, much of which is transported in and out of the Port by way of trucks. Even as the Port continues to grow, expands container shipments, and diversifies material types, truck-based freight shipping will remain a vital logistical component.

To accommodate current demand and projected growth, capacity increases should focus on repairing and improving waterfront and storage infrastructure. Additional studies and analyses could identify operational efficiencies to maximize resource usage.

STRATEGIES:

Main Dock Replacement

The existing main dock is more than 50 years old, constructed when the Port originally opened in 1970. According to the existing drawings, it was designed for a uniform vertical live load of 600 psf and H20-S16 roadway loading. Given its age, outdated design capacity, and the structural damage cited previously, the main dock should be replaced with a new dock that can handle contemporary deck loads to meet current demand as well as building code standards. The main dock can be designed for a smaller live load carrying capacity in the 800 to 1,200 psf range to manage the construction replacement cost of the main dock. Additionally, all steel elements within four feet of the high waterline should be recoated to help mitigate corrosion and sustain the life of the steel elements.

The replacement of the main dock should be phased to minimize operational disruptions for the Port. This can be accomplished with the construction of a new heavy-lift dock that can temporarily support the main dock's operation while it is being replaced.

Dockside Rail

Damage from the 2019 flood event caused the dockside rail to sink, possibly due to washed out underlying soil, and forced it to operate at limited capacity. The dockside rail should be replaced to restore capacity and maintain safety, and built to minimize impact of future flood events.

New Warehouse

Washed out soil from the flood resulted in critical infrastructure damage to Port warehouses. Construction of a 50,000 square foot rail-served warehouse would serve a variety of operational needs. The new facility should include a small office, restrooms, a parking area, and an access road to the new heavy-lift dock.

Traffic Analyses

Conduct traffic analyses during a seasonal peak period to fully understand truck traffic flow and verify all recommendations are valid. Feedback from the Oakley Terminal Operators and Blueknight Energy Partners (BKEP), another Port tenant, report major back-ups at the scales during seasonal peaks in truck traffic. The configuration and location of the scales contribute to the backups.

Reduce Queuing Time

Evaluate operational improvements at the Oakley Terminal to reduce queuing time of trucks outside the terminal. Oakley Terminal uses a dual truck and rail scale. Truck traffic into the BKEP terminal must access the scale on the west side of NE 51st Street then cross the road to access the terminal. Traffic flow is further limited by the facility's ability to only load/unload one truck at a time. Reducing queuing times gets trucks and truck drivers back to work faster to prevent backups further down the supply chain. Possible solutions include providing additional loading/unloading locations and/or the addition of dedicated truck scales to the existing scale that can be dedicated to rail operations.

Secondary Access Point

Improve the Port's resiliency by maintaining operations in the event of a road closure, traffic incident, or long truck queuing lines. These constraints present risks to continued operations if an incident occurs that closes an element of the interchange or E. Harris Road.

Wayfinding Signage

There is currently no wayfinding within the Port to direct trucks along preferred routes. Adding this guidance will improve truck efficiency and reduce maintenance required to repair routes not meant to serve heavy truck traffic.

Autonomous Trucking

Though the Port does not current use or host autonomous trucks, adding and maintaining clear pavement markings will allow for future implementation of autonomous trucks.



4.5 IMPROVE AIR QUALITY

REDUCE MOBILE SOURCE EMISSIONS ON PORT PROPERTY BY SEEKING OPPORTUNITIES WITH EFFICIENT OPERATIONAL IMPROVEMENTS AND ALTERNATIVE FUELING INFRASTRUCTURE.

The Port falls within census tract 40101000400 and experiences worse health outcomes (life expectancy, heart disease, asthma, diabetes) than 96 percent of the country according to the United States Department of Transportation’s climate and economic justice beta screening tool. The Port embraces the opportunity to reduce greenhouse gas (GHG) emissions and achieve this goal on behalf of the surrounding community, as well as on a global scale, by exploring opportunities to adopt zero and near-zero emission technologies and energy sources and attracting tenants that produce alternative energy.

STRATEGIES:

Account for
Vehicle Behavior

Operational improvements at the Oakley Terminal should also consider truck idling as well as engine startups to reduce overall emissions from trucks at the Port.

Support Clean
Transportation
Modes

The new rail service described in the Future Growth and Development section has the potential to increase capacity at the Port intended to shift future cargo from heavy duty truck to freight rail, thereby reducing emissions in the Muskogee region. Supporting electric vehicles and electrification infrastructure is another future opportunity to improve air quality while maintaining operational productivity.

Reduce
Wait Times

By doubling the capacity of the main dock and adding the heavy-lift dock, the Port will realize more efficient operations that reduce truck and rail wait times and improve air quality for the communities surrounding the Port.

Emissions
Reduction

The Port should consider an Energy Efficiency Assessment to develop an energy management plan that identifies the right project to reduce emissions as well as enhance power reliability. The electrification of a port’s facilities is a proven pathway to minimize its carbon footprint and reduce GHG emissions. Various other forms of technology and equipment options are also available for alternative and renewable energy sources that could be considered for fleet fueling and equipment replacement. With the unprecedented amount of federal investment in renewable energy, an Assessment also provides a way to prepare the Port to seek federal funds, as well as looks at state and local incentives. As Port-owned equipment ages out and other funding becomes available, the Port would be well positioned to replace with zero or near-zero emission equipment.

Alternative
Energy Market
Opportunities

Seek opportunities to attract alternative and renewable energy tenants such as Liquid Natural Gas (LNG) and Hydrogen. With government incentives to reduce GHG and geopolitical maneuvers increasing global demand, markets for low emission energy sources are looking for opportunities for development and land at ports is in high demand. Each of these markets has a wide range of facility needs, some of which would benefit from the Port’s location along the inland river system with connectivity to the Gulf of Mexico.

4.6 IDENTIFY & MAXIMIZE FUNDING SOURCES

DEVELOP A STRATEGIC APPROACH TO FEDERAL FUNDING THAT THE PORT CAN USE TO APPLY FOR GRANTS AS THE INFRASTRUCTURE INVESTMENT AND JOBS ACT IS IMPLEMENTED OVER THE NEXT FIVE YEARS.

With unprecedented federal funding being made available for infrastructure projects through the Infrastructure Investment and Jobs Act (IIJA), Port Muskogee is in a prime position to develop and execute an aggressive strategy to pursue grant funding to address the critical infrastructure needs identified in this Strategic Plan. This section outlines anticipated federal grant opportunities applicable to port infrastructure, including grant program recommendations for each project identified in this Plan, and a phased approach to project implementation to fit with grant program criterion.



FEDERAL GRANT FUNDING OPPORTUNITIES

GRANT	TOTAL 2022 FUNDING	2022 MAX. AWARD	TOTAL IIJA FUNDING	IDENTIFIED PROJECTS
EXISTING PROGRAMS WITH ADDITIONAL IIJA FUNDING				
Rebuilding American Infrastructure with Sustainability and Equity (RAISE)	\$1.5 billion	\$25 million	\$7.5 billion	N/A
Port Infrastructure Development Program (PIDP)	\$450 million	None	\$2.25 billion	Main Dock, Heavy-lift Dock, & Dockside Rail
Nationally Significant Multimodal Freight and Highway Projects (INFRA)	\$1.6 billion	None	\$8 billion	Rail Improvements
Marine Highways Program (MHP)	\$40 million	None	\$25 million	Container on Barge Equipment & Infrastructure
NEW PROGRAMS ESTABLISHED BY THE IIJA				
Reduction of Truck Emissions at Port Facilities	\$50 million	TBD	\$250 million	Operational improvements at Oakley Terminal
Alternative Fueling and Charging Infrastructure Grants	\$300 million	\$15 million	\$2.5 billion	N/A
Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation (PROTECT) Formula Program	\$250 million	None	\$1.4 billion	N/A

NEXT STEPS

1

INFRASTRUCTURE IMPROVEMENTS

Many of the infrastructure improvement strategies identified within this Plan can be carried out immediately while others will be implemented over time as Port property is developed. Development of the terminal road network is a low cost investment the Port can make in the near-term that will realize safety and efficiency benefits. Security improvements are another near-term investment that will significantly enhance safety for the Port, local community, and aid in tenant attraction.

2

PURSUE FEDERAL FUNDING OPPORTUNITIES

The Port will continue to update the strategic federal funding approach as projects are implemented, priorities are adjusted, and/or funding opportunities become available. This Federal Funding Strategy is a living document that will align with future Port Strategic Plans and Capital Improvement Plans. The Port submitted applications for 2022 Federal grant programs during the development of this Strategic Plan, including the Port Infrastructure Development Program, Nationally Significant Multimodal Freight and Highway Projects Grants Program, and Port Security Grant Program. Building on this momentum and previous Federal grant success, the Port intends to continue submitting applications for Federal grant opportunities as the Infrastructure Investment and Jobs Act is implemented over the next five years and into the future.

3

CONTINUED PLANNING & ANALYSIS

As previously mentioned, this Plan is intended to serve as a living document, edited as new data becomes available. To better understand connectivity as well as potential operational and safety improvements, the Port plans to conduct a traffic flow analysis study. Site Development Plans for new Port property will be considered as funding becomes available and opportunities begin to emerge. The Port will also continue to conduct safety evaluations and regular inspections consistent with best practice and appropriate regulations.

4

COMMUNITY ENGAGEMENT

The Port recognizes its role in the community's economic development and health and safety. As such, the Port plans to engage with the public, particularly the neighborhoods and community surrounding the Port, to provide information about upcoming Port development and projects, gather input, and establish meaningful relationships.

