



Exhibit D

Research Project Requirement Template

Characteristics, Benefits, and Challenges of Inland Ports

Recipient/Grant (Contract) Number: 69A3552348306 (CY1-TSU-01)

Center Name: Southern Plains Transportation Center (SPTC)

Research Priority: Improving the Durability and Extending the Life of Transportation

Principal Investigator(s): Carol Abel Lewis and Gwendolyn C. Goodwin, Texas Southern University

Project Partners: Texas Southern University

Research Project Funding: Texas Southern University: \$36,000 (Federal) and \$36,000 (Match)

Proposed Start and End Date: 10/01/2023 to 09/30/2024

Project Description: The mainland US has tens of inland ports according to the World Port Association. Viewing their map and descriptions from the literature point to the lack of consensus on what constitutes an inland port. Research and conversations with industry personnel quickly led to the term dry port and identified an inland port as not residing on a waterway. Inland ports are removed from deep water and serve an intermodal distribution function. The advantages of inland ports or dry ports are to relieve congestion at nearby port facilities and facilitate distribution to inland destinations. Another goal involves moving goods to rail thereby reducing truck volumes for air quality considerations. Finally, making use of inland locations increased as container usage grew during the latter part of the 20th century and formalized during the early 2000s. Several recent situations showed how the supply chain can be disrupted, leading to congested and unexpected consequences.

In this phase of this project, the research team will establish the priority for focusing on inland port characteristics, attendant infrastructure, and the existing workforce and DEI conditions. At least two ports will be identified as case study locations by the research team and named stakeholders; one will be Tulsa and another port to be named. All data are expected to be available through public sources: USDOT, BTS, Army Corps of Engineers, World Ports, Association of American Railroads, or solicited directly from the ports. There will be no issues because all public entities should be subject to Open Record's requests. For this phase, Excel spreadsheets will be the primary input conduit for initial data characteristics. Additional steps in future years, with advanced study approaches and/or equations, may be applied if appropriate for subsequent research questions.

The following questions may be addressed in this study: (1) Does the influence on global supply matter or does local supply impact the critical inland port characteristic?; (2) What levels of infrastructure, considering the volume of inland ports, are necessary for long-term success (for roadways, railways, traffic)?; (3) Is there an optimum distance between an inland port and a deep-water port or is this not relevant?; (4) What are the potential environmental effects of inland ports?; (5) What are appropriate proximity land uses, and what is required to be a good neighbor?; (6) What are appropriate environmental justice and DEI considerations?; (7) Are inland port workforce diverse enough or is greater outreach required?; (8) What is the economic perspective for the area in close proximity to the inland port? Is there a regional economic impact?



US DOT Priorities: As inland ports take their place as a long-term component of the transportation system, several questions arise relative to the performance-based infrastructure, life cycle, and sustainability of the inland port. This makes a case for addressing several USDOT Strategic Plan components including Climate Change and Sustainability and Economic Strength and Global Competitiveness.

Outputs: The output is expected to present a process that will enable the assessment of the strengths of inland ports, facilitating the determination of their sustainability. A process will be designed to enable inland ports to incorporate their data and variables to determine and compare operations for the inland ports considered in the case study. Recommendations will include ways to strengthen their workforce and incorporate DEI recruitment strategies, if appropriate. If the case study locations show strong workforce and DEI strategies, such will be described for others to emulate.

Outcomes/Impacts: Decision-makers will be able to review the study results and identify specific applications for improvement. The concept is that inland ports will be able to posture themselves for long-term sustainability and economic strength. Different ports will have varying characteristics. From the case studies conducted in this project, the significance of the inland ports to the supply chain will be evident. More case studies can be added to reflect the range of characteristics observed in this study.

Final Research Report: