DRISI

CALTRANS DIVISION OF RESEARCH, INNOVATION AND SYSTEM INFORMATION

Research Notes

Best Practices in Freight Technology Transfer

The research team seeks to identify and establish the most efficient methods for technology transfer so that agencies can enhance their planning processes and foster collaborative thinking informed by freight infrastructure planning best practices.

Planning, Policy and Programming

APRIL 2024

Project Title:
Best Practices in Freight Technology Transfer

Task Number: 3478

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WHAT IS THE NEED?

Caltrans finds that in order to implement efficient, resilient, and sustainable freight infrastructure planning projects, public sector agencies require access to best practices and lessons learned from experts in industry, education, and government who play critical roles in the California supply chain. Without a mode to facilitate knowledge sharing, agencies are vulnerable to missed opportunities for improvement.

WHAT ARE WE DOING?

The proposed white paper research shall conduct a review of data and information-sharing platforms that public-sector agencies use in their work in asset and data management, enterprise resource planning, and freight and supply chain planning. That review of information-sharing platforms will be complimented by a review of literature related to technology transfer best practices in transportation and freight infrastructure planning.

This research will include surveying public-, private-, and governmental freight stakeholders to document the current state of technology transfer as it relates to freight infrastructure planning and supply chain and logistics operations. The survey will specifically identify gaps, barriers, and challenges that agencies face related to the sharing of best practices in professional capacity building, implementing new standards, and addressing transformational technologies. The research team will conduct subsequent focus groups with survey respondents and compile a comprehensive overview of best practices in technology transfer specific to freight infrastructure planning from public-, private-, and governmental freight stakeholders.

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Draft a final report to include the unique characteristics, requirements, and constraints of different public-sector agencies involved in technology transfer as it relates to freight infrastructure planning and supply-chain and logistics operations (i.e. budget constraints, geographical considerations, and stakeholder engagement). Provide a comprehensive list of knowledge-sharing platforms and dashboards that can serve as a repository for the various factors that are involved in freight infrastructure planning. Develop a needs assessment for developing a technology transfer database prototype that would meet the needs of public sector agencies.

WHAT IS OUR GOAL?

Caltrans is conducting this white paper research to identify the technology transfer siloes—in industry, government, and education—that prevent public-sector agencies from accessing a streamlined form of information sharing for best practices in freight infrastructure planning.

WHAT IS THE BENEFIT?

By sharing information on project timelines, resource allocation, and technical specifications, agencies can align their efforts, avoid duplication, and make informed decisions that optimize the use of public resources.

This white paper will identify the technology transfer siloes—in industry, government, and education—that prevent public-sector agencies from accessing a streamlined form of information sharing for best practices in freight infrastructure planning. After identifying those siloes, the research team will present a suite of geospatial, asset management, and enterprise resource planning tools, agencies can use to replace those siloes with new technology transfer linkages to better share collective knowledge and resources from across the supply chain to develop sustainable and effective infrastructure systems that meet the evolving needs of communities, businesses, and the California economy. The white paper will conclude with a recommendation for a pilot program to develop a single freight infrastructure planning dashboard that will provide an online clearinghouse of best practices to inform and guide the efforts of public sector agencies.

WHAT IS THE PROGRESS TO DATE?

Project approved and executed effective April 2, 2024. Deliverables timeline slightly modified to adjust to the start work date. Project panel meeting has been scheduled for May 21, 2024.

IMAGES