

Navigating Four Challenges of Railroad and Highway Coordination

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From the design stage through the construction phase, understanding the intricacies of railroad and highway coordination is crucial for successful project delivery. Railroad and highway coordination can occur seamlessly by prioritizing efficiency, adhering to regulatory standards, valuing communication, and mitigating potential impacts.

UNDERSTANDING RAILROAD OPERATIONAL PRIORITIES

Railroads operate in a competitive, time-sensitive market while serving freight and passenger clients. They generate approximately \$80 billion annually and span nearly 140,000 miles of track. Customer service and efficiency are crucial in railroad and highway coordination. To best serve their customers, railroads aim to minimize disruptions from the impacts of short-term repair and long-term construction.

Railroads are typically designed to last over 100 years, and lifecycle costs are considered over an even longer timeline. For instance, railroads invest significant resources in maintaining infrastructure to ensure smooth operations, as highlighted by their annual spending of nearly \$23 billion on capital improvements and maintenance to bolster their networks. Highway agencies, however, have differing, competing priorities in their design phase process. Implementing railway crossings, railroad overpasses, and highway overpasses all require varying levels of complexity and coordination between agencies to manage the project schedules.



REGULATORY REQUIREMENTS

Regulatory compliance is paramount in the railroad industry. The Federal Railroad Administration oversees interstate commerce and regulates railroads at the national level, ensuring adherence to federal safety standards. Similarly, state commissions play a pivotal role in managing safety at a local and regional level. These regulatory frameworks add layers of coordination and approval processes for public projects intersecting with railroad infrastructure.

Project planners should incorporate various regulatory requirements and considerations into the project planning process to ensure safe, successful outcomes. Early planning

and coordination are essential to avoid project delays or unexpected significant costs. Some considerations include the following typical requirements:

- » **Railroad Protective Liability Insurance:** This is essential for any railroad project. It can be covered by special provisions in the contract plans or included in various work items. It's crucial to state this requirement clearly in the contract documents.
- » **Right-of-Entry Permit:** This permit is necessary when entering railroad property for design or construction processes. This requirement varies among railroads, with many utilizing systems like e-RailSafe, which may require additional coursework.
- » **Railroad Flaggers:** Depending on the type of work and track proximity, railroad flaggers may be required for design and construction contracts.
- » **Railroad Reviews and Construction Management:** Railroads typically seek reimbursement for time spent reviewing plans and materials in-house or by third parties. Some railroads may require a full-time construction inspector throughout the project, potentially increasing construction budgets.
- » **Environmental Assessment and Investigation:** Projects involving soil removal from railroad property require ecological assessment and investigation. Contract documents should include testing pay items for soil classification and budgeting for material disposal to landfills if the railroad does not permit disposal elsewhere.
- » **Utility Installations:** Utilities crossing railroad right-of-way need permits submitted by the utility owner. Railroads should be allotted sufficient time to review and approve these permits.

CRITICAL ROLE OF COMMUNICATION

Effective communication is the cornerstone of successful project delivery within railroad and highway coordination. Construction project managers act as intermediaries, facilitating dialogue between railroad departments and highway agencies to secure necessary approvals. Communication must occur early and often between all stakeholders and the project management team; ongoing coordination throughout the project allows for vital

adjustments to ensure the feasibility of the construction work.

Of course, effective communication isn't always simple, and negotiations are often required to reach a satisfactory agreement. Bringing all related railroad departments to the table develops a complete understanding of the project across all parties. Communication tips include:


- » Hold frequent meetings to engage all stakeholders on the project status.
- » Develop a construction and maintenance agreement to document ongoing project commitments and negotiations.
- » Establish communication and coordination channels with the railroad throughout the project to streamline reviews.

STRATEGIES FOR MANAGING CONSTRUCTION IMPACT

Regularly occurring construction activities near railroads require meticulous planning to minimize disruptions. Design considerations for highway projects intersecting with railroads come with extreme complexities. When managing these impacts, it is essential to ensure construction projects comply with all regulations while creating a safe and efficient environment.

Leveraging strategies such as accelerated bridge construction (ABC) and constructability reviews with the railroad can expedite project schedules, ensure safe and operational continuity, and incorporate any requirements and constraints. For instance, utilizing self-propelled modular transporters for bridge construction can expedite the construction process while minimizing disruptions to railroad operations. By incorporating the strategies mentioned above, public agencies can navigate construction impacts effectively.

INTEGRATING CONSTRUCTION FOR A SUCCESSFUL OUTCOME

Coordinating railroad and highway construction projects demands a multifaceted approach to construction projects from start to finish. By understanding the unique challenges and requirements of railroad coordination and highway design, project managers can help foster collaboration, streamline processes, and deliver successful outcomes for stakeholders. 



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About the Article

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