

Renewal Project R16: Railroad-DOT Institutional Mitigation Strategies

This document is drawn from the final report prepared by researchers for Project R16. The objectives of this project were to: identify strategies and institutional arrangements that will facilitate beneficial relationships between railroads and public agencies; investigate and develop innovative partnering techniques; develop a draft model agreement and streamlined permitting processes; and identify barriers that impact effectiveness and propose remedies. The final report includes eight model agreements that can be modified to meet the legal requirements and accepted contracting processes of individual agencies and railroads. The Responsible Staff Officer for this project is Monica A. Starnes, who can be contacted at mstarnes@nas.edu.

North American railroads and public highway departments interact thousands of times annually as the highway agencies conduct projects that cross or abut railways. Each interaction requires mutual agreement and a thorough review of the safety, engineering, and operating effects that the project will have on the railroad during construction and for decades thereafter. Although most of these reviews and agreements proceed smoothly, the highway agencies and the railroads agree that delays and problems occur routinely. These delays can cause important highway projects to increase in cost and they can consume valuable staff time and engineering resources of all parties.

This project provides model standard agreements, standard processes, and best practices that can help both sides reduce the time and cost of project reviews. To succeed, each side must understand the basic needs of the other and both must have common languages, practices, standards, and expectations. Although both highway agencies and railroads are driven by engineering factors to make investment decisions about linear transportation facilities, they approach their decisions from very different perspectives.

Understanding the Railroad Perspective

A brief history of the railroads' recent past can help explain their approach to public projects. Although much smaller in terms of employees, the North American railroads today are operating at unprecedented levels of volume, efficiency, and reliability. This success has come after decades of deregulation, downsizing, consolidations, and shareholder demands for increased efficiencies and profitability. As a result, railways are more heavily travelled than ever in their history, while the railroad staffs are at their smallest. Dramatic downsizing in recent decades has led to a reduction in non-core staff. Many have outsourced their engineering departments, which formerly addressed public projects. The railroads cannot tolerate delay to their

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operations and are unwilling to accept risk or constraint to their finite and ever-more-valuable rights-of-way.

The railroads' approach to public projects is dominated by several overriding factors:

- Public highway projects seldom benefit the railroads;
- Highway projects can constrain future rail capacity;
- Construction activities can create great risk to workers, railway equipment, and track operations;
- Railroads cannot tolerate train delays on tightly strung national corridors; and
- Railroads must cover all of their costs, including engineering reviews and construction monitoring.

Understanding the State Perspective

The state and local highway agencies are the mirror image of the railroads when they approach highway-railroad projects. Highway agencies are public entities, accustomed to providing advice and reviews without cost. Their personnel focus on the public's expenditures and try to reduce the cost of bridges and other projects whenever possible. Highway agencies have long lead times for planning, developing their projects with years of analysis as opposed to railroads, which make capital decisions annually.

Dozens of state and local highway agencies were consulted and their commonly expressed needs from the railroads include:

- Timely and reliable reviews;
- Better internal railroad coordination;
- Improved mechanisms for access to rights of way;
- Consistent design requirements; and
- A spirit of cooperation and recognition that public agencies have limited time and resources to accommodate railroad needs.

Findings

The following key findings hold promise for improving the agreement and engineering review process.

Few metrics exist. A common issue throughout this research is a lack of common baselines of perform-

ance. It appears that there are no widely recognized standards for performance in conducting railroad reviews, agreements, or approvals. In fact, few states could produce metrics on their own project submissions to determine how many projects fail to receive a review or an approval within an agreed-upon timeframe. A few states have developed master agreements that include desired review times but those appear to be in the minority. As a result of this lack of baseline information, the reporting of best practices and the listing of recommendations are based upon the informed consensus of the practitioners, and not the empirical observation of performance.

Pressures on both sides will increase. Railroad traffic is projected to steadily increase because of international trade, long-term economic and population growth, and the expansion of intermodal traffic. The recession of 2008 depressed rail traffic but as a long-term trend, rail volumes are predicted to grow. The existing and finite rail corridors will become busier, more congested, and even less tolerant of delays or encroachments. Neither side can expect a lessening of pressures to manage project reviews efficiently.

Both sides agree on best practices. On the positive side, however, the highway agencies and railroads have identified more than 20 best practices that expedite the review process. The productive and complementary examples illustrate practices drawn from "partnering," good project management strategies, and the type of "process improvement" efforts common in frameworks such as Six Sigma, the Baldrige process, or "environmental streamlining." As with the streamlining best case examples, both parties have enumerated their requirements and have jointly identified practices and processes that both satisfy the requirements and advance highway renewal projects.

These best practices include:

- Early formal coordination while project concepts are still under development;
- Periodic, on-going reviews throughout the project's development;
- Open, continuous lines of communication;
- Escalation procedures to resolve conflicts;
- Common, consistent, and empowered points of contact in both agencies who can make decisions and remove bottlenecks;
- Regular process-review meetings where both sides identify issues and strategies to address

them;

- Standard, streamlined agreements to address recurring issues such as insurance, rights of entry, liability, easements, safe construction practices, and on-going maintenance;
- Commonly understood design standards and construction practices agreeable to both parties;
- Training for designers and construction and maintenance personnel who interact with railroads; and
- Standard process manuals to follow in developing projects or conducting maintenance activities near railways.

Both sides identify some common problems. The highway agencies and railroads independently cite some common problems that they believe need to be addressed to everyone's mutual interest. Some of these are:

- The inability to reimburse engineering review costs early in the lifecycle of a project, even before the project is programmed or under development;
- The cost and availability of insurance; and
- Right-of-way appraisal processes for railroad easements that can be restrictive or contentious.

Partnering is a strategic opportunity. Another strategy that could be helpful to the agreement process is "partnering." This process was first articulated by the U.S. Army Corps of Engineers in addressing its large civil works projects. It also has been encouraged by the Federal Highway Administration, some state departments of transportation, and their associated contracting companies. In partnering, both parties:

- Define what a successful outcome would be;
- Formally agree that each wants to assist the other in achieving this common success;
- Develop a level of service agreement that clarifies what each expects from the other in terms of service and timeliness;
- Identify escalation paths for occasions when problems cannot be resolved at the lowest level;
- Agree to remain in constant communication to ensure that problems are identified early and to monitor whether milestones have been achieved; and
- Periodically analyze what went right, what went wrong, and what can be learned for the future.

Recommendations

The report recommends that highway agencies and railroads to review the best practices, model processes, and model agreements. Then they can self-assess whether any of the following actions might assist them in streamlining the agreement process including:

- Negotiate a memorandum of understanding between the highway agency and the railroad as to how they desire to conduct the review process, including periodic process-improvement efforts;
- Develop draft model agreements and streamlined permitting language;
- Adopt a "continuous improvement" framework to the agreement process so that both the highway agency and the railroad are tracking performance, and regularly conferring on ways to improve it; and
- Participate in efforts through their professional associations to continue dialogue on ways to share best practices and perpetuate the further development of model agreements and model practices.

This research was produced by Gordon Proctor & Associates, Inc., in association with StarIsis, Corp. and Michael Bradley and Associates. The Principal Investigators were Gordon Proctor and Shobna Varma. Both were assisted by Michael Bradley.

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Typical Master Legal Agreement Provisions			
Whereas both parties routinely process payments for engineering reviews	Parties agree to authorize PE within 30 days of notification of RR	No contractors or department employees can proceed without written railroad approval	RR will provide right of entry for PE and construction activities with due notice
Whereas both need to agree on numerous and similar project agreements	Department agrees to select consultants experienced with specific RR	Department will ensure insurance provisions will be met by contractor	RR will make all reasonable efforts to accommodate contractors
Whereas, it is in interest of taxpayers and shareholders that both entities economize	RR agrees to 60 day reviews on PE submittals	Department will provide 30 days notice of flagging needs. RR will make all reasonable attempts to provide flagging	RR will specify operating envelop and construction windows
Both want safe, efficient highway and railroad operations	RR agrees to keep thorough records for invoicing of PE expenses	Plans affecting RR will require approved safety training for contractors	A separate right of way agreement will be developed if needed
Therefore they want a Master Agreement to standardize the legal review process	Department agrees to 30 day prompt payment of complete invoices	All plans will require preconstruction meeting to be offered to RR	A post-construction meeting will be offered to RR
Define Preliminary Engineering	Both parties will agree to standard PE rate schedule	All plans will note the railroad's control of the project site and its ability to direct contractor in issues relating to safety and train operations	Separate project agreement will address maintenance agreement
Agree to develop a standard PE Agreement	Both agree to abide by Title 23 eligibility	All plans will note the contractor will abide by all RR utility and right of way agreements	30 days notice will be given RR for maintenance right of entry needs
Department agrees to give timely notice of intention to develop a project	PE approval does not constitute project approval or participation	Plans will note that RR has right to inspect and approve all work affecting RR	RR will keep and provide auditable, complete records
		The parties shall indemnify the other for individual negligent liability and will share joint liability.	Department will attempt 30 day prompt payment of RR expenses

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