

1 Passenger Rail and Freight Rail Partnerships: Case Studies in Boston,
2 Chicago, and Denver

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ABSTRACT

With population and traffic congestion growing in urban areas throughout the United States, the demand for passenger rail service is also growing. The opportunity exists to minimize environmental and social impacts of expanding rail transit by sharing existing corridors with freight rail operators, who are themselves experiencing demand growth in some areas. The objective of this study was to analyze expert opinion on existing agreements between freight and passenger rail services and identify issues, challenges, and best practices of shared-use corridors. This research was based on in-depth interviews with national and local experts from both the freight and passenger rail industries. The scope of this study was the operation of rail passenger services on rail corridors that were shared by passenger and freight services and that were part of the General Railroad System of Transportation in the United States. Special focus was given to three case study cities with extensive shared-use rail corridors: Boston, Chicago, and Denver.

INTRODUCTION

This research examined the use of public-private rail partnerships across the country by identifying and describing existing relationships between freight and passenger rail, analyzing elements of successful agreements and problematic agreements, and developing best practices in corridor sharing.

Commuter rail and Amtrak operations in three case study cities, Boston, Chicago, and Denver, were also examined in detail. Amtrak, regional authorities, and/or transit agencies in each of the three cities had experience in conducting negotiations with freight railroads concerning the acquisition or use of rail corridors, rights-of-way, or tracks. Shared Track refers to passenger rail vehicles operating on the same tracks used by freight trains. Shared Right-of-Way refers to transit vehicles running on separate tracks from freight vehicles, but track centers are less than 25 feet apart. Shared Corridor refers to transit and freight vehicles running on separate tracks, but the tracks are separated by at least 25 feet and no more than 200 feet.

LITERATURE REVIEW

With the post-Staggers-Act rationalization and revival of freight rail in the US and the subsequent increase in demand for passenger rail service, a body of literature also grew to address the economic, political and technical issues associated with the sharing of rail corridors.

Issue areas addressed in the literature include:

- Capacity: Increased use by services with significantly different operational characteristics in limited corridors through often densely built-up areas results in fundamental spatio-temporal contention at the heart of all corridor sharing negotiations and disputes (1-10).
- Liability: Movement of passengers on freight infrastructure (tracks, rights-of-way or corridors) opens the freight railroads to significant additional liability for passenger injury, death, or property damage in the event of an accident, leading freight railroads to endeavor to minimize their risk for anything related to passenger transit (6, 11-13).
- Cost Sharing: Passenger service compensation for infrastructure cost and opportunity cost is a primary source of contention in shared agreement negotiations, and can remain a persistent irritant in the relationship if not addressed to the satisfaction of all parties (6, 8, 13-15)

- Capital: Railroads are capital-intensive, and the fiduciary obligation of private rail-company managers to their shareholders to maximize the value of existing assets makes them unwilling to cross-subsidize passenger operations or place their own operations at risk for the larger public good. Cash-strapped public authorities find raising capital both economically and politically difficult, leading to struggles over raising the capital needed to support shared corridors (8, 13, 16, 17).

The following best practices represent common themes and recommendations from the literature.

- Each Situation is Unique: A consistent, explicit theme throughout the research is that each situation will have a unique set of physical, economic and political conditions, and, thus, there is no “cookie-cutter” approach or single standard agreement that will suit every situation (6, 8, 15)
- Trust and Bargaining: Key to any negotiation is a sense of mutual trust based on open dialogue and good communication throughout the relationship. Ironically, this openness and trust is also contingent upon confidentiality, notably concerning public statements made by public officials. The choice of how to exercise ownership prerogative or political leverage without poisoning the negotiation is very delicate (13-15, 18)
- Experienced Negotiators: Shared-use agreements are complex, and experienced negotiators with a rich understanding of the operations and needs of both sides are essential for success (13, 15, 19)
- Forward Thinking: Agreements usually contain both short-term and long-term provisions pertaining to operations and capital investments, and possible changes in future conditions need to be anticipated by all parties at the outset of negotiations (8, 13, 15)
- Clear, Realistic Goals and Objectives: Goals incorporated into agreements should include capacity, speed, reliability, conditions and cost, along with clear metrics for assessing the achievement of these goals and addressing failures to achieve goals (8, 15)

Much of the existing literature on corridor sharing was developed by engineers and has a notably positivist and apolitical tone. This skirts fundamental normative, socio-political, and personality issues that are important to negotiations and the subsequent sharing relationships. While undertaking a deep sociological analysis of shared corridor relationships would be extremely challenging and is outside the scope of this study, this research aims to fill in some of the social silences in the existing literature.

METHODS

Interviews

This research was based on interviews with experts, decision-makers, and policy officials, as well as information from existing public, private and scholarly literature.

Seven general experts on freight and passenger rail issues were identified through personal knowledge and snowball sampling. The annual TRB conference and rail group

committees also served as outstanding sources for finding rail experts. Interviewees included representatives from Amtrak, FRA, AAR, freight railroads, and passenger services.

Twenty-four key decision-makers and policy officials for both the freight railroads and the public agencies that operate rail transportation services in each of the three case study cities were identified through personal knowledge and snowball sampling. Interviewees included representatives from transit agencies, state DOTs, passenger rail advocates, freight rail representatives, consultants, and local officials who had experience concerning the acquisition or use of rail corridors, rights-of-way, or tracks.

In-depth interviews, either face-to-face or by telephone, were conducted with these key participants and stakeholders in order to elicit their perspectives and viewpoints concerning the nature of these public-private rail partnerships. The eight open-ended questions used as a framework for these interviews are included in the findings section.

These interviews were audio recorded, transcribed, and coded to reveal common themes from the interview responses.

Case Study Areas

The Boston, Chicago and Denver metropolitan regions were chosen as the three case study areas because they all have a long rail heritage and vibrant rail activity, while each have distinct traffic mixes and infrastructure ownership profiles.

Boston

The Boston metropolitan region was used as an example of a region where passenger traffic and public ownership are dominant.

Boston's commuter rail system (the Purple Line) run by the Massachusetts Bay Transportation Authority (MBTA) was the sixth largest in the country in 2015, with an annual ridership of 32,592,500 passengers and an average weekday ridership of 122,100 passengers (20). The system consists of thirteen lines, two major stations (North and South), and 127 total stations. The system is completely split with five commuter lines going north originating from North Station and eight commuter lines going south originating from South Station.

The shared use of commuter and intercity railroad corridors with freight providers in the Boston region differs from most of the rest of the country in three ways:

- Due to the early development of passenger rail service and the limited amount of space to build redundant lines, railroad corridors have always been shared;
- During the nadir of railroading in the US in the 1960s and 1970s nearly all of the major and some of the minor rail corridors in the Boston area were transferred to public ownership; and
- Boston is a "destination-based region" with little originating or through traffic, and freight trains tend to be short (50-100 cars). Accordingly, the percentage and volume of freight moved by rail in the Boston region is much less significant than in other major US cities.

Denver

In contrast to Boston, the Denver metropolitan region was used as an example of a region where freight traffic and private ownership were dominant.

Despite the long rail heritage of the Denver metropolitan region, unlike Boston and Chicago, modern shared corridor arrangements only began in the late 20th century. The Regional Transportation District (RTD) was originally founded in 1969 with a focus exclusively on bus transit service until opening the Central Corridor light-rail line in 1994. By 2017 the system had grown to 87 miles, a significant portion of that in corridors shared with the Burlington Northern Santa Fe (BNSF) and Union Pacific freight railroads. Denver is also served by the daily Amtrak *California Zephyr* route, and the *Southwest Chief* route runs through the southeast corner of the state.

In 2004, voters passed a new regional rail transit system plan called FasTracks. The plan proposed six new rail lines in the Denver area, five of which were proposed to be built at least partly within freight rail corridors, with funding from an increase in sales tax. All of the FasTracks rail lines were planned to be open by 2018 except the Northwest rail line, which offers an example of a problematic public-private partnership.

Chicago

The Chicago metropolitan area represents a unique mix of both passenger/freight traffic and public/private ownership. The history of passenger and freight rail in the Chicago region is among the most complicated in the entire country. As one of only two cities to host six of the seven Class I railroads, as well as dozens of short lines and regional railroads, the complexity of freight rail alone is considerable.

All of the Class I railroads share rail corridors with passenger railroads in a variety of different configurations stretching across three states. Public transit includes eleven commuter lines on Metra that terminate in four different downtown stations, plus the South Shore Railroad from Indiana. Amtrak has thirteen lines that originate or terminate at Chicago's Union Station and share tracks with other railroads, sometimes with multiple freight railroads along a single corridor. Finally, Chicago's rapid transit system, the "L", also includes shared corridors along three of its eight lines, some stretching back more than a century.

The transition from purely private to hybrid public/private rail service occurred at different times, and under different economic conditions for different lines, resulting in a variety of different permutations of track ownership, train operations, and dispatching.

FINDINGS

Examples of Successful Shared-Use Railroad Agreements

Interview question: *What examples come to mind when thinking about the best shared-use railroad corridor agreements? Why do you consider these examples to be the best?*

Interviewees from both the passenger and freight industries agreed that a resounding example of a good agreement is the 170-mile Capitol Corridor service from San Jose to Sacramento. The service is run by Amtrak for CalTrans, mostly on Union Pacific tracks. Interviewees noted a few reasons for the success of this agreement and service. First, the state brought a lot of capital to the table to upgrade the tracks and provide improvements that would benefit freight and passengers. Second, the Capitol Corridor Joint Powers Authority (CCJPA) hired an executive director with "superb" technical and managerial expertise, a keen understanding of freight rail needs and passenger rail needs, and an ability to resolve conflict.

The service incrementally added more trips as ridership grew and the state invested more funds in the corridor.

The Seattle Sounder was also mentioned as one of the best agreements. The Sounder is regional rail service between Everett and Seattle and Lakewood in the state of Washington. BNSF owns the track and operated the passenger service for Central Puget Sound Regional Transit Authority (SoundTransit). This agreement worked because the transit agency came to the railroad after strong planning with a clear goal: to take a lane of traffic off Interstate 5 during peak periods. The passenger service brought over \$350 million in capital for track and signaling improvements and has incrementally added capacity rather than trying to start out with a large number of trips.

Other corridors mentioned as best examples included the Minneapolis North Star, which tackled capacity incrementally. Mostly passenger rail interviewees cited the agreement with BNSF and the Southern California Regional Rail Authority (SCRRA) as a best example because of successful capacity modeling and adding capacity to the system. However, it was also cited by afreight industry interviewee as an agreement that does not work.

Interviewees in Denver noted how a recent negotiation over the Amtrak *Southwest Chief* line in southeast Colorado was an example of how a “partnership mindset” led to a successful conclusion to a contentious process. In 2010 BNSF announced that it would reduce speeds on its lightly-used line between Hutchison, KS and La Junta, CO to 60 MPH unless Amtrak paid for maintenance costs needed to maintain the existing 79 MPH limit. Even with Amtrak’s additional contribution, further deterioration led to 30 MPH speed restrictions on some segments, and the two companies began discussions about rerouting Amtrak service onto BNSF mainline track outside of Colorado. The original route was ultimately preserved with \$48 million in federal Transportation Investment Generating Economic Recovery (TIGER) grants, \$111 million from BNSF, and matching funds from Amtrak, state and local governments. The public-private partnership was viewed as a success by all stakeholders, preserving passenger service to a number of isolated communities, improving passenger speed and on-time performance, and increasing freight quality of service.

An interviewee in Boston noted one successful passenger/freight agreement that involved NOT sharing a corridor. In 2010 CSX moved its main freight operations from the Beacon Park Yard in the Allston section of inner Boston 40 miles west to Worcester. Since this change allowed commuter service on that line to expand, the state participated in the expansion of CSX’s Worcester terminal through a public-private partnership.

Examples of Problematic Shared-use Railroad Corridor Agreements

Interview question: *Likewise, what examples come to mind when thinking about the worst shared-use railroad corridor agreements? Why are they problematic?*

Between Los Angeles and San Bernardino, the SCRRA operated approximately 40 trains per day, and Amtrak operated about 20 trains per day. An interviewee from the freight industry said this agreement was problematic because there were few provisions for sharing the cost of maintenance. The contract also contained no provisions to permit changes in the schedule or to mediate disputes. The 1992 agreement was written to stay in effect until both parties agreed to renegotiate, and the fact that a renegotiation was underway indicated that it was not working for either the freight or passenger operators.

Interviewees mentioned that agreements involving absolute curfews, like the ones in Chicago where freight trains cannot run for certain peak periods in the morning, were generally judged as bad for the freight railroads. These agreements were made when freight traffic was lower in this corridor, and the railroads have learned from the past that it is bad for business and no longer accept absolute curfews as part of an agreement.

Many interviewees mentioned that agreements that lack flexibility for dealing with changing conditions often led to conflict; for example, setting a quota in terms of the number of trains using a track per day may lead to problems if demand increases. But other interviewees contradicted that observation and mentioned lack of specificity as a major challenge. One interviewee in Chicago mentioned that the Chicago agreements are “general to a flaw” and that “often up to twenty percent of my time is spent trying to clarify unclear issues from the past.” Interviewees in both Chicago and Boston indicated that the addition of more direction and clarity would be extremely beneficial to all parties.

One interviewee in Chicago noted that the question of success should also include the value of the agreement to the broader passenger community. For example, when the Orange Line (part of the “L”, Chicago’s rapid transit system) was being developed in the 1980s, the city of Chicago had two options: a subway beneath the heavily-traveled Archer Avenue, or a part-elevated, part at-grade line close to Archer utilizing existing and/or abandoned rail track. The city went with the latter option, buying track from the Belt Railroad, Indiana Harbor Belt, and the Santa Fe Railroad. Although this option was much cheaper, it meant that the line would follow railroad tracks past industrial areas, rather than more-populous commercial and residential nodes. Funding issues also prevented completion of the line between Midway Airport and a major shopping center. This trade-off between available right-of-way and what the right-of-way passes is something to be considered when utilizing historically-industrial rail lines for new transit.

Interviewees in Boston noted that the comparative stability of passenger/freight sharing agreements has not been echoed by stability in passenger operations management. The legacy Boston and Maine Railroad operated commuter service under contract to the MBTA beginning in 1965 on the North Side and in 1981 on the South Side. The operations contract was taken over by Amtrak in 1987. The Massachusetts Bay Commuter Railroad Company (MBCR) was created and won the contract in 2003 after Amtrak did not even bid. The French passenger transportation company Keolis took over operations in 2014 with an eight-year contract, and promptly lost \$29.3 million in their first year of operation (21). This illustrates the economic challenges of passenger operations that are present even when contention with freight service is not a serious issue.

Failed Agreements

Interview question: *What examples come to mind of cases where agreements were not reached, even though substantial efforts were made? Why did these efforts fail?*

Most negotiations that failed or stalled involved financing challenges. Several noted examples involved Amtrak. The *Sunset Limited* Route on the Union Pacific from New Orleans to Los Angeles operated three times per week, and Amtrak wanted to upgrade to daily service, but they did not have the capital of over \$750 million that the Union Pacific quoted. The Rockford to Quad Cities Amtrak route in Illinois also failed because of a lack of monetary resources and turnover in leadership at the Department of Transportation.

Strong leadership was mentioned as a critical variable because the right person with the necessary skills and tenacity can find the resources needed to complete projects.

Interviewees in Denver pointed to stalled negotiations over the Northwest rail line between Denver and Boulder in a BNSF corridor as an example of an especially difficult situation. Stumbling blocks included: Shortfalls in public tax revenue, low projected ridership over an exceptionally long line, widely varying community expectations, a ballooning of projected costs from \$461 million in 2004 to \$1.7 billion by 2012, and ever-changing access cost estimates due to growing freight traffic. While interviewees indicated a belief that the line would ultimately be built (giving an estimated opening in the 2040s), additional RTD corridor sharing projects beyond FasTracks were not being actively considered.

Failure in some cases is only an intermediate state. Multiple interviewees in Boston noted the difficult birthing of Amtrak's *Downeaster* service, a 145 mile intercity passenger service with five daily trips from Boston's North Station to Portland, ME, and two of the trips continuing to Brunswick, ME.

Efforts began in 1990 to resurrect Boston and Maine Railroad service in New Hampshire and Maine that had been terminated in 1965. By the end of 1994, \$38.6 million had been appropriated for infrastructure improvements (22), and in 1995 the Maine legislature formed the Northern New England Passenger Rail Authority (NNEPRA) to manage the new service. The Boston and Maine had been purchased by Guilford Transportation Industries (later, Pan Am Systems) in 1983, and negotiations with Guilford over sharing of track from the New Hampshire state line to Portland stalled over track weight and speed restrictions. The relationship between Guilford and Amtrak was already strained following a dispute over a 50-mile segment of Guilford track in Vermont that Amtrak attempted to condemn using eminent domain - a case that ultimately went to the Supreme Court (National Railroad Passenger Corp. et al. v. Boston and Maine Corp. et al., 503 U.S. 407 [1992]). In 1996 Maine's Governor, the state of Maine, federal officials, and Amtrak submitted their differences to the federal Surface Transportation Board, and although a 1998 ruling in Amtrak's favor allowed service to begin in 2001, the speed issues were not fully resolved until 2007.

Despite this rancorous beginning, the corridor sharing arrangement subsequently became much more cooperative. For example, four daily Pan Am freight trains to the Boston Sand and Gravel facility just north of North Station were scheduled to only run at night, operation agreements incorporated on-time performance incentives, and discussions began on adding additional Boston-Portland passenger trains. This cordiality may have been a function of a maturing of the relationship, as well as changes at Pan Am to managers with a more-favorable attitude toward passenger rail.

Passenger vs. Freight

Interview question: *Are shared-use railroad corridor agreements more problematic for the freight railroads or passenger rail agencies? Why?*

As might be expected, the responses to this question were contingent on the traffic mix.

In Boston where passenger ownership and traffic are dominant, interviewees indicated that the shared use agreements between the commuter rail and the freight rail had been stable and largely successful for decades. Even with the change of track ownership from the freight carriers to the state of Massachusetts, the agreements were not revised, as the change was generally just a

land transfer. Ownership of the track gave the MBTA primary control over operations, although the freight carriers continued to hold rights to operate on these lines.

The limited amount of freight in these shared corridors makes the legacy agreements less problematic than similar agreements in areas of growing freight traffic. Nonetheless, the interviewees indicated that these longstanding agreements occasionally could not address changing conditions, necessitating ad hoc negotiations. This notably occurred when freight operations were impacted by prioritization of passenger operations, but interviewees indicated that these issues were generally resolved with little of the rancor experienced in freight-intensive areas.

In contrast, Amtrak's national service outside the Northeast Corridor was almost entirely dependent on the hospitality of host freight railroads. As part of the agreement with the freight railroads at the formation of Amtrak in 1971, Amtrak was given statutory rights of access, giving Amtrak priority as long as it did not "unduly interfere with freight operations." Complaints about failures by host railroads to abide by that agreement could be made to the Surface Transportation Board (STB).

Though interviewees suggested complaints were rare, one noted case was a complaint raised with the STB in 2014 after two years of failed negotiations with Canadian National over ontime performance on a largely single-track line they shared to Champaign-Urbana and Carbondale. Amtrak also registered complaints about eastward service on tracks owned by Norfolk Southern and CSX.

A freight/passenger trade-off mentioned by interviewees in Denver involved the preservation of service to local freight rail customers in newly-shared corridors. Construction of light- or commuter rail lines in active freight corridors generally required purchase of land on one side of a corridor for the passenger service, cutting off access to existing or potential freight customers on that side of the corridor. Creative solutions like flyovers or relocation of customers were utilized, but added both cost and complexity to the ultimate agreements.

The boundary between freight and passenger is not always bright, making the question of relative benefits less clear. Some interviewees stated that commuter rail operations run by freight in general were better agreements because they had fewer conflicts and interference. Some of Chicago's Metra services and the Seattle Sounder were given as examples where the freight railroad operated the passenger service.

Economic Competitiveness

Interview question: *Do current shared-use railroad corridor agreements have an impact on economic competitiveness? Are they generally positive or negative?*

As with differential effects on operations, the perceived effect of sharing on competitiveness is contingent on traffic mix.

Because of the limited amount of rail freight moved in the Boston region and the fact that the corridors are owned by the passenger operation, interviewees stated that the shared corridor agreements had minimal impact on the economic competitiveness of either party. Interviewees noted significant concerns related to maintenance, operation and funding, but these concerns were driven by broader financial and political challenges rather than issues with the shared use of rail corridors.

However, Boston interviewees noted that there were times that the two entities could work together better for the improvement of both. The movement of CSX freight operations to

Worcester from Allston using a public-private partnership to rebuild the Worcester facility was cited as an excellent example of how cooperative effort can improve the economic competitiveness of a region.

Nearly all Denver interviewees agreed that bringing passenger rail to the Denver metropolitan region would keep the city economically competitive with other cities. They argued that it would bring development and employers to the region, citing the relocation of several national headquarters of companies to downtown Denver near the Denver Union Station transit hub and direct connection to Denver International Airport. Contributing to fewer vehicles on highways and decreased congestion would also increase economic productivity and competitiveness for the region. One passenger rail advocate even expressed a belief that in Denver, freight rail does not drive economic development, it is passengers that do, and the service must be at least every fifteen minutes for economic development to occur.

Denver interviewees also noted positive impacts on regional economic competitiveness from corridor sharing because such agreements can include eliminating or improving at-grade crossings. These types of operational advantages were noted as good for everyone, as they reduce stoppage and downtime for both automobiles and freight trains.

In contrast, interviewees discussing areas where freight volumes were high and growing noted that legacy agreements from the era of traffic stagnation in the 1970s and 1980s undermined economic competitiveness when they did not take into account the importance of capacity needed to keep freight economically competitive. Interviewees felt this problem was of slowly decreasing significance, since possible future capacity needs have become an integral part of negotiations.

Government Policy for Shared-Use Corridors

Interview question: *Should shared use of freight rail corridors by passenger rail operators be promoted and supported as a government policy? Why or why not? If it should, what programs or mechanisms would be most effective at encouraging expansion of shared use railroad corridors? If not, what is the best way to accommodate increased demand for passenger rail services?*

Most of the interviewees expressed a belief that shared-use corridor agreements should be entered into on a case-by-case basis with mutual agreement between the freight rail companies and passenger rail agencies. Interviewees from the freight industry generally felt government involvement was not necessary and that policy needed to reflect the fact that the railroads were private use corridors and they had private property rights. Rather than promoting shared-use, government policy should be focused on how to achieve transportation goals in the most cost effective way, and sharing corridors might be one answer, but not always the best answer.

In contrast, interviewees from the passenger industry viewed more government intervention as positive, although they did not necessarily think the federal government should mandate policy for shared-use corridors.

While safety is highly valued in the rail industry, interviewees in Chicago noted that changed government policy in the form of regulations (as well as changed industry policy and industry health) have added difficulties to new sharing negotiations that did not exist when some legacy agreements were made. One example mentioned was an agreement made in the 1960s between the Chicago Transit Authority (CTA) and the Union Pacific to allow the Green Line branch of the “L” to be brought up onto an embankment on abandoned track alongside the Union

Pacific main line, leaving its five westernmost stations immediately adjacent to the Union Pacific tracks. Creating such an arrangement would not be possible today because the CTA cars do not meet FRA crashworthiness standards for shared corridor operation, although the CTA's lease of the Union Pacific tracks continues to be renewed as a grandfathered exception to the rule.

For projects involving the use of federal funds, transit agencies cannot engage with interested third parties or private property owners such as the railroads until after the environmental assessment process is completed. This delayed involvement runs the risk that the railroad will raise its asking price for access, since only Amtrak has the statutory right of incremental cost. However, railroad representatives who were interviewed indicated their resentment at finding out from newspapers or other media that plans had been made to share one of their lines with new or expanded transit without asking them first. They therefore advocated finding ways to incorporate the railroads in discussions as early as possible in order to smooth the entire process.

Multiple Denver interviewees suggested a positive role for government through the continuation of federal grant and loan programs such as TIFIA, RRIF, and TIGER programs. The federal government could also help by integrating services and facilitating cooperation and collaboration among agencies like the EPA, HUD, and USDOT to improve innovation. The federal government should not intervene and dictate, but instead should facilitate cooperation between passenger and freight operations.

This positive role for government was echoed by interviewees in Chicago in reference to the Chicago Regional Environmental and Transportation Efficiency project (CREATE), which was begun in 2003 as a partnership between five of the six Class I railroads in the region, two smaller regional railroads, Amtrak, Metra, and federal, state, and local governments. This project was initiated to address legacy physical infrastructure issues with improvements in signaling, road underpasses, and switching systems, as well as six different rail overpasses to separate passenger and freight traffic and mitigate the interruption of traffic flow associated with the dense set of junctions and interlockings in the city.

Best Practices

Interview question: *What have been some of the common elements of best practices in shared-use railroad corridor agreements?*

- Plan For Capital Investment: Freight rail interviewees concurred with the general consensus that passenger systems need to bring capital to the table for items like upgraded signalling, additional track, and additional sidings, as ways to compensate railroads beyond the straightforward economic calculations of delay or labor costs from sharing track, right-of-way, or corridor space "Policy without money is hollow." "Shared corridor means shared capital cost. If you understand that, we can have a conversation"
- Plan For Reliable Funding: It is incredibly important for the passenger agency to be able to show that they have a secure source of funding and a feasible time frame for project completion. The freight operators need to see that passenger rail is committed to completing the project in a short-to-medium time frame to ensure that the costs are accurate
- Plan For The Long-Term: The interviewees stressed the need for detailed consideration of full-system, long-term needs while not neglecting fine-grained elements like the costs of ongoing operations and maintenance and the coordination of dispatching. For example,

the freight railroad might not be willing to negotiate small issues like grade separations and crossings or to sell smaller corridor segments unless they are tied to a larger deal. It is not worth the price to the railroads to process such small deals (the cost of paperwork, lawyers, etc.)

- Plan With Regional Multi-Modality in Mind: Several interviewees noted that the planning process should not take place in isolation, and the process needs to address passenger rail needs, highway needs, and freight flow needs. Collaborative planning can accomplish a win-win-win scenario, for example improved grade crossings. Freight rail and passenger rail need combined solutions, not one at the expense of another
- Plan For Mutual Benefit: The passenger agency needs to show the freight railroad how it will come out ahead even before beginning discussions. The passenger agency also needs to show that it knows what it is doing and talking about in negotiations. The two sides should approach negotiations as partners and strive to protect the reputations of both entities in the public eye. Scapegoating or assigning blame for failures in negotiation talks poisons future relationships. Passenger agencies approaching freight railroads with an expectation of a right to operate on their corridor will experience push-back
- Plan for Incremental Improvements: Several interviewees suggested that incrementally adding capacity is the way to get good commuter service. Examples they pointed to were the Minneapolis North Star and Seattle Sounder services. Starting a high level of service, such as 55 trains a day, can disrupt the freight operations significantly and require much higher capital contributions for improvements.
- Strive For Passenger-Controlled ROW: Multiple passenger interviewees suggested passenger-agency ownership of the ROW generally leads to successful agreements, as RTD did for all of its corridors except the Northwest Line. However, that perspective may be biased toward passenger operations. “It is not a good agreement if you don’t control the switches.” “The party that owns the track will dictate the policies that are put in place” “Control your dispatching!”
- Propose Heavy Rail Rather Than Light Rail: Heavy rail commuter service is easier for sharing a corridor than light rail service because the rolling stock is compliant with FRA crashworthiness standards. This is something that needs to be considered in a heavy rail vs light rail decision as tracks and rights-of-way? cannot be shared with significantly lighter vehicles
- Accurately Estimate Costs: The interviewees agreed that it is important for the passenger agency to have the most accurate cost estimate possible, and to try to keep the costs from escalating too much. One suggestion for keeping cost estimates more accurate was for the transit agency (RTD) to have an Intergovernmental Agreement (IGA) with every community along a corridor before entering into negotiations with the freight railroad. This would help define what RTD is doing on the project, and what the community is doing on the project
- Appoint Experienced Negotiators Who Understand Both Passenger and Freight: Roughly half of the people interviewed in the Chicago area had worked for one of the other agencies or companies under study. This included people with private sector railroad experience moving to passenger agencies, people moving between different transit authorities, and people moving from city or federal government to regional agencies. Besides the personal networks they maintain as they move, easing informal contact

between organizations that might be at odds with one another, these people also bring the perspective of the “other side” to their new position. “Both parties have to have a good working relationship, and work well together.” “Both parties have to be knowledgeable about the other’s business operations”

- Enter Negotiations With Clear, Realistic, Defensible Expectations: Approach the railroad with a clear goal, such as removing a lane of traffic from this interstate. Use rigorous modeling such as Revenue Technology Services (RTS) to understand capacity constraints and build realistic schedules. “Realistic expectations lead to realistic results”
- Landbank: Prioritization of landbanking by public agencies can head off critical issues in the future when the freight railroads have found other uses for their property. For example, the Northwest rail corridor was offered to RTD in the 1990s for “peanuts” when freight traffic was waning, but RTD did not have cash to buy it then. If they had, they would have been able to avoid the contentious negotiations that stalled plans to use that corridor. The Northern Indiana Commuter Transportation District, on the other hand, was able to purchase five miles of right-of-way in the 1990s that only now is going through the planning process to become a new passenger rail line (the West Lake Corridor to Dyer, IN).

The Future of Shared-Use Agreements

Interview question: *What do you believe is the future of shared-use railroad corridor agreements?*

Interviewees in general saw the use of shared rail corridors continuing and increasing because of traffic congestion and population growth. Because of the high costs of creating new rail corridors, either along existing highways or along new routes, they mentioned the use of existing railroad corridors as the preferred option for major metropolitan areas. At the same time, pressure on freight railroads to deliver not only an increasing volume of goods, but in a reliable, on-time fashion as part of global logistics networks, may make freight railroads reluctant to give up any use of their rails.

Although the interviewees expected more corridor sharing in the future, some saw it becoming more expensive. They expected expansion to occur as shared corridor rather than shared track, with shared corridors taking on multi-modal purposes as well, including hiking, biking, passenger, and freight rail.

Interviewees in Boston anticipated few significant changes other than some clarifications to sharing agreements in the future. The amount of either passenger or freight volume was not projected to increase significantly and there were few major system changes planned. In addition, with passenger service so dominant and in control of the track, and the demand for freight in the area small, there were few driving forces for any future major changes.

In contrast, interviewees in Denver, where strong projected population growth was expected to increase both passenger demand and freight traffic, all anticipated more cooperation in the future for freight and passenger rail because of pressure on both sides. This growth may also motivate dramatic restructuring of regional freight rail infrastructure with an eastern bypass that could both free additional passenger rail capacity and add developable land in the highly-desirable downtown area.

CONCLUSIONS

Despite the contention often associated with corridor sharing and the fundamental differences in values within the multitude of associated stakeholders, the generally constructive tone of the interviews was notable in their responses.

The longevity and persistence of agreements in passenger-rail dominant cities hints that sharing agreements reach a normative equilibrium as they mature. Indeed, exogenous social, political, economic, and spatial forces seem to drive this normalization and equalization process, although that process may not be particularly fast, smooth, or deterministic in any particular situation. This should offer some hope to advocates for new sharing proposals that there is usually a light at the end of the tunnel, although the end state may not be what was desired at the start. Accordingly, the questions around shared corridors may be less about what leads to success than about how we can know what corridors can be successful and how the process of achieving that success can be made more efficient.

The best practices derived from the interview responses indicate the essential value of both planning and ownership to efficient negotiation and implementation. Robust planning integrates engineering, economics, politics, and strategic vision under the supervision of experienced, knowledgeable, and perceptive managers. Ownership under a strong property rights regime confers the upper hand in a relationship. Accordingly, when control is desired, the objective should be ownership, which in a capitalist system involves capital investment. This emphasis on the importance of ownership, as well as a curious absence of mention of liability by the interviewees for this report were notable differences between this report and the existing literature.

More people on a finite amount of land means more congestion, especially if global trends toward increasing urbanization continue. The discourses of congestion persist in discussions of passenger rail as they have at least since the 1960s (23). Trains are an option to preserve mobility, at least for some segment of society. The options will only get more expensive over time, and shared corridors are usually the only practical option in built-up areas. Toward that end, we hope that insights catalyzed by this research on how to make the sharing of corridors a more positive experience for both freight and passenger operators can offer benefit to those operators, and to society as a whole.

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