OVERVIEW AND PROBLEM STATEMENT

NCHRP Report 657

Randy Wade
HNTB Corporation
A Guidebook for Implementing Passenger Rail Service on Shared Passenger and Freight Corridors

http://www.trb.org/Main/Blurbs/163514.aspx
Successful shared-use corridor operations will be essential to the future of US passenger rail development.

Outside of the NEC, virtually all current intercity passenger rail operations are on corridors owned all or in part by freight railroads:
- State supported corridor services
- Amtrak long distance trains
PRIIA -- Passenger Rail Investment and Improvement Act – October 2008
- Establishes program framework with key state role
- 80/20 federal-state grant program
ARRA – American Recovery and Reinvestment Act – February 2009
- $8 billion for high speed and intercity rail
FFY 2010 PRIIA Appropriation
- $2.5 billion for HSR
All require agreements between states and freight railroads
Many state and commuter railroad agency staff have limited experience working with freight railroads

Potential for lengthy negotiations

Need to show that public investment provides a net public benefits

Need to provide net benefits to freight railroad

Need to understand approaches for allocating capital and operating costs
NCHRP Report 657 is intended to provide an overview of approaches, processes, and procedures for the successful implementation of intercity passenger and commuter operations in shared-use freight corridors.

**Audience**
- State transportation agency staff
- Commuter agency staff
- MPO staff
- Others, including freight railroad and Amtrak staff
Getting Started

Mapping the process and first steps
Developers of new shared-track passenger rail services face many challenges

- Growing passenger service demand
- Sharing capital and operating costs
- Safety and liability concerns
- Rail freight growth
- Limited rail network capacity
- Passenger/freight incompatibilities
The NCHRP Guidebook helps stakeholders understand and overcome these challenges

- Advice on how to navigate the complex process of implementing passenger service on a shared corridor
- Identifies and addresses the key challenges
- Enables passenger rail agencies to avoid pitfalls in implementing service
- Explains the unique railroad environment (for non-railroad people)
- Provides example case studies
The guidebook addresses the needs of both commuter and intercity service providers

- Assists stakeholders with the satisfactory resolution of key issues.
- Case study/best practice approach to content.
- Focus on shared rail corridors, especially those owned and operated by major freight carriers.
- Include both intercity (Amtrak) and commuter service on the general US railroad network.
- Equal weight to startup/initiation issues and ongoing management of services.
Guidebook scope is limited to service on **SHARED** passenger/freight track and ROW

- Segregated systems are not discussed
  - Urban light and heavy rail systems, unless shared
  - Limited reference to light rail shared with freight – subject of separate CRP projects
  - Segregated high speed rail systems – many unique issues
- Does include:
  - Alternative host/tenant arrangements
  - Alternative cost sharing arrangements
### Identifying the key issues on shared corridors

- Planning and preparations
- Legal / institutional framework
- Operating feasibility - capacity assessment and models
- Infrastructure and capital investments
- Estimating and sharing operating and maintenance costs
- Ensuring acceptable service quality, including on-time performance
- Cultivating a long-term corridor partnership
Implementation follows a well-established process
Stakeholders will need help, especially if unfamiliar with railroads

- Understanding the railroad industry
- Legal and Institutional Advice
- Analysis Tools Capacity, Costs
- State/Regional Rail Planning
- Passenger Rail Feasibility
  - Ridership
  - Funding
  - Costs
- Negotiations with Stakeholders
  - Railroads
  - Funding Agencies
- Final Agreement
  - Investments
  - Cost Sharing
  - Schedules, Quality
- Ongoing Service Management
  - Service Quality
  - Changes
  - Investments
Feedback and adaptability are key, both during initial negotiations and over time.
States and passenger rail agencies must do their homework

- Prepare a State Rail Plan consistent with the National Rail Plan, required for FRA grants (except ARRA)
- Understand the freight and passenger rail industry
- Understand differences between commuter and intercity rail
- Contact other agencies for information (Amtrak, other state agencies, Federal agencies)
- Initial contacts with prospective host railroad (with Amtrak if intercity)
- Start feasibility study
The feasibility study is the bridge from planning to serious negotiations

- Host railroad participation if possible
- Amtrak participation essential (intercity)

Study objectives:

- Determines if the initial vision is achievable
- Project finances are realistic (farebox revenue, capital grants, operating and maintenance funds)
- Performance goals achievable
- Vision for long term development
Legal and Institutional Issues

US Statutes applicable to railroads and the roles of Amtrak, FRA, FTA, STB, industry associations, etc.
Legal and Institutional Factors are Important

• Many stakeholders have little or no previous exposure to unique railway regulatory environment
• Major differences from other surface transportation projects - complexity of ownership and motivations
• Amtrak powers and duties, laws and regulations specific to railroads, and liability
• Amtrak access rights are critical for intercity startups
• Liability a perennial (and unresolved) issue
Amtrak’s Powers are Critical for Intercity Operations

- Has legal right of access to all freight and passenger railroads in the US national network
- Is required to compensate host railroads only for avoidable operating and maintenance costs
- Must not “unreasonably impair” freight rail service
- Maintains access agreements with most host railroads, including liability coverage
- Can go to STB to resolve disputes
- Statutory access rights do not extend to Amtrak-operated commuter services
Liability is a frequently mentioned issue

- Applies specifically to commuter operations; Amtrak-operated intercity services are covered by Amtrak’s existing arrangements, with some exceptions.
- Freight railroads very concerned over liability exposure from passenger operations.
- “But for” language to protect freight carriers is controversial
- Conflicts between State laws and coverage required by a freight railroad are possible
- Insurance can be very costly
Legal and Institutional Issues – STB Role

- Freight Railway Economic Regulation
- Resolve Amtrak / host railroad disputes
  - Non-binding mediation of commuter service access disputes
  - Investigate poor OTP of Amtrak services and impose penalties where justified
Legal and Institutional Issues – FRA Role (Alan)

- Traditional – Safety and Regulation
  - Signal systems (including PTC implementation)
  - Passenger car safety standards
  - Locomotive standards
  - Operations work rules
  - Shared facilities protocols – “compliant” and “non compliant” vehicles, including acceptance procedures
  - New regulations are always under development
Legal and Institutional Issues – FRA Role

- New – Grant Management/ Intercity Passenger Rail
  - PRIIA Origins
  - Standards for state rail planning and DOT organization
  - Corridor development – partnership role
  - National Rail Plan
Industry associations provide diverse services to passenger and freight railroads.

- Representing the industry to Congress, regulatory agencies and the public (AAR, APTA, ASLRRRA)
- Providing technical standards for interoperability and fitness for use (AAR, APTA, AREMA)
- Maintain research conferences and publications to advance railroad sciences (AREMA, ASME, ASCE, IEEE)
Capacity, costing and negotiations challenges.
Building a long-term framework for success.
Consensus on required capacity is essential: host carrier, passenger service sponsor and operator

- Most main line routes have limited “spare” capacity
- Detailed capacity analysis must often be performed to establish capacity needs and associated improvements
- Modeling can provide an “objective” platform for determining required level of investment
- Understanding/engagement of public stakeholders in modeling process very uneven
- Passenger rail sponsor is generally responsible for new capacity investment costs
Well-established simulation models are widely used

- RTC model
  - Very detailed input
  - Manages ops variability well
  - Many Class I routes already coded into RTC
  - Can be tested against historic records for calibration
- RAILSYM (Systra) often used for disciplined, schedule-dominant operations
Successful Modeling Principals

- Agreement on the modeling platform
- Agreement on responsibility for running the model
- Transparency of input/output data
- Standards of success defined in advance
- Acknowledge need to address “un-modeled” elements
  - Snowstorms
  - Yard congestion
  - Mechanical failure
- Final product – a robust design
Major Planning Commitments are Required

- Intercity Rail – FRA/PRIIA Requirements
  - State DOT Rail Division
  - State Rail Plan
  - Twenty-year vision
  - Cooperative Corridor Development Plans: FRA/State
  - Financing commitments

- Commuter Rail
  - FTA Protocols
  - Detailed cost-benefit assessments
  - Review of all technologies
Corridor Development Agreements – FRA Guidance
Negotiations Challenges Vary

- Intercity Rail
  - Line Capacity
  - Coordination with adjoining states
  - Tripartite relationship

- Commuter Rail
  - Access to host freight corridor
  - Liability
  - Line Capacity
  - Operator selection
  - Track use fees
Host carrier track use compensation

- Intercity Rail
  - Amtrak – statutory “avoidable cost”
  - Capital for new capacity supplied by state sponsor
  - “national agreement” application to most routes
  - Some ability to isolate/reward corridor performance

- Commuter Rail
  - No pre-defined model
  - Capital/operations compensation may be linked
  - Payment to host may depend on range of services provided
  - New structural options – “permanent easements”
Ongoing Service Quality

- Widely reported as a leading issue
- Must have adequate provisions for service quality in contract to back up negotiations
- Contract incentives/penalties ineffective where physical plant is deficient
Ongoing Service Quality

- Service measurement/root-cause analysis protocols are key to ongoing improvement
  - BNSF / Metra Example
  - Classic production engineering /management approach
  - Detailed reporting mechanics
  - PTC data feeds to enhance reporting
- Specify mechanics to address future changes in freight or passenger service demand
  - Modeling/measurement/ investment mechanics
  - Avoid going “back to square one.”
Shared corridor use – A Process, not a Project

- Substantial planning resources and time required
- Far more complex than publicly-owned (e.g. highway) facilities
- Capacity and Liability key challenges
- Develop robust technical definitions and tools to resolve problems
- Quality service requires ongoing joint engagement of all stakeholders
- Cultivate long-term partnership through education and commitment to understanding on both sides
Thank you!
The States’ Perspective and Wrap-up

Rod Massman
Rail Administrator
Missouri DOT
State-Supported Passenger Rail Service is a process....

- Not all freight RR’s are the same
- Expect answers, but no flowers
- New vs. existing
- Relationship will change over time
Do Not Forget Local Investment

- Platforms
- Stations
- Auxiliary services
- Maintenance costs
The days of no state infrastructure investments are probably over...........

- Very poor on-time performance will result if no actions taken
- State investing in operating costs only is not realistic
- Identify primary delay locations and start somewhere
- Work with host railroad on solutions and ensure passenger AND freight delay savings
Must be a Cooperative Effort to Improve Service

- Focus on Service Reliability at first, not speed
- Complete Corridor Analysis to Identify System Bottlenecks
- Establish New Partnership: DOT / Host RR / Amtrak-other provider
Preliminary Pre-Implementation Plan

- General agreement with railroad
- Present real projects, not just ideas---e.g. Construction of sidings to accommodate passenger and freight
How Much Capacity is Needed is an open question

- Be flexible
- Further studies to come on this subject
Service Outcomes/ Guarantees

- Will you get what you pay for?
- Currently under discussion in ARRA settings
- Clear there must be some accountability, but at what level?
Agreements will change over time

- Frequencies may change, so infrastructure must also
- Train control and dispatching is more important than ties and dirt
- Working with Amtrak/passenger rail to plan for future is paramount
Thank You for Participating......

Rod Massman
MoDOT Rail Administrator