

APPENDIX D: FREIGHT AND PASSENGER INTEGRATION ISSUE

Freight and Passenger Integration Issues: Following the division of ConRail between CSX and NS, Ohio Hub passenger lines were allocated to different freight railroads. As a result, the Ohio Hub was effectively cut in half, isolating the NS Cincinnati-Columbus corridor from other NS Ohio Hub lines. To achieve freight benefits, the issues of corridor ownership and rights of freight access need to be addressed.

In addition, the ability for freight trains to share upgraded passenger tracks – whether through nighttime use of separated lines, or through the development of co-mingled freight and passenger facilities – needs to be addressed, to ensure that engineering designs do not unnecessarily restrict the ability of freight trains to access the passenger infrastructure.

The Need for Developing a Cohesive Ohio Hub Freight Network: Exhibit D1 shows the proposed Ohio Hub system along with several possible route alternatives –

- *Norfolk Southern corridors* shown in green include Pittsburgh – Cleveland – Toledo and Cincinnati – Columbus. Under the current Ohio Hub plan, the NS Columbus-Cincinnati segment would be isolated from the other NS properties. The NS network could only be linked using either CSX trackage rights or NS' own parallel line via Bellevue.¹²⁹

- *CSX corridors* shown in red include Columbus – Cleveland – Buffalo and route alternatives for Columbus – Cincinnati¹³⁰ and Cleveland –Fostoria –Toledo, in thinner lines.

Ohio has several possible strategies for developing a cohesive intermodal network that could take the best advantage of the proposed passenger rail investment.

- Alternative alignments could be selected for some Ohio Hub routes so that only the tracks of a single rail carrier are used. An evaluation of alternative "Pure-NS" and "Pure-CSX" Ohio Hub networks is suggested so that Ohio can understand the impacts of this strategy on the proposed passenger service.

- Selected segments of freight line may also be upgraded to either bridge gaps in the passenger network, e.g. NS from Columbus to Cleveland, or even to establish competing rail routes, such as CSX from Cincinnati to Columbus.

- Possibly, CSX and NS may agree on cooperative development of services, where each carrier may operate some segment(s) of the proposed short haul network, but the carriers agree on efficient interline arrangements so that customers perceive a single integrated service.

- Finally, CSX and NS may agree to allow a neutral third party, such as their jointly held Conrail Shared Assets subsidiary, Triple Crown or a short line to operate a unified short haul service that could feed the long-haul networks of both railroads.

¹²⁹ A Columbus-Cleveland 3-C route alternative via Bellevue is shown using a thinner line. This route alternative via Bellevue may be attractive in any case, since it would add strong intermediate cities to the north end of the 3-C corridor: Marion (pop. 36,000), Bucyrus (pop. 13,000) and Bellevue (pop. 8,000) as compared to Crestline and Galion on the CSX route (combined pop. 16,000.)

¹³⁰ CSX sold the track from Columbus-Cincinnati to the I&O Railway, but retained ownership of the underlying land and real estate.

Exhibit D1: Freight Railroad Ownership of Ohio Hub Corridors



Facility Design to Support Commingled Operation: There are certain areas where the engineering design may be of particular concern. To maintain the possibility of shared operations, flyovers, bridges and connections should be constructed to acceptable freight standards when practical. For example, the proposed Scioto flyover in downtown Columbus would have 12 degree curves and steep grades that may be very difficult for freight trains to negotiate. Other areas of possible concern include the flyover designs in Fort Wayne and at Vickers interlocking in Toledo. The engineering designs for all such structures and connections need to be carefully reviewed to determine whether they would restrict freight operations.

As described in the Commuter Rail chapter, some Ohio Hub funds may be reprogrammed to develop *replacement capacity*, consisting of freight rail bypasses through or around urban areas, along with development of dedicated intercity *freight* corridors on *separate rights of way*. This guarantees that the Ohio Hub investment will be usable by freight while releasing the capacity of some existing lines for proposed passenger use. In some cases, it may be found that completely separating freight from passenger trains by upgrading parallel freight lines may be more cost effective than adding new tracks. Doing this would also promote the goal of maximal separation between freight and passenger operations.

Alternatively, where separate freight and passenger rights of way are not feasible, *commingled operations* can be supported by adding shared rather than dedicated tracks to existing freight lines. Enough capacity would be added to support proposed levels of freight and passenger operations while maintaining the capacity needs of the freight operator. However, day-to-day management of track assets would still be left up to the train dispatcher.

Another area of potential concern is the approach taken to determining the track layout and placement of tracks for capacity improvement. If the intent is to lay out a set of tracks for exclusive passenger use, they would be designed only to accommodate the needs of passenger service; but if the intent is to support comingled operations and generate freight benefits, then the tracks may need to be laid out differently.

In particular, this tradeoff was explored by the MWRRS capacity assessment of Toledo-Cleveland line [20]. There, the MWRRS capacity plan provided 94 miles of dedicated Class 6 110-mph track between Delta and Berea, assuming a 28' off-set from the existing freight tracks, but it did not specify the exact location. The simulation analysis also evaluated the impact of upgrading adjacent freight tracks to FRA Class 5 standards, which would permit 90-mph passenger operations and 70-mph intermodal freights.

Three scenarios were evaluated by the MWRRS capacity simulation:

- A "Passenger Optimized" plan minimized freight and passenger co-mingling by locating 10-mile passenger train passing areas based only on the requirements for scheduling passenger meets. Thus passenger trains would meet and pass in their own sidings, minimizing interaction with the existing freight line. This minimized passenger delays to freight operations, but the added track, since it was not placed where freight trains needed it, did little to help freight, either.

- A "Freight Optimized" plan placed more track miles east of Vermillion and west of Oak Harbor where more freight trains operate, but passenger trains were allowed to use the adjacent freight track as needed for meeting one another. The "Freight Optimized" plan also shortened the length of the critical double-track bottleneck at the Sandusky Bay Causeway. This strategy was shown to benefit freight significantly.

- Sensitivities were also run to evaluate the impact of upgrading adjacent freight tracks to FRA Class V in the "Freight Optimized" scenario. A sensitivity was also run for placing the high speed third track in the middle rather than off to the side on a 28' separation, as the original MWRRS capacity plan called for.

The simulations showed that commingling freight and passenger service over an expanded infrastructure, improved the ability to expedite intermodal and other time-sensitive freight trains. They showed that "Freight Optimized" scenarios performed better in spite of an occasional use of the adjacent freight tracks for passenger train meets. Overall, the benefits of added capacity in busy freight areas outweighed the impact of an occasional use by a passenger train of the adjacent freight track.

The simulation also showed, as expected, that the added track would perform better if the high speed track were placed in the center, following traditional railway engineering practice, rather than off to the side on a 28' offset. Placing the high speed track in the middle minimizes crossover conflicts and the need for reverse running, and allows freight trains in both directions to access the middle track for overtakes. If the passenger track were placed on the outside, freight trains could use it only in one direction. Placing the express track in the middle also eliminated conflicts with diverging freight connection tracks, particularly at Oak Harbor, and with industrial spurs and local switching on both sides of the railroad. The simulations showed that a center placement minimizes conflicts between passenger and freight trains by maintaining current-of-traffic running, and it also maximizes accessibility of the capacity enhancement to freight trains.

In the Toledo-Cleveland simulation, while bulk train delays increased slightly due to better handling of priority freight, these delays were more than offset by the improvement to intermodal trains so that with added infrastructure *the overall level of freight delay was reduced in spite of the addition of passenger trains*. The simulations showed that freight operations would significantly benefit from the proposed line capacity improvements, higher track speeds and installation of a PTC signaling system. Beyond this, the simulation showed that freight running times could be substantially reduced by taking advantage of the ability to run intermodal trains faster on upgraded Class 5 tracks.