Introductory Comments

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On July 12, 2017, the AASHTO Rail Resource Center hosted a webinar on “last mile” and terminal area planning issues in coordination with HNTB Corporation and representatives from the Illinois, Minnesota, North Carolina, and Oregon Department of Transportation. The last mile topic was chosen for this webinar as members of the AASHTO Rail Resource center agreed that the challenges within the last mile are difficult to address. The webinar allowed the opportunity to share experiences and ideas from states that are trying to address these last mile issues in different ways. A video recording of the webinar can be found online through the following web address: https://www.youtube.com/watch?v=dKeWOkKaDzo&feature=em-upload_owner.

The challenges with serving the last mile are not unique to the rail industry, as these challenges exist in other industries such as telecommunications and freight logistics. For passenger rail, the high capital costs associated with providing connectivity to stations in and through urban terminal areas is of greatest concern, and typically derive from track congestion and physical constraints. In addition to cost, there are other last mile challenges related to station development, terminal area speed limitations, and poor station access that can compromise overall travel times and ridership.

Last Miles into Chicago: Challenges in the Chicago Terminal Area

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Illinois Department of Transportation

The State of Illinois has a robust intercity passenger rail system that emanates out of Chicago, as it serves as the Midwest intercity passenger rail hub. Today, Amtrak operates 56 trains per day in and out of Chicago, of which 30 are supported by the state of Illinois. The Chicago Terminal Area also supports freight and commuter service that compete for track space. To accommodate the future growth of all rail services, IDOT along with other local, state, federal, and railroad partners have developed the Chicago Terminal Working Group and the Chicago Region Environmental and Transportation Efficiency (CREATE) Station development in urban areas becomes increasingly complex as we look to connect multiple transportation modes, provide adequate parking, encourage transit oriented development, and reuse existing and historic stations that may be difficult to renovate while maintaining their original qualities. These factors tend to compete against themselves and the goal of siting a station that optimizes the passenger rail service.

Freight and transit congestion, along with physical and geometric limitations that are common in terminal areas can limit speeds as trains approach the station. Costly capacity and geometric improvements are challenging to fund, and typically require States to identify creative and low-cost solutions that can reduce travel times without increasing speeds.

Additionally, the time it takes to access the station only adds to the overall travel time from the passengers prospective. Improving passenger experience on their way to the station has become just as important as the experience on the train. States are finding ways to leverage unique solutions and partnerships to make it easier for people to access passenger rail service, including improvements to pedestrian and bicycle access, wayfinding, public transit connections, and the use of new transportation related technology.

The four presentations included in this webinar expand on defining these challenges and the solutions that were identified to improve the last mile for their passengers.
Program to identify and implement solutions to rail capacity and operating issues.

The Chicago Terminal Working Group was comprised of technical staff from different ongoing intercity passenger rail studies that were planning new or improved service between Chicago and other major cities in the Midwest. Team members collaborated to optimize improvements for all services in the Chicago Terminal Area, but ultimately identified the need for additional operations modeling and capacity analysis. This analysis will be completed under the upcoming Chicago Terminal Planning Study that is to commence in Fall 2017.

Needs identified in the Chicago Terminal Planning Study will complement the infrastructure improvements identified in the $3.8 billion CREATE Program. The CREATE Program is a series of 70 projects that are designed to improve rail transportation flow in the Chicago Terminal Area by separating freight and passenger trains at six key junctions and eliminating 25 highway/railway grade crossings. Benefits of the CREATE program are being realized and include the completion of projects like the Englewood Flyover, which eliminated conflicts between Norfolk Southern, Amtrak, and Metra operations at a high-traffic crossing.

Portland Union Station and Eugene Layover Track Projects

John Schnaderbeck, PE, State Railroad Engineer
Oregon Department of Transportation

Portland Union Station and Eugene Station are located along the 425-mile long Pacific Northwest Rail Corridor between Vancouver, British Columbia and Eugene, Oregon. The stations serve Amtrak’s Cascades and Coast Starlight services, while also serving the Amtrak Empire Builder at Portland. Both stations are to improve capacity and operations by improving infrastructure amongst dense urban development and a congested rail corridor, while meeting challenging design standards.

The Eugene Layover Track Project is designed to eliminate a two-mile delay prone, non-revenue move between Eugene Station and Union Pacific’s Eugene Yard where maintenance is performed. The new stub-end layover track to be constructed at Eugene Station will not only serve for layover and maintenance, but also as the station track for boarding passengers. The layover track design needed to meet Union Pacific design standards, within a narrow corridor lined with buildings and crossed by local streets at grade. ODOT was able to negotiate the closure of one local road, which enabled the design to meet Union Pacific’s standards while staying within the corridor. The project also resulted in a quite zone through the city’s downtown and the

Completed Englewood Flyover that separates Metra service from freight and Amtrak service.
construction of a crossover that improved freight operations into Eugene Yard.

The Portland Union Station project sought to solve capacity challenges at the station and address structural and seismic deficiencies. ODOT found that these challenges could be addressed by relocating a pedestrian crossing and high shed, replacing the platform canopies, upgrading station track and platforms, and potentially constructing a sixth track through the station to better separate freight from passenger service. Relocating the high shed and pedestrian access, along with rearranging the interior of the station building for pedestrian and baggage access allowed for greater capacity on the station tracks as it can now accommodate Amtrak Cascades trains north and south of the high shed on multiple tracks.

The Minnesota Station Experience

Dan Krom, Passenger Rail Director and Frank Loetterle, PhD, AICP, Passenger Rail Project Manager
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MnDOT along with the FRA and the Ramsey County Regional Railroad Authority (RCRRA) underwent the $243 million renovation of the historic St. Paul Union Depot in 2011-2012. The project, that was 10 years in the making, restored passenger rail service to the station for the first time since it was discontinued in 1971. The station renovation funding included grant awards from four separate federal programs that was matched with RCRRA levy and state bond funds. The funding sources had their own requirements related to timing, recordkeeping, and reporting. Additional challenges included working with multiple agencies and railroads, finding skilled labor, maintaining the historic nature of the building, and signaling the station tracks.

MnDOT also recently completed the construction of Target Field Station in downtown Minneapolis. The station site was selected for its ability to serve future plans for Northstar Commuter Rail and Northern Lights Express intercity rail service to Duluth. The site is constrained by adjacent development, overhead highway infrastructure, existing freight operations, and a bike trail. Subsequent selection of a new baseball stadium site for Target Field only made development of the station more challenging. However, the location of the stadium provided MnDOT a unique opportunity to develop the station in coordination with the development of the stadium. Target Field Station became a bi-level station that serves commuter and future intercity rail service below street level, while also serving light-rail transit service at street level. Vertical circulation between the two levels of the station is incorporated into the stadium structure.
The North Carolina DOT has been focusing on providing connectivity to the Piedmont Service in Raleigh and Charlotte, North Carolina by supporting complementary last mile transportation modes. One of its major initiatives is the development of a partnership with local transit systems that already exist along the route. In doing so, NCDOT was able to develop a common transit pass that allows for one transfer to a last mile service, such as a local bus or light-rail transit once you have taken a ride on its intercity service. Use of the transit pass service has been steadily increasing since its inception in March 2017 as riders become increasingly aware of the program. NCDOT has also advertised bike racks onboard trains and installed bike lids at Kannapolis Station to support passengers biking their last mile trip.

NCDOT has also been active in improving station infrastructure as construction of the new Raleigh Union Station will be completed in February 2018, and the Charlotte Gateway Station scheduled for completion in 2021. Raleigh Union Station is designed to accommodate intercity rail, commuter rail, bus, taxi, and bicycle transportation to provide its passenger’s multiple last mile opportunities once they reach the station. The new Charlotte Gateway Station will also look to achieve the same level of connectivity, as the current station is outdated, operationally inefficient, has limited multimodal connections, and is inconveniently located within the city. NCDOT has been acquiring parcels for the new station since the 1990’s and have developed the station area plan. Engineering for the Charlotte Gateway Station is underway and construction is scheduled to start in 2018.

Bike lids at the Kannapolis Station are painted to look like NCDOT locomotives.