Research Notes

Program Steering Committee (PSC): MODAL

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Title: Promoting Intermodal Connectivity at California's High Speed Rail Stations

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TITLE:
Intermodal Connectivity at California's High Speed Rail Stations

The research will draw from best practices of blended High Speed Rail systems around the world to identify appropriate types of station infrastructure and services that will improve intermodal connectivity and offer optimal travel experience for California's HSR passengers.

WHAT IS THE NEED?

High-speed rail (HSR) has emerged as one of the most revolutionary and transformative transportation technologies, having a profound impact on urban-regional accessibility and inter-city travel across Europe, Japan, and more recently China and other Asian countries. One of HSR's biggest advantages over air travel is that it offers passengers a one-seat ride into the center of major cities, eliminating time-consuming airport transfers and wait times, and providing ample opportunities for intermodal transfers at these locales. Thus, HSR passengers are typically able to arrive at stations that are only a short walk away from Central Business Districts and major tourist attractions, without experiencing any of the stress that car drivers often experience in negotiating such highly congested environments.

In their 2012 Revised Business Plan, the California High-Speed Rail Authority (CAHSRA) confirmed their commitment to a better incorporation of new high-speed infrastructure with existing services. The CAHSRA expects that a *blended* system will be more cost-efficient. In addition, and as consultants found in previous research, a number of station-cities would favor the share-track approach, because they believe it would have less impact on their urban form and require fewer property acquisitions. On the other hand, opposition to the blended approach has come from those who believe that the train's speed would be significantly compromised. It is clear that such an approach requires a higher level of coordination and planning of the infrastructural, operational, and spatial aspects of the HSR service, which is the focus of this research effort.

WHAT ARE WE DOING?

The consultants will begin with background research and a systematic review of the planning and transportation engineering literatures about intermodal connectivity and complementarity in the context of high-speed rail. The goal is to identify what these literatures tell us about the opportunities and challenges of blended service and blended systems in regards to the passenger's door-to-door travel experience, including access, station-area parking, ticketing, station wayfinding, etc. The consultants will also examine trade publications and reports put together by the International Union of Public Transport (UITP) and the American Public Transportation Association (APTA). Additionally, they will review U.S. studies that explicitly examine operations and evaluate the performance of U.S. multi-modal transit facilities and will also draw on our inventory and initial typology for major rail station redevelopment megaprojects in blended-system environments across Europe.

Additionally, the consultants will utilize their previously established group of international experts on HSR systems and ask them to respond to a web-based survey about blended systems. This group includes experts from ten different countries (U.S., Germany, Spain, France, the Netherlands, Sweden, Italy, Japan, China, and Australia), who have significant experience in High Speed Rail research, implementation, and operations. In addition to identifying and creating an inventory of the different types of blended HSR systems that are presently in operation globally, experts will be asked to identify any challenges and issues related to different blended systems and to pinpoint examples of corridors and stations for further study, where in their view the blended system works the best, and others where it does not work well. As the consultants have strong professional connections with the HSR community in both Germany and Spain, they will utilize these contacts to interview HSR transit operators in these two countries and draw lessons from the experiences of their blended systems that may be relevant for the California context.

The consultants will also conduct two case studies of multi-modal transit stations -- the Downtown Burbank (Metrolink) Station and Union Station in Los Angeles. The purpose is to understand current capacities, operations, and challenges that these two intermodal transit interchanges are experiencing and to compare and contrast the U.S. context with the Spanish and German contexts.

WHAT IS OUR GOAL?

The goal is to produce an accessible, employable guide with best practices for intermodality and blended service for the benefit of transit operators, high-speed rail planners, and station-cities in California.

WHAT IS THE BENEFIT?

The findings from the literature review, expert survey, and station case studies of multi-modal facilities in Germany, Spain, and the U.S. will be compiled to identify the best practices in terms of ensuring seamless intermodal connectivity and blended service. Such practices may include policy, urban design, and planning responses that may be implemented in blended HSR-conventional rail systems in California.

WHAT IS THE PROGRESS TO DATE?

The project began in the summer of 2013 with the convening of the Project Advisory Committee, made up of Caltrans and California High-Speed Rail Authority staff along with the consultants working on the project. As of July 2014, the consultants have received comments from their HSR station survey of experts in Europe and in the coming months, the consultants plan to continue work on HSR station typologies and studying the Spanish and German HSR blended systems, which looks to be relevant and appropriate to a California application. In concert with the European HSR station evaluation, the consultants will analyze the case study data from the two proposed California HSR stations, Burbank and Los Angeles' Union Station.