An Evaluation of Air-Rail Passenger Intermodal Access At United States Airports

Project Timeframe: 9/1/2008 – 9/30/2009

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Project Funding
National Center for Intermodal Transportation: $10,000
Federal and Matching Funds: $18,000
Total Funding: $28,000

Project Objectives
The objectives of this research will be to provide an in-depth analysis of air-rail intermodal connections at US airports. From this analysis we hope to explain which airports have the preeminent air-rail connections and provide insight into best practices for other airports to pursue when creating or improving their air-rail connections in the future.

Project Abstract
The goal of this project is to assess the quality of intermodal linkages at US airports by developing and testing a typology of air-rail intermodal access. Even though airports may claim they have air-rail connections, there is a wide range in the quality of those linkages and connections. Quality will be defined by the characteristics of the connection and system including but not limited to number of destinations served, scale and scope of the rail system, geographic extent of the system serving the airport, and users of the air-rail systems. By quantifying these distinctions through a comprehensive survey analysis we expect to clarify those airports having truly embraced air-rail intermodal connectivity as part of their urban transit system.

Task Description
To assess the quality of air-rail intermodal access at the nation’s airports the project will be broken into two major tasks:

a. The first task will be to determine the type of rail connections at each of the 50 largest airports in the United States. Preliminary research shows that of these 50 airports, 21 have some sort of rail connection, while the remaining 29 do not have any air-rail connections at present but twelve
have immediate or future plans to connect the airport to existing rail systems or have existing rail systems but no connections between them and the local airport. A number of different attributes will be used to define the quality of rail connection at each airport.

i. Location of air-rail connection (in terminal, on property, other modal connection)

ii. Location of air-rail connection in the overall rail network (degree of node)

iii. Type of rail network connected to (local, regional, national)

iv. Destinations served directly from airport (CBD, Edge Cities, Hotel & Convention, Major employment center)

v. Cost to use the system

vi. Competing modes at airport

vii. Users of the system and number of users (in relation to other modes from the airport and system overall)

Differing weights will be given to each of the attributes examined to determine the quality of air-rail linkage at each airport in the study. To assist in determining the geographic extent of the air-rail systems a GIS will be constructed allowing us to examine spatially the networks, attributes of various stops on the network and the degree of connectivity the airport has in the overall rail network for each city.

b. Using the results from the quality analysis an in-depth analysis based upon site visits and interviews with various airport and transit authorities at the highest ranking airports will help determine best practice policies. We also propose to analyze in-depth in the same manner a number of airports that are in the process of constructing or planning air-rail connections to establish what policies and practices are being presently used and their similarities and differences to already existing air-rail connections.

Technology Transfer
At least one paper will be prepared and submitted to a refereed conference, such as the TRB Annual Meeting, for presentation. An additional conference presentation will made at the Association of American Geographers Annual Meeting. At least one paper will be submitted to appropriate transportation journals, such as the *World Review of Intermodal Transportation Research*. Results of the proposed project will also be disseminated through the various websites associated with NCIT and ITI where those interested will be able to access the final report.

Benefits of Project
Benefits of this research project are focused upon creating a standard typology of air-rail connections that can be used internationally and the discovery of best practices and policies to aid not only those airports/transit systems that are considering air-rail connections but help those already in existence to improve their connections.