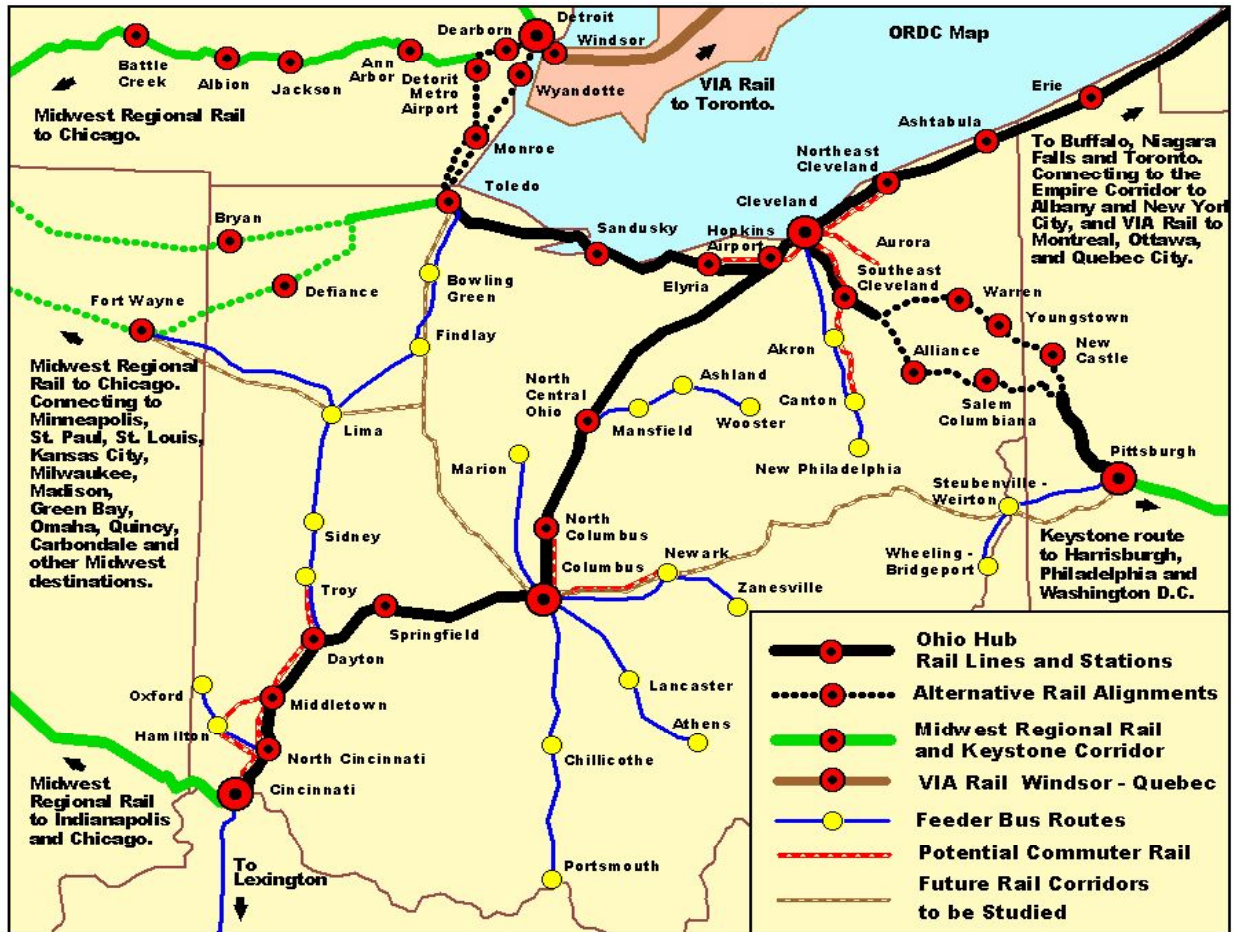


11 THE ECONOMIC BENEFIT TO HOPKINS INTERNATIONAL AIRPORT FROM DEVELOPING THE OHIO HUB

Introduction: The Ohio Hub passenger rail system provides a unique opportunity to increase the market share and market area of Hopkins International Airport. The airport is located at the Hub of the Ohio Passenger rail system. The airport is fed by four rail lines, of which two connect directly with the airport. In many ways the development of the Ohio Hub services will act as a feeder “commuter” airline that ensures that all the smaller communities within northern Ohio have airport access. However, the Ohio Hub will also act as a mechanism to attract business and tourist potential from both North America and Internationally to Ohio. The Ohio Hub provides direct access not just to Cleveland, but also to Toledo, Detroit, Erie, Buffalo, Toronto, Pittsburgh, Columbus and Cincinnati. It will provide Hopkins International with the ability to build its international connections as it becomes recognized that the Eastern Midwest market can be accessed easily from Cleveland. For example, a businessman or tourist from Europe can fly into Hopkins International and make day trips by train to Detroit, Toledo, Erie, Pittsburgh, Columbus and even Cincinnati. See Exhibit 11.1.

Exhibit 11.1: OHIO HUB – Feasibility Study Network



Both these functions will greatly aid Hopkins International Airport to support the “New Economy” opportunities in the Eastern Midwest market that are already developing and are likely to continue developing at a fast rate over the next ten to twenty years.

Access to the Northern Ohio Market: The Ohio Hub passenger rail system will provide access to Hopkins International from a wide range of cities across Northern Ohio. It offers access as fast as automobile in today’s off peak highway travel conditions, and faster access in peak highway travel conditions. The Ohio Hub will give access from downtown Toledo in just over 1 hour, Erie in under 2 hours, Columbus, Youngstown and Ashtabula in 1 ¼ hours. See Exhibit 11.2.

Exhibit 11.2: Comparative Travel Times/Door to Door (in Minutes)

Origin/ Destination	Destination/ Origin	Ohio Hub Rail	Auto (Non-Congested)	Auto (Congested)
Cleveland Hopkins International Airport	Toledo	80	106	264
	Ashtabula	84	78	168
	Erie	114	119	246
	Youngstown	84	77	161
	Columbus	84	128	314

These times are faster than peak hour travel today and as congestion grows on Ohio’s highways the rail access will prove more and more advantageous. In addition to serving these major communities, the Ohio hub rail service will also serve communities like Elyria, Sandusky, Northeast Cleveland, Warren, Alliance, Southeast Cleveland, Akron, Canton, Mansfield, Marion etc. See Exhibit 11.1. Today, few of these communities have effective public transit access to Hopkins International Airport, and the Ohio passenger rail system would provide a fast and efficient alternative to the automobile.

Hub and Traffic Impacts: One of the roles of the Ohio Hub is to improve accessibility to Hopkins International Airport from the Eastern Midwest markets. As shown in Exhibits 11.3 – 11.4¹⁰¹, Hopkins International Airport at 11 million passengers per year is on the lower end of airports that attract international traffic. In this respect it seems similar to Pittsburgh airport, which is an airport for a similar sized city with similar passenger volumes and similar level of international traffic. However, it is in contrast to Cincinnati airport, which while serving the similar size city¹⁰² has twice the passenger volumes and twice the international traffic. The cause of these differences in levels of passenger traffic has much to do with the role and organization of the prime airline at each hub, but it also relates to the size and accessibility of an airports market.

Considering the first issue of hub impacts it is clear that the Continental Hub in Cleveland is underperforming in relation to international traffic. Exhibit 11.5 shows that the reason US Air - the dominant carrier in Pittsburgh, - has such low traffic is that Pittsburgh is a secondary hub to Philadelphia. Philadelphia is close by and feeds from all its secondary hubs like Pittsburgh, Washington, Boston, New York to support its international services from Philadelphia. Continental at Hopkins International Airport only has other hubs in Houston and New Jersey so that Hopkins Airport is a much more freestanding hub than Pittsburgh.

¹⁰¹ Source: Air Carrier Statistics. The Intermodal Transportation Database, TransStats, Bureau of Transportation Statistics (www.trasstats.bts.gov)

¹⁰² Meant here is Cincinnati PMSA.

Indeed Hopkins International Airport is just as freestanding as the Delta hub in Cincinnati, which has much higher international and domestic traffic. See Exhibits 11.5 and 11.6. If Hopkins could extend its market and improve accessibility it would increase both its domestic and international traffic. It will attract more air connections and build both its international and domestic market share. By being central to the Eastern Midwest markets and connecting to Detroit, Toledo, Pittsburgh, Columbus, Erie, Buffalo and Cincinnati, Hopkins International airport can provide "one stop" shopping to both business and tourist travelers and increase both international and domestic passengers.

Exhibit 11.3: Annual # of Non-Stop Passengers Transported by Selected Airports, 2005

	Cleveland Hopkins International		Pittsburgh International Airport		Cincinnati/Northern Kentucky International Airport		Port Columbus International Airport	
	Million pass.	% Total	Million pass.	% Total	Million pass.	% Total	Million pass.	% Total
Total:	11.2	100%	10.6	100%	22.8	100%	6.7	100%
Domestic	10.9	97%	10.4	98%	21.7	95%	6.6	99%
International	0.3	3%	0.2	2%	1.1	5%	0.1	1%

Exhibit 11.4: Characteristics of International Flights by Selected Airports, 2005

	Cleveland Hopkins Intern. Airport	Pittsburgh Intern. Airport	Cincinnati/Northern Kentucky Intern. Airport	Port Columbus Intern. Airport
Annual # Passengers*	288,000	173,600	1,073,200	53,500
# Major Carriers**	6	6	6	2
# Major Destinations**	8	4	12	2
# Major Destinations Performed by the Primarily Carrier**	3	1	9	0

* Counted here are all non-stop international passengers, transported (enplaned or deplaned)¹⁰³ by selected airport.

** Does not include destinations (international airline carriers) with the annual # of passengers less than 1000.

The relative merits of Hopkins International Airport as a hub is shown in Exhibits 11.5 and 11.6. It can be seen that a plot of Continental's share of international traffic against distance between hubs suggests that its hubs should perform better than those of Northwest and US Air, close to United's and American and only slightly less well than Delta's. As a result, it is not unreasonable to expect that Continental could expand its

¹⁰³ Passengers who board an airplane are called 'enplaned passengers', while those who disembark from an airplane are called 'deplaned passengers'. Total number of airport passengers usually reported in airport statistics is calculated by adding the number of enplaned and deplaned passengers. See, for example statistics for Pittsburgh International Airport: http://www.pitairport.com/stats/MARCH_2004_SHORT_E-MAIL_REPORT.pdf or Cincinnati/Northern KY International Airport: http://www.cvgairport.com/pdf/cvg_stats04.pdf

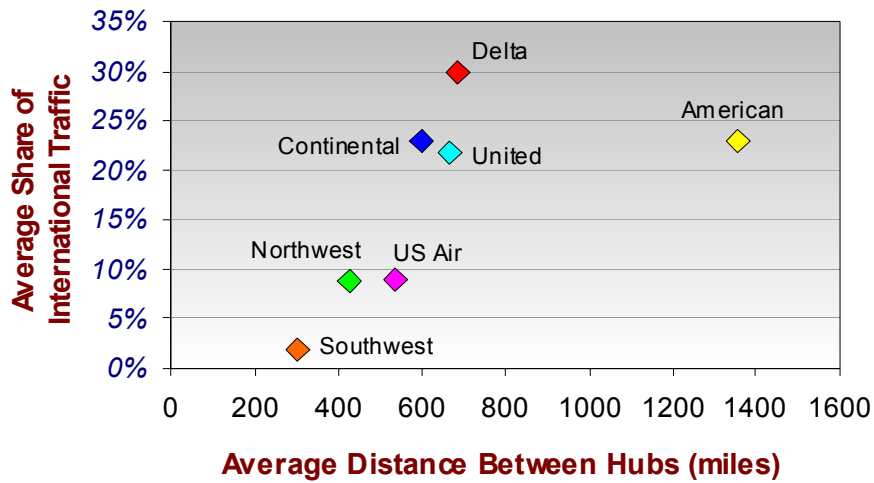
OHIO HUB PASSENGER RAIL ECONOMIC IMPACT STUDY

international travel destinations from 3 to at least 6 and expand its international passengers to 300,000 or at least to 50 percent of the level performed by Delta and enjoyed by Cincinnati Airport given the increased accessibility that the Ohio Hub rail passenger system can provide.

Exhibit 11.5: Airport Hub and International Traffic Data

Airline Name	Airport City, State & Code		Distance (miles)	Airport Share of International Traffic	
	First Hub	Second Hub		First Hub (%)	Second Hub (%)
	Continental	Newark, NJ (EWR)	Cleveland, OH (CLE)	500	27.6%
Continental	Houston, TX (IAH)	Cleveland, OH (CLE)	1,300	17.2%	2.6%
Delta	Atlanta, GA (ATL)	Cincinnati, OH (CVG)	480	8.6%	4.7%
Delta	New York, NY (JFK)	Cincinnati, OH (CVG)	680	45.2%	4.7%
Delta	Cincinnati, OH (CVG)	Sault Lake City, UT (SLC)	1,700	4.7%	1.7%
Delta	Atlanta, GA (ATL)	Orlando, FL (MCO)	450	8.6%	6.4%
Delta	Los Angeles, CA (LAX)	Sault Lake City, UT (SLC)	800	27.8%	1.7%
U.S. Air	Philadelphia, PA (PHL)	Charlotte, NC (CLT)	550	11.7%	6.4%
U.S. Air	Philadelphia, PA (PHL)	Phoenix, AZ (PHX)	2,550	11.7%	4.2%
U.S. Airlines	Phoenix, AZ (PHX)	Las Vegas, NV (LAS)	300	4.2%	3.8%
U.S. Air	Philadelphia, PA (PHL)	Washington DC (DCA)	140	11.7%	1.9%
U.S. Air	Philadelphia, PA (PHL)	Pittsburgh, PA (PIT)	320	11.7%	1.6%
U.S. Air	Philadelphia, PA (PHL)	Boston, MA (BOS)	315	11.7%	14.7%
U.S. Air	Philadelphia, PA (PHL)	New York, NY (LGA)	100	11.7%	5.6%
United	Chicago, IL (ORD)	Denver, CO (DEN)	1,000	14.8%	3.8%
United	San Francisco, CA (SFO)	Denver, CO (DEN)	1,200	23.9%	3.8%
United	Washington DC (IAD)	Chicago, IL (ORD)	740	18.2%	14.8%
United	Los Angeles, CA (LAX)	San Francisco, CA (SFO)	400	27.8%	23.9%
American	Chicago, IL (ORD)	Dallas, TX (DFW)	1,000	14.8%	8.9%
American	Miami, FL (MIA)	Dallas, TX (DFW)	1,400	47.5%	8.9%
American	Chicago, IL (ORD)	Saint Louis, MO (STL)	300	14.8%	1.8%
American	New York, NY (JFK)	Chicago, IL (ORD)	800	45.2%	14.8%
American	Los Angeles, CA (LAX)	Chicago, IL (ORD)	2000	27.8%	14.8%
American	Chicago, IL (ORD)	Boston, MA (BOS)	1000	14.8%	14.7%
American	Los Angeles, CA (LAX)	Dallas, TX (DFW)	1400	27.8%	8.9%
American	New York, NY (JFK)	Dallas, TX (DFW)	1600	45.2%	8.9%
Northwest	Detroit, MI (DTW)	Minn./St.Paul, MN (MSP)	700	10.7%	7.1%
Northwest	Detroit, MI (DTW)	Indianapolis, IN (IND)	300	10.7%	0.7%
Northwest	Detroit, MI (DTW)	Memphis, TN (MEM)	700	10.7%	3.4%

Exhibit 11.6: % of International Traffic against the Average Distance between Hubs



With respect to domestic traffic, an analysis of the impact that improved rail accessibility provides as shown in Exhibits 11.7 through 11.9 it can be seen the biggest impact is where the connection is an intercity train rather than a 'transit' LRT or commuter rail. The relatively low market share result for Cleveland, Chicago, Boston, Atlanta in these results is due to the 'transit' character of the connection. Airports with intercity connections such as London, Frankfurt, Paris, and Tokyo do much better as does Washington Reagan Airport with the high quality of its service. It is the improved quality of service that these latter rail systems provide that encourage its use. This suggests that the accessibility provided by the Ohio Hub passenger rail system would gain a market share of at least 10-20 percent of airport users and would increase domestic airport passengers by 6 percent given the improved accessibility and the expansion of its market area. This would increase passengers at least by 600,000 per year at Hopkins International Airport.

As a result the total increase in passengers at Hopkins International would be 900,000 passengers per year, 300,000 international and 600,000 domestic. However, this is a conservative estimate of the impact of the Ohio Hub passenger rail system. If Hopkins International Airport accessibility is improved to give it the same or better market area as Cincinnati the potential increase at Hopkins could be as much as 5-10 million passengers per year. See Exhibit 11.3. This assumes that with the expanded hinterland of Hopkins International Airport its major client Continental is able to perform at the level of Cincinnati Airport and Delta Airlines.

Exhibit 11.7: Rail Share of Passenger Airport Market

	Rail Shares Passenger Market	Rail Shares Passenger & Employee Market	Miles From Central Business District	Taxi Fare (\$)	Taxi Time (Minutes)
Washington - (Reagan National)	18%	18%	4	\$11.50	20
NY (JFK)*	21%	17%	20	\$33.00	50
NY (LaGuardia)*	20%	19%	8	\$23.00	30
Atlanta	7%	10%	8	\$15.00	25
Boston	9%	9%	3	\$10.00	20
Chicago	5%	11%	18	\$24.00	48
Cleveland	6%	6%	10	\$16.50	23
Philadelphia	4%	4%	8	\$24.00	23
Amsterdam	20%	-	9	\$26.50	23
Frankfurt	29%	22%	7	\$21.00	20
London (Gatwick)	29%	-	27	\$36.00	65
London (Heathrow)	24%	21%	15	\$47.00	40
Munich	35%	-	6	\$13.00	30
Paris (Charles de Gaulle)	23%	-	15	\$27.85	52
Paris (Orly)	6%	-	8	\$22.60	42
Tokyo	42%	35%	42	\$130.00	75
Zurich	34%	30%	8	\$27.60	17

* Forecast values for New York

Exhibit 11.8: Percent of Air Passengers Arriving by Rail

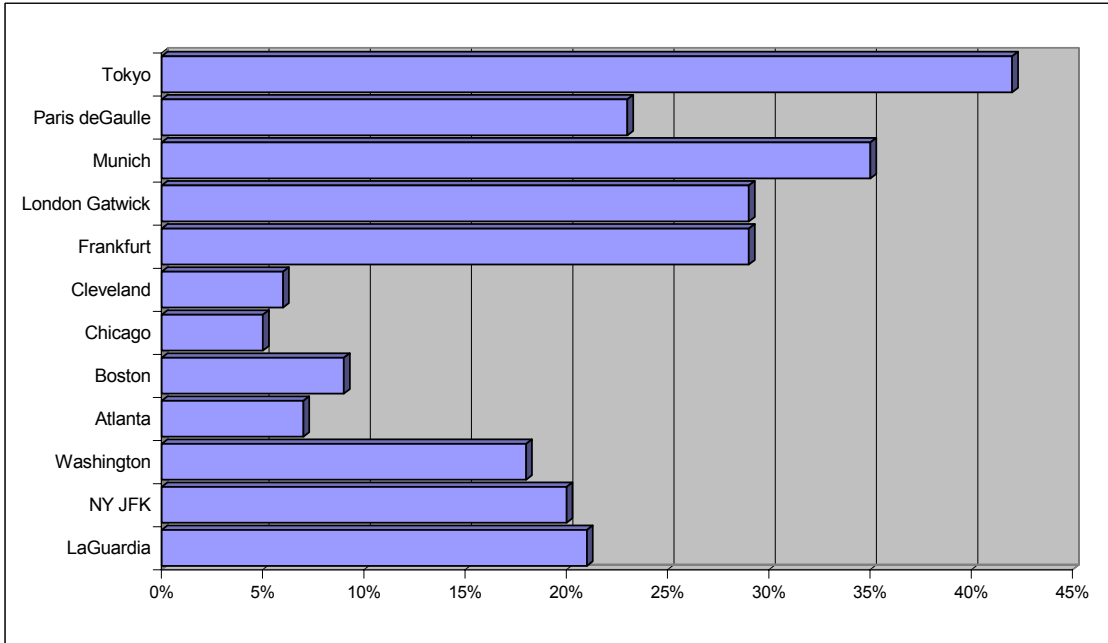
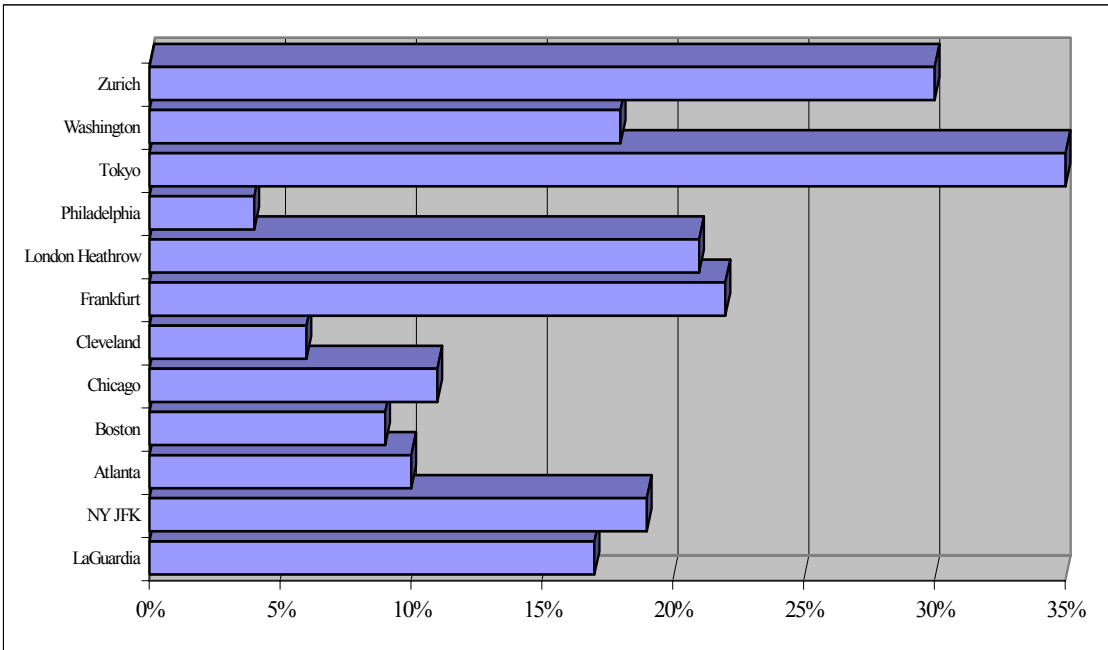


Exhibit 11.9: Percent of Air Passengers & Employees Arriving by Rail



Economic Impact: The economic impact from a nearly ten percent expansion of passenger traffic would be very significant. Not only would it increase the economic benefits associated with passenger traffic, but it would also impact the air freight market. Using estimates derived from a range of regional airports business plans¹⁰⁴, this suggest that connecting the Ohio Hub to Hopkins International Airport could add nearly 1000 jobs at the airport, with direct income impact of over 30 million per year and add between \$0.5 to \$1.0 Billion of economic benefit to the Ohio Economy.

The impact of having effective rail access to an airport has been carefully assessed in both a European and North American environment. In Europe, rail access to airports can stimulate demand and capture between 10 and 30 percent of traffic to an airport. This impact is due to the size and intensity of passenger rail service in Europe. In the U.S. where rail access is typically very limited such as provided by RTA to Hopkins International today, the impact is in the range of 3 to 10 percent. Evaluating the Hopkins market, TEMS, Inc. would estimate that conservatively, the Ohio Hub, which will offer many of the features of European railroads, and would generate a 10 percent rail share of passenger access traffic and increase number of airport passengers by 5 percent. This is less than the impact of rail connections in Northeast US Airports, which are served by intercity rail. See Exhibits 11.7 through 11.9.¹⁰⁵

¹⁰⁴ Logan, Rochester, Rockford and Hamilton airports. See: [22] – [25].

¹⁰⁵ Source: New York Port Authority.