

## VII. Summary and Recommendations

The proposed integrated high speed passenger rail transportation system, called the Ohio HUB in this report, if implemented, will provide Ohio communities with a richer array of transportation options that will better connect Ohio people, communities and industries to the world. This report analyzes the potential short run and long run economic impact of the Ohio Hub on Ohio's economy, industries and communities. The I/O impacts are associated with the construction and operation (and maintenance) of the system. The long term, or dynamic, impacts are related to the potential of the Ohio Hub system to significantly improve transportation options and increase the long run competitiveness of the Ohio economy. The long term economic development impacts will be in the form of transit oriented development and the expansion of the Ohio economy over time.

### A. Summary

The Ohio Rail Development Commission (ORDC) retained Transportation Economics and Management Systems Inc. (TEMS) of Maryland to conduct studies on the economic feasibility and long run economic benefits of the Ohio Hub project. Because of the large scope and sensitivity of the Ohio Hub, the Gem Public Sector Services was commissioned to provide a second look at the short run and long run economic consequences of the intercity high-speed passenger rail system. This report provides an in-depth, "on the ground", analysis to more fully understand and estimate the anticipated short run and long run economic impacts on Ohio, local communities and industries.

The key components of the Gem Public Sector Services methodology are as follows:

- An evaluation of the TEMS feasibility analysis and model including an assessment of its assumptions, statistical equations and projections of economic impacts.
- The application of a RIMS II Input/Output multipliers to estimate the impact of the construction and operations and maintenance (O&M) expenditures on industry output, household income and employment on communities and industries in Ohio most directly affected by the Ohio Hub.
- An analysis of employment, income and real estate benefits that may ultimately occur as a result of greater multi-modal transportation options linking Ohio to the rest of the world.
- Local meetings and focus group discussion to obtain a view of the economic feasibility and local economic impacts from the viewpoint of local citizens in selected cities and transit stops.
- A benchmark study of the community and industry impacts of intercity high-speed rail systems already in operation in others cities and states.

## 1. TEMS Methodology

The Gem Public Sector Services Group study was initiated by a thorough review of the TEMS Inc. methodology and assumptions upon which TEMS, Inc. arrived at the conclusion that the proposed \$3.5 billion Ohio Hub intercity, high-speed rail project is economically feasible and will generate significant short run and long run economic benefits for Ohio. The TEMS methodology consists of a suite of complementary, interconnected models that are utilized to forecast ridership for alternative designs of the passenger rail service as well as to estimate the construction, operations and maintenance costs over the life cycle of each of the project designs. Capital, or infrastructure, costs are estimated to be approximately \$3.5 billion. The TEMS study shows that by 2025 operating revenue will exceed operating costs obviating any need for public subsidies to operate and maintain the system once it is constructed and operational.

TEMS, Inc. benefit/cost ratio estimate for the project, 1.24, exceeds the minimum threshold of economic feasibility for projects of this nature. From a Federal government finance perspective, the margin of safety is slim, but since construction of the project will be subsidized by federal dollars the project appears very worthwhile from a purely Ohio perspective. This conclusion rests upon the assumption that the Federal transportation dollars to finance the Ohio Hub project will be allocated to other states and regions, as opposed to other Ohio transportation related projects, if the Ohio Hub project does not receive sufficient local political, business and public support.

## 2. I/O Economic Impacts

RIMS II multipliers were used to measure the expected magnitude and distribution of short run economic impacts of constructing and operating the Ohio Hub. The multipliers represent the fact that new dollars being spent on the project will continue to circulate within the Ohio economy after their initial injection into the state's internal circular expenditure/income flow.

Ohio will receive approximately \$2.38 billion in direct construction expenditure benefits over the planned 9 year construction cycle of the Ohio Hub project. The economic impact to Ohio resulting from construction expenditures is approximately \$6 billion. These expenditure benefits will be felt in all of Ohio's major cities, including Cleveland, Columbus, Cincinnati, Toledo, Dayton, Middletown, Springfield, Youngstown, Akron and Mansfield, as well as in rural counties and communities across Ohio. Virtually all of Ohio's major industries will be directly affected but the construction, manufacturing, retail and distribution sectors will experience the largest output gains.

An annual average of between 5,545 and 6,060 jobs will be added to Ohio's economy during the construction phase of the project and aggregate household earnings will rise by about \$1.84 billion. The job and income gains will be felt mainly in the urban counties along the Ohio Hub but other counties, such as Clark County, traversed by the Ohio Hub system and non-Ohio Hub counties will experience gains as well.

The main point is that the output, income and employment gains from Ohio Hub construction will be significant and widely diffused throughout Ohio's economy. They will also be dispersed over time during the 8 year construction cycle of the Ohio Hub project.

The Operations and Maintenance expenditures needed to provide the level and consistency of high speed passenger rail service in Ohio, consistent with TEMS projections, will likewise generate short run, or multiplier, impacts on Ohio's economy. The O&M expenditures at the 2025 level projected by TEMS, if maintained in real terms, over the planning period through 2040 will add additional industrial output, household income and employment to Ohio's economy. Unlike infrastructure expenditures, which will largely expire after the construction cycle ends, O&M expenditures will continue as long as the Ohio Hub remains operational. The annual net economic benefit from the O&M expenditures is likewise estimated using RIMS II multipliers to capture the short run induced expenditure effects. The Gem Public Sector Services Group estimates that the annual gain in industry output will be approximately \$290 million. Total household income will rise by about \$74 million annually and about 1,761 new jobs will be created to support the direct and indirect demand associated with operating and maintaining the Ohio Hub system over the life of the system.

An important methodological issue in the study is whether the multiplier impacts represent a net economic welfare gain to Ohio's economy or do they simply represent a redistribution of the state's economic resources among competing uses and alternatives. The answer depends upon the state of Ohio's economy during the construction cycle. Our assumption is that Ohio's labor markets are currently characterized by considerable economic slack as a result of an on-going shift away from manufacturing and other traditional industries. The state's unemployment rate has consistently remained about 2 percentage points above the national unemployment rate. Our assumption is that the state's economy has sufficient industrial capacity to absorb the increased demand stimulus associated with the new construction expenditures and the subsequent multiplier-induced spending. In this case, Ohio's large diverse economy will be able to respond to the demand stimulus by producing the desired additional goods and services. If the assumption that at least 80 percent or more of the construction expenditures will be financed by sources outside of Ohio holds true, the resulting expansion of output will represent a net welfare gain to Ohio. To the extent that economic slack is taken up as a result of the Ohio Hub construction and O&M demand stimulus, these gains are over and above the aggregate positive net gains in transportation efficiency, environmental benefits and user benefits reported by TEMS in their economic feasibility study of the Ohio Hub.

### 3. Employment, Income and Real Estate Impacts

TEMS utilized its RENTS Model to analyze the long term economic benefits Ohio can expect to receive as a consequence of building and operating the Ohio Hub system. The long term benefits result from certain dynamic changes that are anticipated to occur from having a more modern transportation infrastructure capable of moving people, goods and information more easily within Ohio and from improving access to the national and global marketplace. Some of the benefits are associated with efficiencies in transportation and others are related to the long term economic development impacts that are likely to occur.

GEM Public Sector Services collected local data on four cities along the Ohio Hub for detailed analysis: Cincinnati, Middletown, Columbus and Toledo. Local experts and civic leaders were invited to participate in focus group sessions for the purpose of obtaining a local perspective of the Ohio Hub. The responses were quite positive in the sense that the local groups identified important ways their communities may benefit from transit. They also gave ideas how the high speed passenger rail system might be integrated into the local transportation network to gain efficiencies and increase ridership. The cities of Middletown, Columbus and Toledo were identified as potentially benefiting from commuter links to the Ohio Hub. In the long run, property values, transit oriented development, urban development and industry output and employment are expected to ultimately benefit from development of the Ohio Hub system. Although the long-term economic development benefits are expected to be large, they will be small relative to the total size of Ohio's aggregate economy. The GEM Public Sector Services felt that Ohio's economy has sufficient absorptive capacity to accommodate the long-term expansion in output, employment and income.

The long-term economic development benefits of the Ohio Hub do not appear to represent unreasonable projections for growth in any of the four communities extracted as examples for analysis in the report, above. Of course, all of the projections are based on the underlying assumption that the market will accept and embrace high-speed, intercity rail service as a more efficient means of transportation than any of the variety of existing means of travel.

None of the long-term economic development benefits analyzed above have taken into account the jobs to be created by the Ohio Hub, itself. Local employment projections have either looked at the local markets in the context of total employment, or disaggregated into broad categories of "retail employment" and "office-based employment". In addition, neither TEMS nor GEM has assumed that the Ohio Hub will be introduced in an economic development vacuum. To the contrary, it is assumed that the local economic development benefits will result from an association with the Ohio Hub, but not be a result of the Ohio Hub alone. In essence, the Ohio Hub will be one potential catalyst for local development in the context of greater local efforts to stimulate growth in conjunction with rail based transportation.

Local outcomes in any community to be a station stop on the Ohio hub will be directly related to the local emphasis placed on development of the station stop and the surrounding areas. This observation speaks to an area of future emphasis for the Ohio Rail Development Commission in conjunction with the local communities that are projected to have station stops along the Ohio Hub route. First, high-speed, passenger rail service can only make one or two stops in any given community before it loses its travel time advantage over other forms of transportation. As a result, the local communities must be able to deliver equally efficient means of making connections to the most likely destinations of passengers disembarking from the trains in their respective communities. Second, consistency of the level of local services among station stops will be important for travelers to select high-speed rail over other forms of transportation. Passengers must be reasonably sure that they can access local conveniences at each station stop and that there are reliable means to get to their local destinations quickly and conveniently after leaving the train. Third, it is unlikely that the various local communities will be able to independently plan for the consistently high level of customer service that should be expected at each station stop without some unified guidance by the ORDC. Nor is it likely that the local connectivity, that will ultimately determine the overall efficiency of high-speed rail service as an alternative transportation mode, will be developed consistently by each individual community without the input, and possibly oversight, of the ORDC.

#### **4. Community Studies**

While there were similarities among the viewpoints of representatives in the four cities in which meetings were held. There are also dissimilarities among the communities. In addition, there are some observations regarding the collective perceptions from the local communities that should assist the Ohio Rail development commission as it moves the plan forward toward construction.

##### **a. Findings Regarding Passenger Service**

Among all of the community groups convened for local input, the most frequently cited purpose for traveling via high-speed rail was for regular business meetings. Following business meetings, in declining order of frequency were “pleasure”, “commuting”, “sporting events” and “shopping” as reasons for using the rail service.

Among most likely destinations, Columbus was the most frequently mentioned city, followed by Cleveland. Out-of-state destinations were actually mentioned more frequently than Cincinnati as a destination and Dayton was only mentioned by two respondents as a destination.

Among the reasons for rail travel, business was the most frequently cited reason with sporting events second in order of frequency. Conventions, tourism, and shopping, in declining order of frequency, were the next most frequently cited reasons for rail travel.

Over seventy-five percent (75%) of respondents indicated they thought face-to-face communication was either “important” or “very important” to business. When asked about the importance of face-to-face communications between distant locations, the majority of respondents thought it was “somewhat important” to “important”. Over sixty percent (60%) of respondents indicated they thought face-to-face communications were becoming less important to business.

Among the groups interviewed, over sixty percent (60%) of respondents thought that weekday travel was the most important timeframe for regular high-speed rail service with almost two-thirds of respondents citing “mornings” as the most important time of day for regular travel. Weekend travel was cited as a secondary timeframe of interest with holidays ranked as relatively unimportant. During the day, evenings were the second most important time of day for travel and late nights were relatively unimportant (many respondents did not even indicate a ranking of importance for late nights).

In declining order of importance, corporations, government workers, service providers, professional practices, and educators were identified as the most likely categories of employment to use the high-speed rail service.

Among the types of people to use the Ohio Hub, pleasure travelers were the most frequently identified, followed, in declining order, by employees, students and executives, equally, and sports fans.

Among the most frequently cited reasons for switching to rail as a mode of travel were time savings (1), ability to do work while traveling (2), out-of-pocket cost savings (3), congestion avoidance (4), and convenience to destination (5).

Over two-thirds of respondents felt the number of projected arrivals and departures each day were reasonably accurate for their communities. For those who did not feel the number of arrivals and departures were accurate, over two-thirds felt the projected numbers were too low.

Over two thirds of respondents thought it would be “likely” to “very likely” that the Ohio Hub would be used for business. The overall opinion regarding personal use was not as overwhelmingly positive, but was still skewed to the positive side of the scale. Over sixty percent of respondents felt it was between “somewhat likely and “very likely” that the rail would be used for regular commuting. The respondents were divided on their impressions of system use for trips to the airport(s).

The frequency with which commuting is cited as a reason to travel by rail strongly suggests that the respondents in the local meetings may be unclear as to the differences between “commuter rail” and “high-speed intercity rail” or that the members of the local communities are suggesting a commuter role for the Ohio Hub.

## **b. Findings Regarding Regional Economic Development**

In general, the combined results, from all of the groups, indicate a positive impression regarding the potential of the Ohio Hub to leverage economic development in the various communities. All respondents indicated that high-speed rail would generate economic development opportunities in their communities. Ninety percent of respondents ranked the likely impacts of high-speed rail on their communities as “somewhat positive” to “very positive”.

Among segments of the economy that would be the most likely to benefit from high-speed rail, office based growth was cited most frequently by approximately 85% of respondents. Retail and residential growth were also cited, in declining order of frequency. The numbers of respondents indicating either retail or residential growth were substantially fewer than those indicating office growth.

Seventy-five percent of respondents felt that near-by businesses would benefit from a local station stop.

## **c. Findings Regarding Site Development**

In general the responses regarding economic development were positive. The local groups were not asked many questions regarding the development potential of the proposed station stop locations, but some findings did emerge, nevertheless.

Over half of all respondents felt that transportation oriented development was either “likely” or “very likely” to occur near the local station stops. Slightly less than twenty-five percent of respondents felt transportation oriented development was “possible” and the remainder of respondents (less than twenty-five percent) felt that transportation oriented development was either “unlikely” or “very unlikely” to occur.

As cited above, office and retail growth were both cited as commercial land uses having development potential as a result of the Ohio Hub. Additionally, residential uses were cited as having development potential as a function of high-speed rail.

Support for nearby businesses was frequently mentioned by group meeting attendees, providing some idea of the proximity that development could have in relationship to the local station stops.

## **5. Benchmark Study**

Finally, the study examined the community and long term economic development effects of a set of three somewhat comparable intercity passenger rail systems in other states to gain an empirical perspective on what might be the long term, or dynamic, effects of the Ohio Hub system when it becomes fully operational as defined by Option 1 in the TEMS study.

The three systems chosen for the benchmark study are the “Downeaster” linking Portland to Boston, the Keystone Corridor from Harrisburg to Philadelphia and the Hiawatha Line from Milwaukee to Chicago. The three systems illustrate that building a high speed rail system is not sufficient in and of itself to spur substantial economic development along the corridors, particularly at transit stops. The total volume of ridership is likely to be insufficient to be a driver of economic development in most cases. However, when linked to the local transportation system and integrated into a more comprehensive strategy for regional economic development, the long term economic benefits can be substantial, as indicated in the TEMS and GEM Public Sector Services studies, respectively.

## **B. Recommendations**

GEM Public Services concludes that construction of high speed passenger rail is economically feasible and justifiable assuming an 80% or higher federal construction match. By feasible, we believe the economic benefits justify the investment and the project will not likely to be a burden on the State annual budget. This conclusion is consistent with the analysis of TEMS. Accordingly, GEM Public Sector Services recommends that ORDC move forward to the next stage of determining the feasibility of implementing this project.

More specifically, we recommend the state of Ohio and Ohio Rail Development Commission:

- 1. *Seek funding for a complete Environmental Impact Statement (EIS).*** While seeking funds for the EIS, ORDC should continue building a state-wide political support and public appreciation of the potential benefits because changes will inevitably occur. The more the stakeholders know about the projects the easier it will be to explain the changes and the more expeditious the adjustments will be.
- 2. *Develop and implement an integrated design, construction, and implementation plan.*** This plan should provide a framework for guiding state government efforts to build, operate, and maintain the Ohio Hub. The plan should also recognize the Intergovernmental issues in implementation, identify key obstacles to implementing the system, and recommend policy reforms that will facilitate the implementation of the Ohio Hub once funding and final approval is secured. The plan should be used as a policy framework for identifying needed rights of way, identifying land for acquisition, phasing specific projects, and developing an overall timetable with benchmarks to facilitate construction and intergovernmental cooperation and coordination.

- 3. *Involve local communities in planning and implementation efforts as soon as possible to maximize the potential economic development benefits.*** The Ohio Department of Transportation, ORDC, and the Ohio Department of Development should consider establishing technical assistance programs for local communities that have been selected for a rail station as well as communities that will likely be impacted significantly by the new service. Technical assistance can be in the form of grants to help fund rail infrastructure, coordination of approvals and assistance through other state, regional, and local agencies, workshops to help local communities develop a strategic plan for facilitating rail development, or assistance in developing or changing land use plans to accommodate private development that will support growth near the station area. The state can take a leading role in facilitating the integration of local transit agencies plans and programs into the Ohio Hub to maximize its impact on the economy and improving mobility.
- 4. *More fully integrate airport connections into the Ohio HUB system.*** One of the first efforts should be to determine how the rail system will be connected to local airports. The focus groups exhibited some confusion between inter-city rail and commuter rail. The differences between the two systems and the need for them to be coordinated still needs significant clarification.
- 5. *Investigate the potential benefits or costs to Ohio's rail freight operators and users.*** We recommend direct discussions with users rather than assuming carriers speak for their customers. Many long term benefits of the system will come from more efficient shipment of freight, yet ways to take advantages of these potential benefits have not been examined sufficiently. In this regard, consideration should be given to same day delivery of high valued freight, as has been suggested with same day mail.
- 6. *Prepare a construction and start-up business plan for the Ohio HUB system.*** The business plan should determine a construction timetable and milestones for each corridor and intercity rail segment, consider revenue streams and pricing strategies, determine scheduling and routing priorities, provide a pro forma income and expenditure statement and other financial reports, and prepare a marketing and a roll out strategy for the Ohio HUB.