The Midwest High Speed Rail Association (MHSRA) commissioned studies in 2011 and 2012 to better understand the potential impact of high-speed rail in the Midwest. The findings of these studies for the Chicago–Cleveland/Detroit route, detailed in this report, are meant to generate discussion and highlight some of the effects of a high-speed rail line in this corridor. If a high-speed line were to be built, it would likely differ in some ways from our proposal.

The Chicago-Detroit/Cleveland high-speed line would provide door-to-door trip times that are faster than flying. Convenient connections would attract significant levels of ridership.
<table>
<thead>
<tr>
<th>City Pair</th>
<th>Ridership</th>
<th>Trip Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cleveland-Detroit</td>
<td>116,044</td>
<td>1:20</td>
</tr>
<tr>
<td>Cleveland-Toledo</td>
<td>206,704</td>
<td>0:50</td>
</tr>
<tr>
<td>Cleveland-Fort Wayne</td>
<td>140,383</td>
<td>1:25</td>
</tr>
<tr>
<td>Cleveland-Chicago</td>
<td>3,483,700</td>
<td>2:15</td>
</tr>
<tr>
<td>Detroit-Toledo</td>
<td>409,799</td>
<td>0:40</td>
</tr>
<tr>
<td>Detroit-Fort Wayne</td>
<td>229,847</td>
<td>1:05</td>
</tr>
<tr>
<td>Detroit-Chicago</td>
<td>6,663,784</td>
<td>1:55</td>
</tr>
<tr>
<td>Toledo-Fort Wayne</td>
<td>10,704</td>
<td>0:35</td>
</tr>
<tr>
<td>Toledo-Chicago</td>
<td>897,048</td>
<td>1:25</td>
</tr>
<tr>
<td>Fort Wayne-Chicago</td>
<td>491,987</td>
<td>0:50</td>
</tr>
<tr>
<td><strong>Chicago-Detroit/Cleveland Corridor Total</strong></td>
<td><strong>12,650,000</strong></td>
<td></td>
</tr>
</tbody>
</table>

Construction of the Chicago–Detroit/Cleveland HSR will utilize 186,223 job-years which translates to 16,929 jobs over the 11 year period to fully construct the line. Including indirect support jobs, the total is 35,552 new project positions. A total of 1,411 permanent jobs will be created due to operations and maintenance of the new line and service and support services, and 36,600 new permanent jobs will be created through the direct regional economic expansion and development impacts of the new HSR.

Time savings due to the faster and more frequent service will save users $461 million a year. Reductions in accident costs will save $314 million per year. Cost savings due to lower transportation costs result in a $312 million benefit per year. These societal savings total an impressive $1.087 billion per year.

**Chicago–Detroit/Cleveland Corridor Job Creation Benefits**

**Model Results**

The model suggests that a very substantial 186,223 job-years of work will be created over the duration of the construction period in this corridor. This averages to 16,929 annual jobs over an assumed 11-year construction period. When the secondary “multiplier” effect, is included, this results in over 35,000 total annual jobs for each of the eleven construction years.

Because of the high cost of the greater Chicago Metropolitan area construction, this region’s construction job impact is the largest single region amount. Only slightly behind in job impact value is the broadly-defined greater Toledo region, which is defined to include substantial new ROW components extending westward half-way to Ft. Wayne, northward towards Detroit and eastward towards Cleveland.
**TABLE 6. HSR CONSTRUCTION JOB CREATION**

<table>
<thead>
<tr>
<th>Region</th>
<th>Capital Construction (000,000)</th>
<th>Estim. Total Construction Job-Years</th>
<th>Annual Jobs (during 7-year constr. period)</th>
<th>Avg. Annual Jobs w/ Multiplier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chicago Metro</td>
<td>$7,079</td>
<td>48,909</td>
<td>4,446</td>
<td>9,337</td>
</tr>
<tr>
<td>Ft. Wayne region</td>
<td>$5,216</td>
<td>36,037</td>
<td>3,726</td>
<td>6,880</td>
</tr>
<tr>
<td>Toledo region</td>
<td>$6,900</td>
<td>47,673</td>
<td>4,334</td>
<td>9,101</td>
</tr>
<tr>
<td>Detroit Metro</td>
<td>$2,554</td>
<td>17,645</td>
<td>1,604</td>
<td>3,369</td>
</tr>
<tr>
<td>Cleveland Metro</td>
<td>$5,205</td>
<td>35,960</td>
<td>3,269</td>
<td>6,685</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$26,953</strong></td>
<td><strong>186,223</strong></td>
<td><strong>16,929</strong></td>
<td><strong>35,552</strong></td>
</tr>
</tbody>
</table>

The ongoing HSR operations in this corridor will create an estimated 672 permanent jobs. The Chicago region, including the largest single station, a major maintenance facility and crew bases for onboard employees is estimated to employ 312. The two east end-point stations are roughly equal, with greater Detroit employing 138 and greater Cleveland 144. In addition to the base level of all jobs, it is anticipated that with the multiplier effect, the HSR will ultimately generate a total of 1,411 jobs.
TABLE 7. LONG-TERM ONGOING HSR O&M JOB CREATION

<table>
<thead>
<tr>
<th>O&amp;M jobs</th>
<th>Annual Ongoing Jobs w/ Multiplier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chicago Metro</td>
<td>312</td>
</tr>
<tr>
<td>Ft. Wayne region</td>
<td>27</td>
</tr>
<tr>
<td>Toledo region</td>
<td>51</td>
</tr>
<tr>
<td>Detroit Metro</td>
<td>138</td>
</tr>
<tr>
<td>Cleveland Metro</td>
<td>144</td>
</tr>
<tr>
<td>TOTAL</td>
<td>672</td>
</tr>
</tbody>
</table>

Following is a table of anticipated relative economic changes and likely resultant positive job impacts. Although the largest city-pair ridership involves the three endpoint cities, the greater relative transportation improvement and extremely large “job surge” during construction will produce much larger percentage economic increases at Toledo and Ft. Wayne, the intermediate cities in the corridor.

TABLE 8. LONG-TERM ONGOING HSR ECONOMIC ACTIVITY-INDUCED JOB CREATION

<table>
<thead>
<tr>
<th>Estimated Base Regional Jobs (000)</th>
<th>Avg. % Econ Activity Growth from HSR</th>
<th>Estimated New Annual Regional Jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chicago Metro</td>
<td>2,483</td>
<td>0.54%</td>
</tr>
<tr>
<td>Ft. Wayne region</td>
<td>167</td>
<td>1.63%</td>
</tr>
<tr>
<td>Toledo region</td>
<td>287</td>
<td>1.38%</td>
</tr>
<tr>
<td>Detroit Metro</td>
<td>1,633</td>
<td>0.61%</td>
</tr>
<tr>
<td>Cleveland Metro</td>
<td>948</td>
<td>0.71%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>5,518</td>
<td>0.66%</td>
</tr>
</tbody>
</table>

**Chicago–Detroit/Cleveland Corridor User Value-of-Time Benefits**

Particularly because of the relatively limited conventional rail service between Chicago and Cleveland, and the lack of virtually any transportation to Fort Wayne other than auto, nearly 78% of forecast HSR riders are diverted from auto because of dramatically faster trip times. Because there is a relatively robust existing Michigan-sponsored Amtrak service connecting the Detroit Metro Region and Chicago end-points (but via a substantially different intermediate routing), it is assumed that virtually all of this eligible end-point market will switch to the new HSR. Thus nearly 4% of the total corridor ridership is derived from this source. Conversely, considering the Cleveland branch of the service, the existing rail option is infrequent and at odd hours, so there is very little ridership for diversion at both Cleveland and Toledo.
The model suggests that 9.653 million former auto drivers will save 19.112 million annual hours, with a monetized nominal value of $420 million. The 484,000 million former conventional rail travelers would save 1.86 million annual hours, monetized at $40.9 Million. The combined total annual diverted auto and conventional rail users would experience a value of time benefit estimated at $461 million.

**TABLE 20. HSR USER VALUE-OF TIME BENEFIT (SAMPLE O/D’S)**

<table>
<thead>
<tr>
<th>Sample O/D Orig. Mode</th>
<th>Annual Passengers</th>
<th>HSR trip time (w/feeder)</th>
<th>Orig. mode time (auto/Amtrak)</th>
<th>Net Trip time savings</th>
<th>Monetized Savings per Trip</th>
<th>Total savings (000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chicago/Detroit (auto)</td>
<td>5,060,674</td>
<td>3.6</td>
<td>5.7</td>
<td>2.1</td>
<td>$46.04</td>
<td>$232,993</td>
</tr>
<tr>
<td>Chicago/Cleveland (auto)</td>
<td>2,606,312</td>
<td>3.9</td>
<td>6.6</td>
<td>2.7</td>
<td>$58.45</td>
<td>$152,347</td>
</tr>
<tr>
<td>Chicago/Toledo (auto)</td>
<td>770,127</td>
<td>2.9</td>
<td>4.6</td>
<td>1.7</td>
<td>$36.59</td>
<td>28,181</td>
</tr>
<tr>
<td>Chicago/Detroit (Amtrak)</td>
<td>425,000</td>
<td>2.1</td>
<td>6.0</td>
<td>3.9</td>
<td>$86.24</td>
<td>$36,652</td>
</tr>
<tr>
<td>**TOTAL *</td>
<td>10,137,483</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>$461,365</td>
</tr>
</tbody>
</table>

Includes all origins/destinations and both modes, not only the sample ones shown in table.

**Chicago-Detroit/Cleveland Corridor Consumer Surplus Benefits**

The consumer surplus model forecasts a total monetized annual benefit of $597.0 million for the 9.6 million former auto users that switch to HSR and $96.4 million for 1.2 million air users that switch to HSR. The combined annual benefit for both diversion modes is $693 million. Positive individual auto-diversion city-pair savings range from $5 per trip for Toledo/Cleveland to $173 per trip for Chicago-Cleveland. Because both Detroit and Cleveland enjoy frequent, relatively low-cost air service to Chicago, their consumer surplus is comparable, with Detroit/Chicago enjoying $42.3 million and Cleveland/Chicago $52.3 million.
TABLE 25. HSR USER CONSUMER SURPLUS BENEFIT IN SAMPLE MARKETS

<table>
<thead>
<tr>
<th>Sample O/Ds</th>
<th>Annual Passengers</th>
<th>HSR fare Avg.</th>
<th>Feed/ distr. $ (transit/ taxi)</th>
<th>Auto or air cost</th>
<th>Trip savings</th>
<th>Total savings (000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chicago/Detroit (auto)</td>
<td>5,060,674</td>
<td>$62.40</td>
<td>$20</td>
<td>$150</td>
<td>$67</td>
<td>$340,887</td>
</tr>
<tr>
<td>Chicago/Cleveland (auto)</td>
<td>2,606,312</td>
<td>$72.20</td>
<td>$20</td>
<td>$173</td>
<td>$81</td>
<td>$211,320</td>
</tr>
<tr>
<td>Sub-total (all auto) *</td>
<td>9,653,483</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>$597,085</td>
</tr>
<tr>
<td>Chicago/Detroit (air)</td>
<td>626,571</td>
<td>$62.40</td>
<td>—</td>
<td>$130</td>
<td>$67.6</td>
<td>$42,356</td>
</tr>
<tr>
<td>Chicago/Cleveland</td>
<td>564,054</td>
<td>$72.20</td>
<td>—</td>
<td>$165</td>
<td>$92.80</td>
<td>$52,344</td>
</tr>
<tr>
<td>Sub-total (all air)*</td>
<td>1,209,300</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>$96,370</td>
</tr>
<tr>
<td>TOTAL *</td>
<td>10,862,783</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>$693,395</td>
</tr>
</tbody>
</table>

* Includes all origins/destinations, not only the sample ones shown in table

**Chicago-Detroit/Cleveland Corridor User Accident Reduction Benefits**

The model suggests that 9,653,000 former auto drivers will incur an annual average of 901 fewer non-fatal accidents and statistically 14.9 fewer fatal accidents as a result of riding a “fail safe” HSR train vs. driving. The estimated monetized value of this savings is $ 312.0 million annually.

TABLE 30. HSR USER ACCIDENT REDUCTION BENEFIT

<table>
<thead>
<tr>
<th>O/D (sample city pairs)</th>
<th>Annual Passengers</th>
<th>Total Passenger Miles (000)</th>
<th>Total VMT (000)</th>
<th>Non-fatal Accident Reduction</th>
<th>Fatal Accident Reduction</th>
<th>Monetized Savings ($000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chicago/Detroit</td>
<td>5,060,674</td>
<td>1,598,930</td>
<td>1,214,561</td>
<td>498.0</td>
<td>8.3</td>
<td>$172,395</td>
</tr>
<tr>
<td>Chicago/Cleveland</td>
<td>2,606,312</td>
<td>940,878</td>
<td>723,752</td>
<td>296.7</td>
<td>4.9</td>
<td>$102,729</td>
</tr>
<tr>
<td>Chicago/Toledo</td>
<td>770,127</td>
<td>194,842</td>
<td>149,878</td>
<td>61.4</td>
<td>1.0</td>
<td>$21,274</td>
</tr>
<tr>
<td>TOTAL *</td>
<td>9,653,483</td>
<td>2,857,241</td>
<td>2,197,878</td>
<td>901.1</td>
<td>14.9</td>
<td>$311,967</td>
</tr>
</tbody>
</table>

*Includes all origins/destinations, not only the sample ones shown in table
Economic Impacts for the Principal Cities in the Chicago–Detroit/Cleveland Corridor

This and the following sections break out the impact of the implementation of the HSR by the individual cities proposed to be served. For each a summary of the existing intercity access available is provided followed by a discussion of economic benefits, focusing on job creation, in terms of jobs related to construction of the HSR, as well as ongoing operations, and, most importantly, the anticipated long term increase related to economic development spurred by the introduction of high speed rail service. Finally a brief discussion of the specific way the HSR is proposed to fit into each community and the anticipated benefits is provided.

The Chicago Metro Region will be the cornerstone of the proposed Chicago-Detroit/Cleveland HSR, with 91% of forecast passenger trips beginning or ending in Chicago Metro. Detroit Metro will be the second most heavily patronized region with 58% of forecast passenger trips. The third busiest region will be greater Cleveland, generating 31% of trips (originating or ending).

Significant direct Operations and Maintenance (O&M) jobs will be based at the three endpoints as well as Toledo, where the Chicago-Toledo double trainsets split to the separate Detroit and Cleveland destination end-points.

As a truly “new mode” of transportation, providing downtown to downtown Chicago-Detroit running time of less than 2 hours, and Chicago-Cleveland in 2¼ hours, the HSR will produce a significant mode shift in transportation from air, auto and conventional rail, while also generating substantial induced demand. This “new mode” impact will be greatest in percentage terms for intermediate cities, such as Ft. Wayne and Toledo where there is currently limited existing rail and air service. Over time, this new mobility is expected to produce dramatic changes in property value, residential and commercial location decisions, employment, etc. The following summary table lists some of these key qualitative economic impact findings.

**TABLE 38. HSR REGIONAL ECONOMIC IMPACTS**

<table>
<thead>
<tr>
<th>Key Cities (Metro. Population)</th>
<th>City-Proper Population</th>
<th>Current Intercity Public Transportation Availability</th>
<th>Recent % Unemployment Current Econ Activity</th>
<th>Avg. HSR Economic % Development Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chicago (9.5 mil)</td>
<td>2.8 million</td>
<td>Excellent</td>
<td>9.5%/Good</td>
<td>+0.54%</td>
</tr>
<tr>
<td>Ft. Wayne (414,000)</td>
<td>254,000</td>
<td>Fair</td>
<td>8.5%/ Fair</td>
<td>+1.63%</td>
</tr>
<tr>
<td>Toledo (651,000)</td>
<td>287,000</td>
<td>Fair</td>
<td>7.0%/ Good</td>
<td>+1.38%</td>
</tr>
<tr>
<td>Detroit (5.2 mil)</td>
<td>714,000</td>
<td>Good</td>
<td>12+%/ Poor</td>
<td>+0.61%</td>
</tr>
<tr>
<td>Cleveland (2.9 mil)</td>
<td>397,000</td>
<td>Good</td>
<td>8.0%/Good</td>
<td>+0.71%</td>
</tr>
</tbody>
</table>

One of the most impressive findings of this study is the number of jobs forecast to be created during the prime construction period. The base number of solid annual construction industry jobs is estimated at 16,900 for the 11 year period. When the secondary “multiplier effect” is counted, there will be a total of over 35,000 jobs.
TABLE 39. HSR CONSTRUCTION/ O&M JOB CREATION

<table>
<thead>
<tr>
<th></th>
<th>Cost-Capital Construction (000,000)</th>
<th>Estim. Total Construction Job-Years</th>
<th>Annual Jobs (assume 11-year period)</th>
<th>Avg. Annual Jobs w/ Multiplier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>$26,953</td>
<td>186,223</td>
<td>16,929</td>
<td>35,552</td>
</tr>
</tbody>
</table>

After project completion, the new HSR will conservatively employ 672 skilled workers, as well as additional support positions. Including the multiplier effect, we would anticipate 1,411 permanent jobs.

TABLE 40. LONG-TERM ONGOING HSR DIRECT JOB CREATION

<table>
<thead>
<tr>
<th></th>
<th>O&amp;M jobs (incl. mgmt. &amp; supv.)</th>
<th>Annual Ongoing Jobs w/ Multiplier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>672</td>
<td>1,411</td>
</tr>
</tbody>
</table>

Lastly is the very substantial anticipated long term job creation of nearly 36,600 jobs in all regions surrounding HSR Stations resulting from increased regional economic activity created by improved access and mobility.

TABLE 41. LONG-TERM ONGOING HSR DEVELOPMENT-RELATED JOB CREATION

<table>
<thead>
<tr>
<th>Estimated Current Total Jobs</th>
<th>Overall Avg. Econ % Growth</th>
<th>Estimated New Jobs Created</th>
</tr>
</thead>
<tbody>
<tr>
<td>5,518,000</td>
<td>+0.66%</td>
<td>36,661</td>
</tr>
</tbody>
</table>

**Economic Benefits for Chicago (as part of the Detroit/Cleveland Corridor)**

Chicago is the business and commerce capital of the Midwest with city population of 2.8 million and (tri-state) MSA population of nearly 10 million. It has a massive business employment base including multiple corporate headquarters, an agricultural and commodities stock exchange, several major universities, and one of the largest convention centers in North America.

Chicago has historically been the major Midwest hub of intercity passenger railways since the mid 1800’s and remains so today with Amtrak. It is also the only common end-point shared by all of the proposed new Midwest HSR routes. Chicago’s O’Hare airport is the busiest in North America with direct flights to most domestic and many international destinations. Chicago’s Midway Airport is a major connecting hub for low-cost Southwest Airlines, with non-stop flights to a wide range of destinations, including both endpoint of this corridor, Cleveland and Detroit.

Chicago will be the cornerstone of the proposed Chicago-Detroit/Cleveland HSR, with over 91% of all forecast passenger trips beginning or ending in Chicago. With downtown to downtown running times of less than 2 hours to Detroit and 2 hours 15 min’s to Cleveland, the HSR service will create a “new mode” of transportation for Chicago, unquestionably faster than conventional
rail or auto to all intermediate destinations, and at least equal if not better in total end-point trip time than air.

The combination of fast running times, reliable service and affordable fares will result in significant mode shift for existing trips and substantial generation of new trips, known as “induced demand.” For instance, with the new HSR service it will be feasible to make a same-day, or arguably half-day trips to/from Toledo and easy one-day trips to/from Detroit or Cleveland, all with travel time one-third as long as driving.

As discussed in greater detail in Section 2.1, there will be a large construction-industry job creation impact during the anticipated 11 year construction period. The likely direct annual job creation for Chicago MSA is estimated at 4,446. When the secondary impact (“multiplier”) is taken into account, this annual job number increases to 9,337.

Since the Chicago will have the busiest HSR stations, as well as being the terminal for operating crews, it will enjoy the highest staffing level. Including station, onboard services, train operating crews, and maintenance, permanent job creation is estimated at 312. Adding the secondary “multiplier-related” impact results in 655 jobs. There will also be an anticipated indirect long-term job creation of 13,400 jobs resulting from the increased overall economic activity in the greater Chicago MSA resulting from the Detroit/Cleveland HSR.

Economic Benefits for Ft. Wayne

General Description

Ft. Wayne is a medium-sized city with population 254,000 located in northeastern Indiana and serving as Allen County Seat. The larger Ft. Wayne MSA, including immediately adjacent counties has a 414,000 population. Although once largely industrial, Ft. Wayne now has a more diversified work base to offset manufacturing losses.

Current Economy

In addition to lesser known companies, Ft. Wayne is headquarters to Genteq, North American Van Lines, Rea Magnet Wire, and Steel Dynamics, the 5th largest steel producer. Ft. Wayne’s largest current employers include: Lutheran Health, G-M, Parkview Health, Lincoln Financial and ITT. Ft. Wayne is home of Indiana Univ./Purdue – Ft. Wayne, with nearly 15,000 students.

Current Intercity Passenger Transportation

Ft. Wayne has not been directly served by passenger rail since the 1990 rerouting of Amtrak’s NYC-Pittsburgh-Ft. Wayne-Chicago Broadway Limited from the CR (former PRR) route through Ft. Wayne, to the more northerly NS (former NYC) route serving Waterloo, 25 miles to the north. Ft. Wayne currently has only one daily bus round trip to Chicago operated by Greyhound-affiliate Lake Front Lines. Ft. Wayne Airport has six daily regional commuter jet round trips to Chicago O’Hare Airport.
Proposed HSR Alignment and Service

Coming east from Gary, the proposed HSR alignment would largely follow the former PRR alignment, up to a new HSR Station at the traditional former PRR Baker St. location. Continuing eastward from Ft. Wayne, the HSR alignment would follow the NS (ex-NKP) alignment towards Toledo. Although the exact stopping pattern has not been determined, it is likely that roughly half of the 25 daily round trips Chicago-Detroit/Cleveland HSR trains would likely stop at Ft. Wayne. Scheduled running times are anticipated to be: Chicago 1 hr 10 min’s; Toledo 25 min’s; Detroit 55 min’s; Cleveland 1 hr 15 min’s.

Anticipated Mobility Impact

Because Ft. Wayne is near the geographic mid-point of the route, and the speeds are so high, Ft. Wayne will be in the unique position of being only roughly one hour from any end point! The HSR travel times to Chicago, Detroit and Cleveland are roughly 1/3 of typical driving times. Local planners hypothesize that improved access time, especially to Chicago, would make Ft. Wayne a more attractive location to attract new business and high skill employees. It can be expected that HSR will change fundamental travel perceptions and likely encourage new residential and employment opportunities. There should be substantial “induced demand,” i.e. creation of net new trips to downtown Chicago.

Potential Station Area Development

The Baker St. Station site is already a transit hub for the small, but growing and well-received Ft. Wayne local bus system. The economic energy of a gateway to high-frequency, high quality HSR service should induce significant property value increase and spur new TOD in the several surrounding blocks.

Potential Job Creation Impact

As discussed in more detail in Section 2.1, there will be an immensely positive construction-industry job creation impact during the anticipated 11 year construction period. This likely annualized job creation for the greater Ft. Wayne region (defined as the area along the HSR line from half-way to Gary to half-way to Toledo) is estimated at 3,276. When the positive secondary impact (or so-called “multiplier” effect) is added, the annual job number increases to 6,880.

As with other smaller intermediate HSR stations, the ongoing staffing requirements will create a small number of quality permanent jobs supporting operations of the HSR Service. Ft. Wayne Station and small MOW workforce is estimated to create 27 permanent jobs and a total of 56 jobs including the secondary multiplier effect. There will also be an anticipated indirect long-term job creation of 2,700 jobs resulting from the increased overall economic activity enabled by the HSR System.

Economic Benefits for Toledo

General Description

Toledo is the 4th largest Ohio city, with population 287,000 located in northwestern Ohio and serving as Lucas County Seat. The larger Toledo MSA, including adjacent counties has a
population of over 650,000. Like many other formerly industrial Midwestern cities, Toledo has experienced a population loss of nearly 25% in the last forty years, although it has been successful in recent CBD revitalization to stem the tide.

**Current Economy**

Although once the corporate HQ of several Fortune 500 companies, several of these (predominantly automotive supply chain) companies have been merged into other entities, located elsewhere. Toledo does remain the HQ location of Jeep, Libbey Glass and Dana Corporation. Toledo is also known for innovation and major production of glass (automotive, industrial and other purpose). Offshoots of Owens-Illinois, Owens-Corning and Pilkington North America are still significant in the Toledo economy.

**Current Intercity Passenger Transportation**

Toledo is served by two daily Amtrak round trips: the “Capitol Limited” operating Washington-Chicago and the “Lakeshore Limited” operating NYC-Chicago. The current Amtrak Station, known as M.L.K., Jr. Plaza is the former NYC “Toledo Central Union Terminal.” Toledo is served by 2 daily Cleveland-Chicago round trips operated by Megabus and 2 daily round trips to Chicago by Greyhound. Toledo Airport has three daily commuter round trips to Chicago O’Hare Airport.

**Proposed HSR Alignment and Service**

Coming from the southwest along I-75, the proposed HSR alignment would briefly pick up the CSX alignment before crossing the Maumee River on a new bridge north of the existing CP bridge and then paralleling the railroad alignment to M. L. K. Jr. Plaza (Central Union Terminal). All HSR trainsets would split at Toledo going east/north-bound toward Cleveland and Detroit. They would conversely merge in the opposite direction. The alignment towards Cleveland would retrace itself over the new HSR Maumee River Bridge and then follow multiple RR alignments until ultimately reaching the I-80/90 corridor towards Cleveland. The alignment towards Detroit would initially follow the NS westward to Airline Junction, from whence a northerly route is proposed paralleling Conrail Shared Assets RR lines.

As the point where Chicago-Toledo “double” trainsets will split into “singles” for Detroit and Cleveland (or the opposite in the Chicago-bound direction) it is presumed that all HSR trains will make a station stop at Toledo. Thus Toledo will enjoy 25 daily round trips to Chicago, Detroit and Cleveland. Scheduled running times are anticipated to be: Chicago 1 hr 35 min’s; Detroit 20 min’s; Cleveland 40 min’s.

**Anticipated Mobility Impact**

The two most significant likely impacts for Toledo will be new availability of frequent, affordably priced service to downtown Chicago in 1½ hours and Detroit in only 20 minutes. This will make one-day trips to Chicago easily viable less than 1/3 the current driving time) and commuting to Detroit in much less time than most current home-to-work local Detroit commutes. Local planners believe that improved access time to Chicago would make Toledo more attractive. Conversely, local business leaders fear the (likely) loss of scheduled commuter air service to O’Hare resulting from HSR, and also cite easy access to and availability of frequent air service at Detroit Wayne County Airport (only 45 minutes from Toledo) as adequate public transportation obviating the need for Chicago HSR. Notwithstanding different perspectives, it can still be
expected that HSR will favorably change broad perception of access to/from Toledo and encourage new residential and employment opportunities. There will very likely be substantial “induced demand,” for trips to Chicago and moderate numbers of new trips to Detroit and Cleveland.

Potential Station Area Development

The M. L. K., Jr. Toledo Union Terminal site is a target for development and new growth, which should definitely be helped by the energy of a frequent-service HSR Station. Even long before higher- and true high-speed rail was in the planning stages, the local Port Authority made a $10 million investment to upgrade the historic station into a modern multimodal (passenger rail/bus) facility including commercial office space. There is substantial nearby available property for (re)development and TOD.

Potential Job Creation Impact

As discussed in more detail in Section 2.1, there will be an immensely positive construction-industry job creation impact during the anticipated 11 year construction period. This likely annualized job creation for the greater Toledo region (defined as the area along the HSR line from half-way to Detroit to half-way to Toledo as well as 1/3 of the way to Cleveland) is estimated at 4,334. When the positive secondary impact (or so-called “multiplier” effect) is added, the annual job number increases to 9,101. Ongoing staffing requirements will create quality permanent jobs supporting operations of the HSR Service, including splitting and merging of trains at the station. Toledo Station is estimated to create 51 permanent jobs and a total of 108 jobs including the secondary multiplier effect. There will also be an anticipated indirect long-term job creation of 3,967 jobs resulting from the increased overall economic activity enabled by the HSR System.

Economic Benefits for Detroit

General Description/Economy

Detroit, Michigan’s largest city and Wayne County Seat is located on the Detroit River in southeastern Michigan. Despite significant legendary population decline (from 5th US City in 1950 to 18th in 2010), Detroit still has a population of 714,000. The Detroit MSA has declined much less, and is US 11th largest, coming in at 4.3 million. Despite significant change and decline in local auto manufacturing, Detroit is still unquestionably recognized as the US auto capital or “Motor City.” It is also very well known for its major sports franchises and venues.

Detroit is most notably corporate headquarters of: General Motors, Ford and Chrysler, as well as Compuware, HP Enterprise Services, Ernst & Young, and Quicken Loans.

The downtown skyline is dramatic, centered on the futuristic Renaissance Center, but has very little residential or mixed use housing stock.

On the local transportation front, other than the small elevated automated Downtown People Mover system, local transit is limited to bus service operated by Detroit Dept. of Transportation. After countless “false starts,” it appears that the long-planned Woodward Corridor LRT will
finally begin construction of a starter segment soon. Several plans for commuter rail restoration
either north to Pontiac or west to Ann Arbor) have not materialized.

Current Intercity Passenger Transportation

Although once a major rail hub, with three separate passenger rail stations, the most famous and
grandest of which is the abandoned Michigan Central Depot, Detroit has only been served by the
Amtrak Pontiac-Detroit-Chicago “Wolverine Corridor” service for the last several years. In large
part due to substantial MI DOT capital investment in the western half of the corridor and in
rolling stock, this has been one of the Midwest’s most successful passenger routes, carrying just
under a half-million annual passengers. The downtown Detroit station site was relocated to a
small but modern facility at “New Center” roughly 20 years ago, in conjunction with extension of
the Michigan corridor to Pontiac via suburban Birmingham. There is also a well patronized,
modern station with parking in Dearborn, west of Detroit.

Detroit Wayne County Airport is a major hub for Delta (ex-NW) and has excellent air service,
including 19 daily round trips to Chicago O’Hare Airport 12 daily round trips to Chicago
Midway. Detroit also has a combined 7 daily bus round trips to Chicago operated by Greyhound
and Megabus.

Proposed HSR Alignment and Service

The proposed HSR line routing would approach Detroit on an aerial structure paralleling CR/MC
from the south to a new HSR Station adjacent to the Amtrak New Center Station. Unlike the other
HSR Corridors that largely parallel the intermediate routes of existing/incrementally improved
state-sponsored Amtrak services, the Detroit-Chicago routing is entirely different from (hence
complementary to) the planned upgraded MI-sponsored corridor, which serves (and will continue
to serve): Ann Arbor, Jackson, Battle Creek, Kalamazoo and Michigan City.

Twenty-five daily round trips will serve Detroit with their ridership contributing to 58% of all
Cleveland/Detroit-Chicago Corridor on’s/off’s. With end-point downtown to downtown running
times of just under two hours, the HSR service should be a “game changer” for Downtown
Detroit, essentially creating an entirely “new mode” of transportation, significantly faster than
conventional rail to Chicago, than auto to all intermediate destinations, and equal, if not actually
better in total end-point trip time than air. The combination of fast running times, highly reliable
service and affordable fares will also result in substantial generation of new “induced demand”
trips.

Potential Station Area Development

Detroit is working hard to redefine and re-energize its greater downtown area, with a focus,
among others, on new center. The presence of the new HSR Station, further helped by its
proximity to the planned LRT for local access should provide a good impetus to development.

Potential Job Creation Impact

There will be significant construction-industry job creation impact during the anticipated 11 year
construction period. The direct annual job creation for the expanded greater Detroit region is
estimated at 1,604. With secondary multiplier, this job number increases to 3,369.
Since Detroit is the second largest market (after Chicago) on the corridor, as well as a terminal for T&E and OBS crews, it will experience railroad employment of 138; total after multiplier is 289. Perhaps most importantly, there will also be an anticipated indirect long-term job creation of 9,900 jobs resulting from the increased overall economic activity.

Economic Benefits for Cleveland

General Description/Economy

Cleveland is a major city in northeastern Ohio on the southern shore of Lake Erie with a city population of 395,000 and MSA population of 2.2 million. Cleveland is the county seat of Cuyahoga County. Notwithstanding still representing the largest MSA in Ohio, Cleveland has the unfortunate distinction of being one of the most rapidly declining major cities in the US. The city-proper population decline is explained by both the loss of an industrial/manufacturing base (especially steel and auto) and significant resettlement to the suburbs. It is still recognized as a center of commerce, culture, entertainment and education.

Cleveland is corporate headquarters of: Applied Industrial Technologies, Sherwin-Williams, Forest City Enterprises, among others. The massive health care complex centered around the Cleveland Clinic and related facilities are a major growth-employer.

On the local transportation front, Cleveland RTA operates two modern LRT lines (legacy of the independent Shaker Heights Rapid Transit) as well as a single-route heavy rail metro that directly connects Cleveland Hopkins Airport with downtown and the eastern suburbs. Cleveland RTA has also recently introduced a successful and widely recognized bus rapid transit, known as the Euclid Corridor “Health Line.”

Current Intercity Passenger Transportation

Although once a significant passenger railroad city, served by multiple carriers, and with a grand, centrally located underground station at Cleveland Terminal Tower, since the creation of Amtrak, Cleveland has generally been served by only two daily round trips, unfortunately usually in the middle of the night (due to schedule requirements) by overnight Washington and New York-Chicago long distance trains. For cost and operational reasons the station location was moved from Terminal Tower to a slightly edge of downtown location on the NS main line on which the trains operate through Cleveland. As a result of the service limitations, local ridership to/from Chicago is very light.

Cleveland Hopkins Airport has good air service, with 18 daily round trips to Chicago O’Hare Airport 8 daily round trips to Chicago Midway. Cleveland also has a combined 7 daily bus round trips to Chicago operated by Greyhound and Megabus.

Proposed HSR Alignment and Service

The proposed HSR line routing would approach Cleveland on an aerial structure paralleling the NS from the west, with an intermediate stop at Cleveland Hopkins Airport, and continuing along the NS to the existing Amtrak Lakefront Station above which the HSR would have a new
elevated station. This would allow potential connections to other (expanded) Amtrak service as well as a branch line of the RTA LRT.

All 25 daily round trips will stop at Cleveland Lakefront and Cleveland Hopkins, with their combined ridership contributing 31% of all Cleveland/Detroit-Chicago Corridor on’s/off’s. With end-point downtown to downtown running times of just over two hours, the HSR service will essentially create a “new mode” of transportation for metropolitan Cleveland, significantly faster than conventional rail or auto to all intermediate destinations, and at least equal, if not actually better in total end-point trip time than air. The combination of fast running times, reliable service and affordable fares will result in significant mode shift for existing trips and substantial generation of new “induced demand” trips.

Potential Station Area Development

Although there is already some redevelopment along the waterfront area, in part due to the Rock and Roll Hall of Fame, the new presence of a very high volume HSR terminus should provide a great impetus to development. Local planners support the concept of this station location as part of long-term growth and would also recommend a potential maintenance facility to the east of the proposed passenger station.

Potential Job Creation Impact

There will be significant construction-industry job creation impact during the anticipated 11 year construction period. The direct annual job creation for the expanded greater Cleveland region is estimated at 3,269. With secondary multiplier, this job number increases to 6,865.

Since the two stations combined are the third largest regional market (after Chicago and Detroit, in order) on the corridor, as well as a terminal for T&E and OBS crews, Cleveland will experience railroad employment of 144; total after multiplier is 303. Perhaps most importantly, there will also be an anticipated indirect long-term job creation of 6,600 jobs resulting from the increased overall economic activity.

Chicago to Detroit/Cleveland Routing

For the purpose of understanding the potential impact of high-speed rail, MHSRA selected a corridor to study that passes through Gary, Fort Wayne and Toledo. At Toledo, the route would branch, with one line going to Detroit and the other to Cleveland. This proposal is meant to generate discussion. If a high-speed line were to be built, it would reflect a high-level study carried out by state planning agencies, and would likely differ in some ways from our proposal.

Trains would operate on a clockface schedule every half-hour during peak periods, and every hour in the off-peak. The Chicago-Detroit travel time would be about two hours at an average speed of approximately 150 mph. The Chicago-Cleveland travel time would be about two and a half-hours at an average speed of approximately 135 mph.

To support an overall average travel speed of 150 mph in this corridor, 220-mph alignments would be implemented between Gary and Toledo. Given the relatively short distance between Toledo and Detroit, and challenging topography between Toledo and Cleveland, 150-mph alignments would be implemented between these cities, which would still maintain the respective end-to-end travel times.
Chicago to Toledo

Chicago to Grand Crossing

- From an underground West Loop Transportation Center station or reconfigured CUS, HSR would be routed south in tunnel and/or aerial structure via the St. Charles Air Line to follow an alignment in the Metra Electric District/Canadian National (former Illinois Central) corridor
- Along the St. Charles Air Line, HSR tracks would be stacked above CN/UP/AMTK (ICRR) and CTA Orange/Green lines due to constraints
- East of the St. Charles Air Line and north of McCormick Place station, a new HSR alignment would join METRA/CSS (ICRR/CSS); to add capacity for HSR, the adjacent CN/AMTK (ICRR) tracks would be electrified; at least 79-mph operations would be possible
- McCormick Place is conceived as an events-only station. An intermediate station would be located at Hyde Park (55th, 59th or 63rd Street Metra Station)
- Approaching Grand Crossing, a new alignment for Cincinnati, Cleveland and Detroit trains would curve into the NYC (LSMS) ROW

Grand Crossing to Gary

- At Grand Crossing, a new alignment for Cincinnati, Cleveland and Detroit trains would curve from METRA/CSS (ICRR) / CN/NS/AMTK (ICRR) into NYC (LSMS) ROW
- Two tracks for HSR would be replaced in NYC (LSMS) ROW from Grand Crossing to at least as far east as the Calumet River; street underpasses are typical, so no grade separations would be needed
- From the Calumet River east, space would still be available adjacent to NS/CP/AMTK (LSMS), but power lines, yards and other encroachments would make aerial structure necessary
- The HSR alignment would continue to follow NS/CP/AMTK (LSMS) to Gary, transitioning to NS (PRR)
- HSR would stop at the existing CSS Gary Metro Center station, providing intermodal connectivity

Gary to Toledo

- From Gary, HSR would follow the Chicago, Fort Wayne and Eastern (former Pennsylvania Railroad) to Fort Wayne, with a stop at Baker Street Station; a route via South Bend and Elkhart would serve a considerable existing rail passenger market, warranting further study, but would possibly require a new greenfields alignment to the east of Elkhart
- From the station at Gary Metro Center, HSR would follow a reverse curve to enter a 220-mph alignment along CFER (PRR); impacts to the larger towns of Plymouth and Warsaw would be avoided by constructing bypasses north of each city that would still support speeds up to 175 mph
- HSR would stop at Baker Street Station in Fort Wayne. HSR would continue due east from Fort Wayne, entering a 220-mph alignment along NS
- HSR would make a sweeping curve northwest of Leipsic to enter CSXT (CHD)/CLE (IC&E)
• South of Perrysburg, HSR would transition from a 220-mph alignment into the I-75 corridor
• From the I-75 corridor, HSR would curve into CSXT (TT)/CSXT (CHD) and then CSXT (TOC) to cross the Maumee River on a new bridge at a skew angle north of the existing CP bridge to reach Toledo Union Station, where trains would be split into Detroit and Cleveland-bound services

Toledo to Detroit

• Detroit trains would head west from Union Station along NS (LSMS/BO)/NS (MC/BO), limited to 80 mph to negotiate a curve northward at Airline Junction
• Coming out of the Airline Junction curve, trains would enter a 125-mph alignment, reaching a design speed of 150 mph at least as far south as Alexis
• HSR would continue on a 150-mph alignment at least as far north as Trenton, following CRS (MC/BO)/(LSMS/BO) to reach the existing Amtrak station in the New Center district of Detroit
• The New Center station occupies a central location in the City and a light rail connection to downtown is planned; regional rail services would connect to Ann Arbor, Birmingham and Pontiac

Toledo to Cleveland

• Cleveland trains would return east over the new Maumee River bridge, curving into CSXT (TOC), then continuing southeast along the same bearing along PC (PRR) and then CSXT (PRR) to reach a 150-mph alignment
• A short connection could be built to form a wye, allowing trains to travel directly between Fort Wayne and Cleveland without a Toledo stop
• West of Genoa, the HSR alignment would curve into the I-80/90 corridor, with flattened curves allowing a 150 mph top speed
• Between Amherst and Elyria, HSR would transition to NS/AMTK (LSMS); the HSR alignment would be on aerial structure through Elyria

The HSR alignment would continue east along NS/AMTK (LSMS) to Cleveland, making a stop at Hopkins International Airport; there, a transfer to the RTA Red Line would provide a connection to western neighborhoods

HSR would approach an elevated terminus at the existing Amtrak Lakefront Station site on aerial structure along NS/AMTK (LSMS), facilitating connections to rail services operating farther east to Pittsburgh and the Northeast Corridor; a transfer to RTA light rail would distribute passengers downtown and provide connections to eastern neighborhoods