

# Economic Impact Study



## Airline Junction Evaluating the Economic Impacts of Expanded Truck-Rail Intermodal Capacity in Northwest Ohio



Intermodal Transportation Institute  
University Transportation Center



Center for Transportation Research

Submitted to  
The Honorable Carlton S. Finkbeiner  
Mayor, The City of Toledo, Ohio

The City Council  
The City of Toledo, Ohio

March 2009

# ***Evaluating the Economic Impacts of Expanded Truck-Rail Intermodal Capacity in Northwest Ohio: Airline Junction***

## **Economic Impact Report**

### **Acknowledgements**

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Paul	Toth, Jr	Toledo-Lucas County Port Authority	Interim President
James	Tuschman	Barkan & Robon Ltd., Chairman, Ohio Board of Regents	Chairman: Joint Intermodal Task Force

## Airline Junction...Regional Economic Stimulus Summary

Transportation and logistics has been recognized for many years as an important driver of the City of Toledo and the Northwest Ohio/Southeast Michigan economic health. An extensive amount of information has been generated and included in the body of this report as support for the executive summary of economic stimulus impact findings below.

### ○ NW Ohio counties most impacted

- Lucas
- Wood
- Fulton
- Henry
- Ottawa
- Sandusky

### ○ SE Michigan counties most impacted

- Monroe
- Lenawee

### ○ Incremental industrial development (5 yrs)      \$27 million dollars

- 98 acres (1,500,000 sf),

### ○ Total New Jobs (direct + indirect) (5 yrs)      893

### ○ Annual salaries      \$25.6 million dollars

- |                               |     |                                |
|-------------------------------|-----|--------------------------------|
| ▪ New jobs (direct) (5yrs),   | 438 | \$16.4 million annual salaries |
| ▪ New jobs (indirect) (5 yrs) | 455 | \$9.2 million annual salaries  |
| ▪ Average annual salary       |     | \$28,738                       |

### ○ Total Local annual Tax Impact      \$1,231,866

- |                           |           |
|---------------------------|-----------|
| ▪ Local Property Tax      | \$487,530 |
| ▪ Local Sales and Use Tax | \$166,086 |
| ▪ Toledo Payroll Tax      | \$578,250 |

### ○ Total State Annual Tax Impact      \$1,491,137

- |                             |           |
|-----------------------------|-----------|
| ▪ State Sales and Use Tax   | \$730,780 |
| ▪ State Personal Income Tax | \$570,627 |
| ▪ Commercial Activities Tax | \$189,730 |

**Total regional output (5 yrs)    \$112,266,320**

# ***Evaluating the Economic Impacts of Expanded Truck-Rail Intermodal Capacity in Northwest Ohio: Airline Junction***

**Center for Transportation Research  
The University of Tennessee**

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## ***1. Introduction and Motivation***

A variety of commercial, industrial, and public sector constituencies in northwestern Ohio have long realized the economic potential that can be attributable to the further development of intermodal freight operations within the region. While this consensus has been building for nearly two decades, formal actions were accelerated during 2008 when the various interests joined together as the *Joint Intermodal Task Force for Transportation and Logistics* (Task Force).

The initial report of the Task Force and their recommendations were released in an October 2008 study document. Chief among the report's findings are the recommendations that the region further explore an expanded role for the existing Norfolk Southern (NS) intermodal facility at Airline Junction in Toledo and that this exploration simultaneously consider how a more active NS intermodal facility might be integrated into broader efforts to redevelop nearby available commercial properties.

As an action item contained within these recommendations, the Task Force called for the estimation of the economic benefits that might be expected under such an initiative. Accordingly, Task Force members and representatives from NS initiated informal discussions with the University of Tennessee's Center for Transportation Research (CTR). CTR faculty and staff have extensive experience in performing precisely the sort of analyses sought by the Task Force. As a result of these discussions, the University of Toledo's Intermodal Transportation Institute (ITI) asked CTR to prepare an economic impact analysis

that would serve the Task Force's needs. The remainder of the current document reports the results of this effort.

Section 2 provides a summary of the overall environment in which the proposed project is located. This includes a general discussion of intermodal traffic within a national context, a description of the Toledo area's role within the greater regional network, a description of the proposed improvements at Airline Junction, and an assessment of the probable development impacts associated with the proposed improvements. Section 3 focuses on specific economic outcomes. It defines the region used within the analysis, along with other relevant estimation parameters, summarizes regional impacts in terms of investment, employment and projected incomes, and provides estimates of related fiscal impacts for both local jurisdictions and the state of Ohio. Finally, Section 4 provides concluding comments.

## ***2. The Economic Environment and Proposed Improvements***

The NS intermodal facility at Airline Junction is a relatively small terminal within a vast rail-truck intermodal network that has seen unprecedented traffic growth within the last two decades. The rail-truck component of intermodal transport has, in fact, been a critical factor in the nation's ability to successfully engage in global commerce and the promise of continued growth in trade-related traffic has led to ongoing efforts to increase intermodal capacity. This is evidenced by deep-draft port expansions at both coastal and Great Lakes ports, the development and expansion of inland intermodal hubs, and the creation of new railroad line-haul capacity throughout the interior of the US.

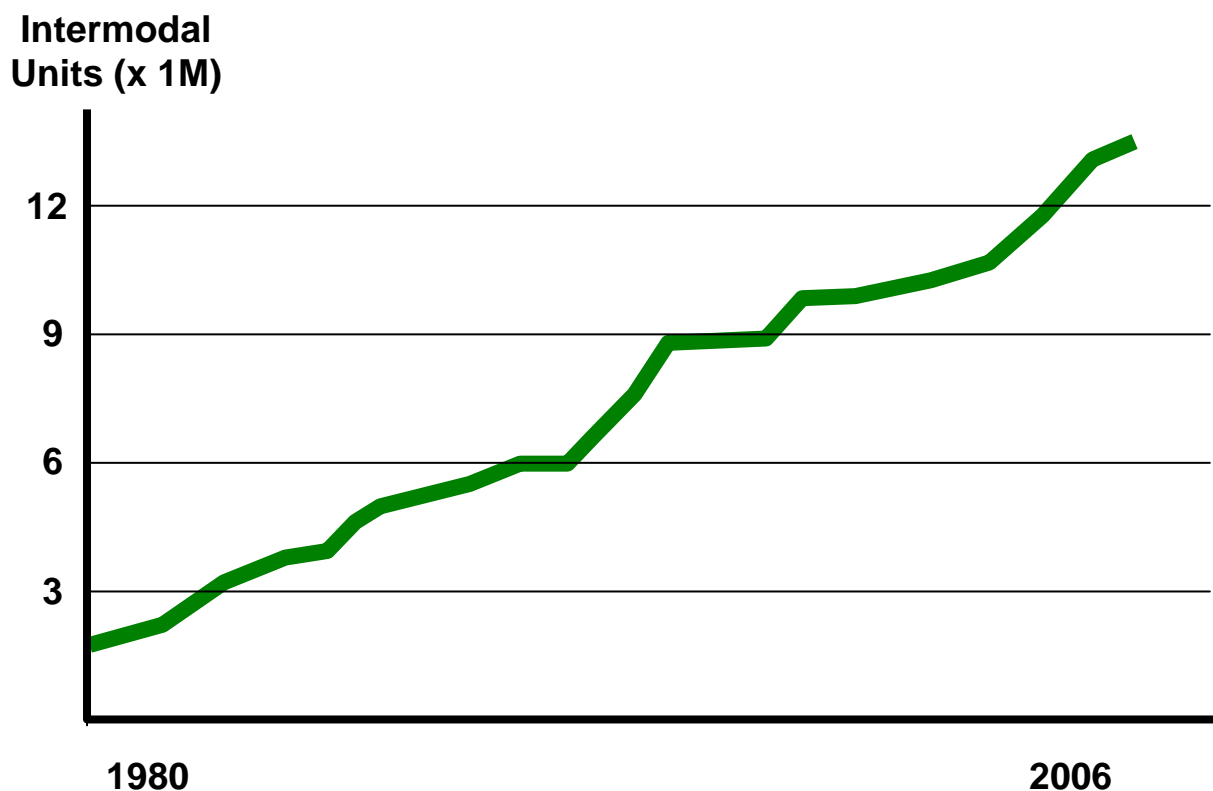
The current study section contains a summary of intermodal traffic growth, an evaluation of Airline Junction's current and potential future role within the intermodal context, a description of the proposed improvements at the NS facility, and estimates of resulting third-party investments that may be expected in the wake of the proposed improvements.

### **2.1 The Emergence and Future of Rail-Truck Intermodal**

Figure 2.1 depicts the overall growth in intermodal rail-truck traffic within the US between 1980 and 2006.<sup>1</sup> Similar patterns could be depicted by plotting the growth in international container traffic at US ports or the increase in the international manufacturers' share of the US consumer goods market over the same time period. Indeed, the growth in rail-served intermodal traffic is a direct product of increased global supply chain relationships. In 1980, international commerce represented less than ten percent of US Gross Domestic Product (GDP). Currently, the globally-related share of GDP stands at roughly 30 percent and, by 2040, it is predicted that one of every two dollars spent in the US will be tied to an international trading partner.<sup>2</sup>

<sup>1</sup> Data Source – Association of American Railroads. Within the context of this graphic, intermodal traffic includes both container on flat car (COFC) and trailer on flat car (TOFC) shipments.

<sup>2</sup> The tremendous growth in international trade has its roots in three sources. First, during the mid-1980's, China embarked on a radical shift in economic strategy through which it has simultaneously opened domestic Chinese markets to international commerce and, at the same time, established China as a major world manufacturing power. Second, during the same time frame, former Soviet republics were opened to international commerce. Finally, the growth in global supply chain activity has been directly supported by productivity gains that have radically reduced the transfer of both physical goods and the information necessary to manage international goods inventories.

**Figure 2.1 – US Intermodal Traffic Volumes**

Intermodal growth, depicted in Figure 2.1, continued steadily throughout 2006; in 2007 traffic growth began to soften which continued during the first three quarters of 2008. During the final quarter of last year, rail-served intermodal traffic volumes fell precipitously, so that overall volumes for the year ended roughly 15 percent below projected levels. Presently, traffic volumes are tracking those observed in 2003, so that the current recession has erased nearly five years of intermodal traffic growth. Accordingly, planners must attempt to anticipate both the nature and magnitude of freight capacity needs that are likely to occur when the US economy begins its inevitable recovery.

At present, there is no suggestion that intermodal capacity demands will be permanently dampened by the current recession. To the contrary, it is assumed that an emerging US economy will be more dependent than ever on intermodal transportation. Two factors speak loudly in support of this conclusion. First, as the domestic economy has weakened, a larger than ever share of traditional truck-only movements have switched to intermodal. Second, the highway capacity issues that plagued freight transport through mid 2008 continue to go



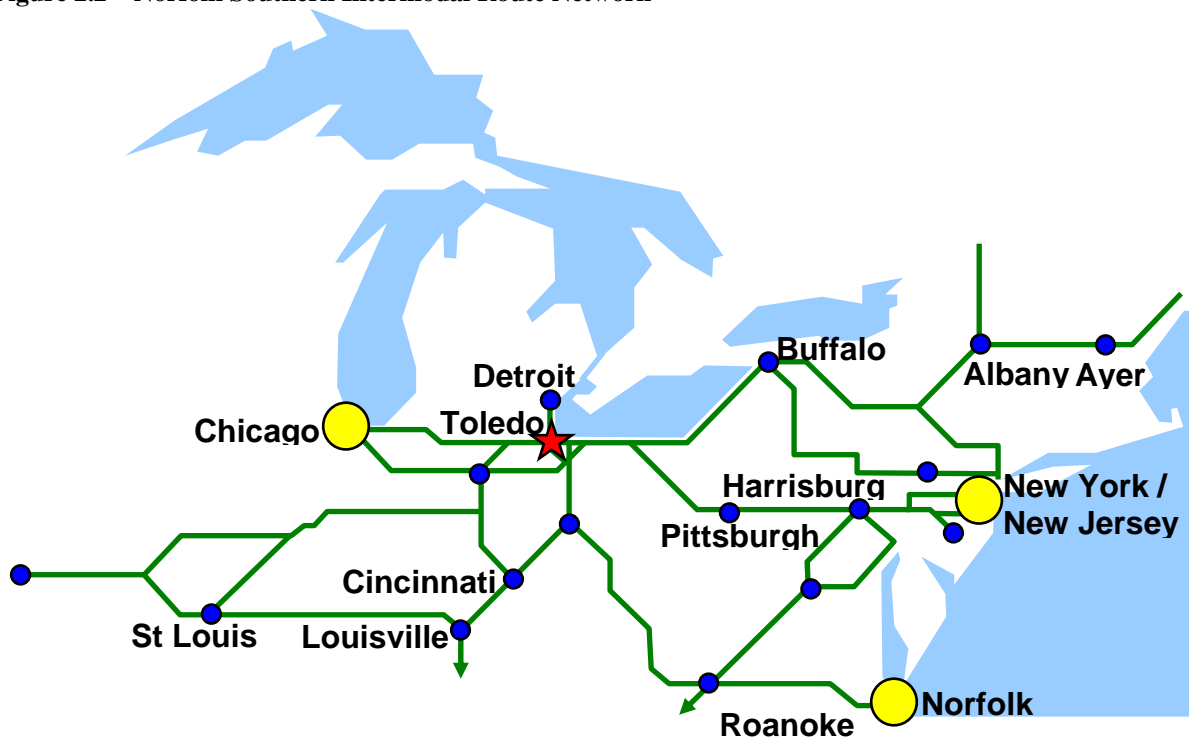
unaddressed, so that the nation's ability to move recovery-related freight growth onto the highway system is likely to be more constrained than ever.

This outlook seems to be prevalent within the railroad industry. In spite of intermodal traffic declines and constricted revenue flows, the nation's Class I rail carriers continue to invest in the development of new intermodal capacity. While the tempo of some investment programs has slowed modestly, the railroad industry is stubbornly refusing to suspend such programs.<sup>3</sup>

## 2.2 Toledo, Airline Junction, and Intermodal Network Flows

Figure 2.2 depicts the northern portion of Norfolk Southern's intermodal network. Toledo is strategically located where the Detroit line diverges from the former New York Central "Water-Level Route," an intermodal raceway connecting the New York area and Chicago. Moreover, Airline Junction lies literally at the center of NS Toledo operations. The location of this route is both critical to the inherent opportunities of the facility as well as a challenge to capacity expansion efforts.

**Figure 2.2 – Norfolk Southern Intermodal Route Network**



<sup>3</sup> For a complete discussion of the railroad industry's response to the current economic downturn see, Don Phillips, "Is the Economy a Pause on the Road to Railroad Nirvana," *Trains*, March 2009, pp. 12-13.



In spite of the challenge of the Airline Junction location, the opportunities it offers are immediately apparent to intermodal planners. Because of the NS route location, Toledo is routinely traversed by a dozen or more east and west bound intermodal trains on a daily basis. Therefore, providing service to incremental traffic bound to or from the intermodal facility will not necessarily require the addition of new trains. Instead, incremental traffic can be handled by existing trains that do not currently serve Toledo traffic.<sup>4</sup>

### **2.3 Airline Junction Intermodal and Planned Improvements**

The NS intermodal facility at Airline Junction, developed by Conrail in the post-Penn Central era, represents a very traditional location decision in which railroads opted to place rail-truck transload infrastructures near existing rail yards within urban centers.<sup>5</sup> The obvious advantage of such strategies is the immediate availability of railroad personnel and equipment. The primary disadvantage is the inability to expand capacity. In many cases, urban intermodal facilities became land-locked by surrounding residential or commercial developments. Often times, too, as in the current setting, intermodal capacity development was constrained by other railroad activities.

Figure 2.3 depicts the Airline Junction facility located in metro Toledo immediately south southwest of the urban center. As is made clear by Figure 2.2, the junction is where the NS Detroit line connects to the east-west route between New York and Chicago. The actual connection consists of a “wye” that allows train movements in any direction to and from the Detroit line. The intermodal facilities are located along the east-west main line on what actually forms the south leg of the wye. Thus, as intermodal trains are yarded at the junction, they affect the ability to conduct through movements in a variety of directions, i.e., the stopped trains can prevent others from taking needed routes. As a result, while

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<sup>4</sup> The ability to serve new Toledo traffic with existing trains is an important advantage to the location. This said, the volume of incremental traffic must be sufficient to justify necessary schedule adjustments. Accordingly, new traffic must represent relatively large “blocks” of freight bound to or from distinct locations as opposed to a small number of individual shipments with disparate origins and / or destinations.

<sup>5</sup> More recently, the model of intermodal facility development favors locating such facilities outside urban centers in locations that have good access to metro areas, but which can also dispatch traffic to other regions without encountering urban congestion. These locations also typically feature a substantial amount of developable green field properties within a close proximity to the new infrastructure.

the intermodal facility at Airline Junction could handle up to 30,000 lifts on an annual basis, the operational conflicts between the facility and other NS train movements has held the annual total to a much lower number.

To remedy this conflict, NS has proposed to extend the intermodal facility lead tracks, so that intermodal trains can be pulled completely clear of the main line trackage that forms the legs of the wye. These extensions, in conjunction with other track reconfigurations could increase the effective annual capacity of the Airline Junction facility to approximately 60,000 (28,000 present plus proposed 30,000 additional) annual lifts at an incremental cost of between \$10 and \$15 million. It is this capacity improvement that forms the basis for estimated third-party investments and the related economic developments within the area immediately surrounding the junction.<sup>6</sup>

Intermodal facilities do not directly employ large numbers of individuals or generate substantial incomes. Instead, the economic development potential associated with any incremental intermodal capacity expansion is directly dependent on the availability of developable property and highway transportation access. This is true of the current setting.

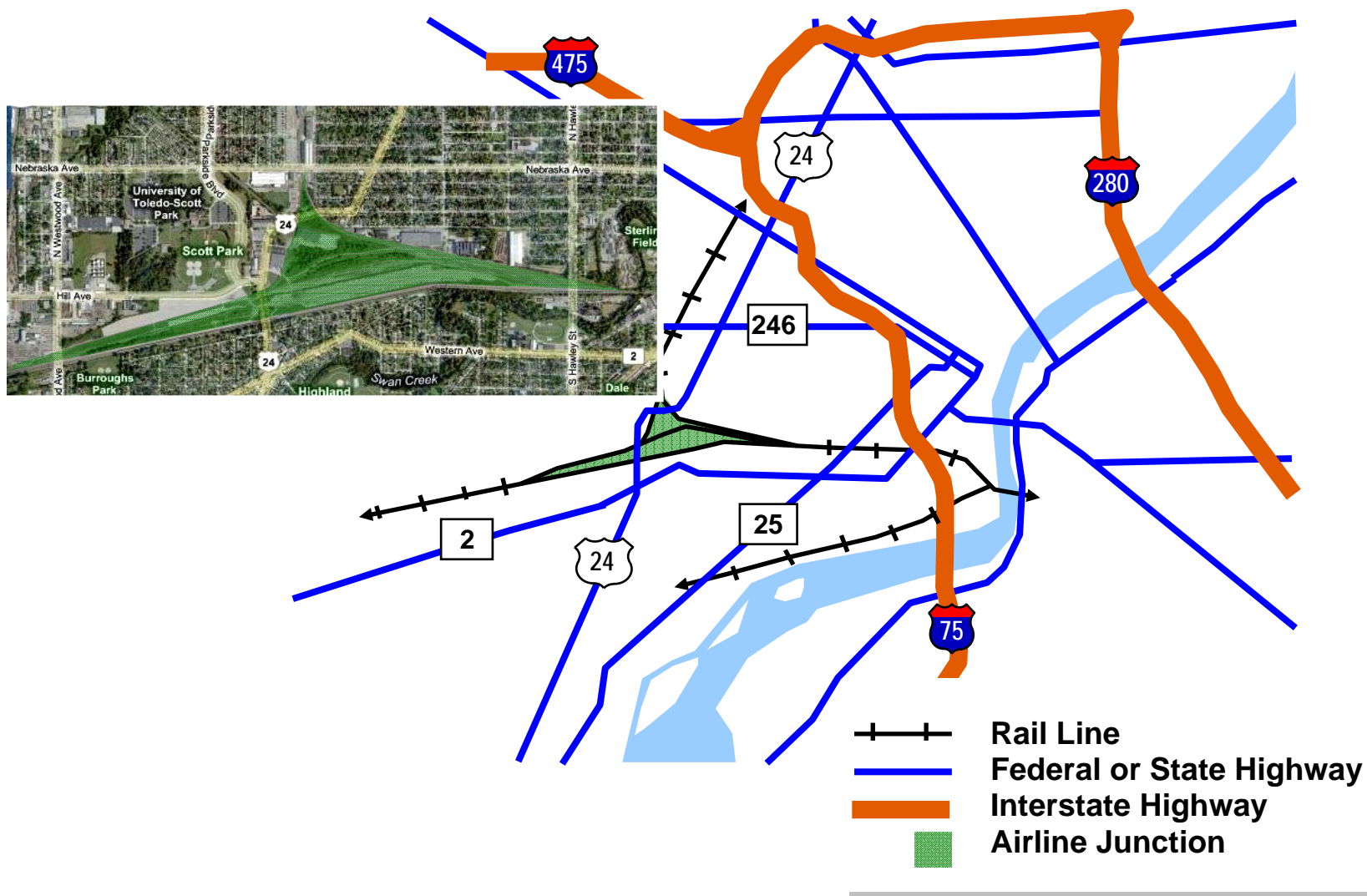
Fortunately, project proponents point to the availability of nearly 1,000 acres of target development property within a five mile radius of the Airline Junction facility. Of this total, approximately 200 acres have already been prepared for redevelopment. Given this acreage and the immediate proximity of the Interstate highway system, the additional lift capacity at Airline Junction should attract third-party investment by distribution centers (DCs) and other supply chain vendors that benefit from close proximity to rail-truck intermodal facilities.

For the past three years, the study team has investigated the relationship between intermodal capacity development and third-party investment. Affordable property, transportation access, the availability of utilities, and community acceptance seem to be the most prominent determinants of the emergence of localized investment. The actual extent of this investment is also a function of the available acreage and the lift capacity of the intermodal facility. Most data relate to the development of altogether new facilities in rural areas. Still, if the necessary attributes are available in a metro setting, there is no immediate reason to expect any difference in investor response.

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<sup>6</sup> Additional facility capacity could be created through additional track extensions and the placement of new tracks. However, these efforts would require the modification of bridge structures – a relatively expensive endeavor – so that they are not being proposed at the current time.

Figure 2.3 – Airline Junction and Surrounding Area



Based on historical data, the development of approximately 100 acres of property, including the construction of 1.5 million square feet of DC and other supply chain vendor facilities are projected from this expansion at Airline Junction. Incremental additional investment should total approximately \$27 million. Until recently the anticipated full investment build-out was expected within five years of the intermodal capacity addition, however, current economic conditions, particularly as they are affecting retail trade, render any certainty in this regard nearly impossible.

## **2.4 Relationship to North Baltimore**

CSX has announced plans to develop an intermodal facility at North Baltimore, Ohio (Wood county) in conjunction with its *National Gateway Corridor Initiative*. Like the NS project in Toledo, Ohio at the Airline Junction location (Lucas county), North Baltimore is located on a high-speed east-west artery connecting the northeast with Chicago. Both projects share access to the nearly \$75 billion dollar sales and 202,000 jobs economy in the eight county study area. Lucas county (53% of the sales and 45% of the jobs) and Wood county (22% of the sales and 15% of the jobs) have the predominant concentration of economic activity. Because each project serves a different Class 1 railroad and provides healthy competition for transportation and logistics resources, the regions economy should easily absorb the capacity of both locations and in the long run provide the synergy to increase the size of regions economic output.

### 3. The Economic Impacts of Proposed Improvements

Description	Impact	Fiscal Impact
NW Ohio counties most impacted	Lucas, Wood, Fulton, Henry, Ottawa, Sandusky	
SE Michigan counties most impacted	Monroe, Lenawee	
Incremental industrial development (5 yrs)	98 acres (1,500,000 sf)	\$27 million
New jobs (direct) (5yrs)	438	\$16.4 million annual salaries
New jobs (indirect) (5 yrs)	455	\$9.2 million annual salaries
Total New Jobs (direct + indirect) (5 yrs)	893	\$25.6 annual salaries
Average annual salary		\$28,738
Local Property Tax		\$487,530
Local Sales and Use Tax		\$166,086
Toledo Payroll Tax		\$578,250
State Sales and Use Tax		\$730,780
State Personal Income Tax		\$570,627
Commercial Activities Tax		\$189,730
Total regional output (5 yrs)		\$112,266,320

Increased intermodal access for Toledo and Lucas County represents an opportunity for economic expansion. Alone, however, the capacity development discussed here provides no guarantees. The transformation of opportunity into jobs, incomes, and tax revenues will require the successful development and management of related properties. It is assumed with reasonable confidence that these essential complementary efforts will be forthcoming. Thus, the economic impact estimations presented in the remainder of this section reflect the best possible outcomes. The balance of the current section is organized as follows. Section 3.1 summarizes the overall economic environment and defines the formal study area. Section 3.2 describes the methodology through which the third-party investments estimated in Section 2.3 are translated into broader regional

economic impacts. Finally Section 3.3 extends economic impacts to estimates of fiscal changes that may be attributable to the proposed developments.

### 3.1 Economic and Geographic Framework

Estimating economic impacts is easiest when both the affected community and infrastructure are isolated from other population centers and network facilities. Neither is the case considered here. Instead, as the *Task Force* report makes clear, Northwest Ohio serves as a significant hub on a number of modal networks that blend in a series of existing or potential intermodal connections. Additionally, from a commercial, residential, and cultural standpoint, Northwest Ohio and Southeast Michigan are largely indistinguishable.

Given the magnitude of the proposed capacity improvements and the location of available property for development, it is likely that the vast majority of economic impacts will be in Lucas County. Still, new venues in Lucas County may rely on inputs supplied by vendors from other portions of the region. Therefore, the current analysis relies on an eight county area that includes both Northwest Ohio and two Southeast Michigan counties. This area is depicted in Figure 3.1. Summary statistics for this region are provided in Table 3.1.

**Table 3.1 – Study Area Summary Statistics**

	<i>Population</i>	<i>Median Age</i>	<i>Percent High School</i>	<i>Percent Labor Force Participation</i>	<i>Median HH Income (x 1K)</i>
Fulton	42,840	36.1	85.3	69.5	44.1
Henry	29,210	36.5	83.5	66.5	42.7
Lucas	455,054	35.0	82.9	65.0	38.0
Ottawa	40,985	40.1	84.2	63.4	44.2
Sandusky	61,792	37.3	82.1	66.9	40.6
Wood	121,065	32.6	88.6	69.4	44.4
Lenawee	98,890	36.4	83.4	64.5	45.7
Monroe	145,945	36.0	83.1	65.8	51.7
TOTAL / AVERAGE	954,837	35.2	83.8	66.0	42.3

**Source: 2000 US Census. All averages weighted by population.**

**Figure 3.1 – Study Area**

### **3.2 Construction-Related Economic Impacts**

Estimated infrastructure-related construction expenditures total between \$10 and \$15 million over approximately a one year period. Additionally, third-party facility investments are estimated at approximately \$27 million over a five-year period. Certainly, for those who are directly employed in the expansion activities, it will represent a meaningful source of income over that period. Moreover, to the extent that incomes and material expenditures are generated locally, the construction may generate a measurable addition to local jurisdictional revenue streams.



### 3.3 Ongoing Economic Impacts

In order to evaluate the magnitude of the overall ongoing regional economic impacts, it is first necessary to estimate the direct commercial impacts of the proposed improvements. The additional facility capacity and its use will add a small number of ramp employees and draymen. The more substantial direct impacts will be attributable to the staffing of the third-party supply chain providers that can be induced to locate in the area in response to the new capacity.

As noted in Section 2.3, the third party investment is estimated at approximately \$27 million, including the addition of 1.5 million square feet of facilities and equipment. Based on similar developments throughout the US, it is estimated that these investments will ultimately lead to an additional 438 full time jobs that will generate approximately \$16.4 million in annual personal incomes. Again, it is expected that the facilities will draw employees from throughout the designated region.

Economic impacts are not, however, limited to the direct jobs and wages attributable to the supply chain vendor operations. Instead, both vendor expenditures and the purchases resulting from the additions to local incomes will lead to further local economic activity. The extent of the aggregate impacts depends on both the magnitude of the direct effects and the degree to which subsequent economic activity remains local in nature.

To measure the indirect and induced economic impacts associated with the anticipated direct effects of the Airline Junction expansion, a proprietary economic simulation package secured through IMPLAN, Inc.<sup>7</sup> was used. This combines estimated direct impacts with local economic and demographic characteristics to yield estimates of total economic impacts. Both the direct and total regional impacts are summarized in Table 3.2. These results are further divided by industry grouping in Appendix A.

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<sup>7</sup> IMPLAN is a relatively simple input-output simulation package that builds on the federally provided RIMS II methodology to produce estimates of economic impacts based on regionally specific economic and demographic data. It is particularly well suited to demand-side scenarios where new infrastructure and facilities (in this case intermodal transportation and supply chain activities) are allowed to stimulate demand for additional local commerce.

**Table 3.2 – Ongoing Economic Impacts**

<i>Impact Category</i>	<i>Value</i>
Additional Annual Lift Capacity	30,000
Incremental Development (Acres)	98
Incremental Development (Square Feet)	1,500,000
Incremental Additional Investment	\$27,000,000
Additional Direct Employment (Excludes Ramp) <sup>8</sup>	438
Additional Direct Incomes (Excludes Ramp)	\$16,425,000
Total Additions to Regional Employment	893
Total Additions to Regional Incomes	\$25,661,087
Total Additions to Regional Output <sup>9</sup>	\$112,266,320
Average Annual Wage (All Jobs Created) <sup>10</sup>	\$28,738

### 3.4 Annual Fiscal Impacts

The extent to which the proposed infrastructure improvements and associated economic development will affect revenue flows for various jurisdictions is important to decision-makers. At the same time developing the precise economic estimates needed to execute actual tax instrument simulations is well beyond the scope of the current investigation. As a consequence, effective tax rates, spending proxies, and other simplifying mechanisms were used to generate the estimated fiscal impacts that are summarized in Table 3.4. Specific calculations and a discussion of methodologies are provided in Appendix B.

<sup>8</sup> Given that there is an existing facility at Airline Junction, the number of additional NS employees or drayage drivers is likely to be relatively small. Accordingly, the current analysis considers only the direct impacts of additional distribution center and supply chain employment.

<sup>9</sup> IMPLAN provides three basic measures of incremental economic activity – employment, incomes, and output. Output is most easily understood as the total value of all new sales attributable to the modeled activity.

<sup>10</sup> The average annual wage of the direct supply chain jobs created is approximately \$37,500. The average across all created jobs reflects the creation of additional retail and service sector positions that feature lower annual wages.

On the other side of the fiscal ledger, successful development projects often increase the demand for publicly provided services (roads, sewer and water, schools, etc.). These needs are outside the scope of this study.

**Table 3.4 – Estimated Annual Tax Impacts**

<i>Annual Local Impacts<sup>11</sup></i>		<i>Annual State of Ohio Impacts</i>	
Property Tax	\$487,530	Property Tax	----
Sales and Use	\$166,086	Sales and Use	\$730,780
Toledo Payroll	\$578,250	Personal Income	\$570,627
		CAT	\$189,730
<b>TOTAL</b>	<b>\$1,231,896</b>		<b>\$1,491,137</b>

## **Annual Local and State Tax Impacts \$2,723,033**

<sup>11</sup> I'd much rather aggregate local impacts (county / city), as opposed to calculating and presenting impacts by local jurisdiction.

## 4. Concluding Remarks

The proposed infrastructure improvements and resulting intermodal capacity increase at Airline Junction in Toledo is projected to lead to the creation of nearly 1,000 new jobs, more than \$25 million in new incomes, \$27 million in industrial development, and increased annual local and state tax collections of \$2.72 million annually all within a relatively short maturation period. This is a relatively modest project, however, the Airline Junction initiative offers several distinct advantages.

The scale of the proposed project is important for two reasons. First, the level of public investment is realistic and the associated risk is comparatively small. Second, the smaller scale means that the full impacts may be expected in a fairly short period of time. As noted above, under typical economic conditions, a full build-out would be anticipated within five years. The Airline Junction facility is also scalable. Current efforts are focused on increasing annual lift capacity by 30,000 units. However, as noted, additional expenditures could result in further capacity expansions, so that depending on the level of success, the Airline Junction effort could be increased further.

It is also important that both the infrastructure improvements and third-party investments will utilize existing properties within an urban setting. Too often industrial developers have tended to cast aside properties with previous uses. In many cases this reflects a desire to minimize exposure to environmental liabilities. Other times, the hesitancy to redevelop existing industrial properties simply reflects a desire for differing property attributes. In either case, however, it is refreshing to observe that the proposed developments do not consume additional green field properties.

Finally, while present economic conditions cast some amount of uncertainty on any new endeavor, it is also possible for transportation and development planners to use the current “lull” in commercial activity as an opportunity to catch up with two decades worth of intermodal traffic growth and prepare for the future capacity demands that are inevitable.

## ***Appendix A – Industry Specific IMPLAN Impact Estimates***

### ***Total Additional Employment by Industry and Total Addition to Regional Incomes***

<b>Industry</b>	<b>Employment</b>	<b>Income</b>	<b>Average Wage</b>
Ag, Forestry, Fish & Hunting	1	9,657	10,827
Mining	-----	-----	-----
Utilities	1	95,999	65,773
Construction	3	91,131	26,759
Manufacturing	21	641,299	29,845
Wholesale Trade	22	677,982	30,405
Transportation & Warehousing	506	17,917,953	35,401
Retail trade	61	804,809	13,129
Information	8	171,498	22,500
Finance & insurance	20	434,783	22,249
Real estate & rental	29	371,515	12,798
Professional- scientific & tech svcs	46	1,509,609	32,662
Management of companies	1	61,179	58,038
Administrative & waste services	21	380,202	18,104
Educational svcs	12	208,636	18,120
Health & social services	51	1,219,945	23,957
Arts- entertainment & recreation	9	103,400	12,030
Accommodation & food services	43	389,243	9,023
Other services	28	336,765	12,003
Government & non NAICs	9	234,586	25,831
total	893	25,661,000	28,736

\*Employment numbers are rounded up or down to a whole person. In some cases the relationship between Income and Average Wage may reflect this rounding.

## ***Appendix B – Revenue Impact Calculations and Methods***

### **Local Revenue Impacts**

The analysis used for the expansion of Airline Junction considered impacts to three specific revenue instruments – local property tax collections, additions to local Sales and Use Tax collections, and increases in Toledo Payroll Tax collections.

The derivation of the property tax base began with the anticipated \$27 million in new investments. This value was then scaled downward to reflect the fact that personal property will no longer be taxed after 2009. The reduction was based on relative real and personal property investments observed elsewhere in association with intermodal facilities. The resulting value was then again scaled downward to reflect the difference between investment and assessed values. Finally the appropriate mil rate was applied to the remainder to derive the annual estimate.

IMPLAN estimates of increased incomes were used to derive estimates of local Sales and Use Tax revenue increases. Income estimates were combined with 2007 consumer expenditure data provided by the US Department of Commerce to estimate the proportion of the incremental incomes that will be spent on taxable items. Finally, the local Sales and Use Tax rate was applied to this base. Readers will note that the analysis excludes any increases in parallel commercial expenditures. The applicability of Sales and Use Taxes to commercial spending is often extremely complex and was, therefore, ignored here. This omission necessarily understates the potential local Sales and Use Tax revenue increases.

The City of Toledo's Payroll Tax is both controversial and complicated. It is also difficult to model in any sort of simplified setting. The basic rate appears to be 2.25 percent. This rate was applied to the estimated increases in incomes. It should be noted that, while workers are expected to be drawn from across the region, most of the anticipated investment and subsequent commerce will be within the Toledo City limits. Accordingly, the Toledo tax will likely be levied against most incomes regardless of where workers actually reside.

The calculations, as described here, are provided in Table B-1.

**Table B-1**  
**Local Revenue Impacts**

ANNUAL LOCAL PROPERTY TAX COLLECTIONS		
Item	Calculation	Result
Incremental Investment	Modeled / IMPLAN	\$27,000,000
Real Property Investment	12 / 18 of Investment	\$18,090,000
Assessed Value	35% of Real Prop Val	\$6,331,500
Annual Revenue Value	Assessed x 0.0771	\$487,530

ANNUAL LOCAL SALES TAX COLLECTIONS		
Item	Calculation	Result
Incremental (Gross) Incomes	Modeled / IMPLAN	\$25,700,000
Expenditures Subject to SAU Tax	HH Expend Worksheet	\$13,286,900
Annual Revenue Value	Base x 0.0125	\$166,086

ANNUAL LOCAL PAYROLL TAX COLLECTIONS		
Item	Calculation	Result
Incremental (Gross) Incomes	Modeled / IMPLAN	\$25,700,000
Annual Payroll Tax Collection	Based on State data	\$578,250

SUMMARY OF INCREMENTAL LOCAL TAXES		
Local Property Tax		\$487,530
Local Sales and Use Tax		\$166,086
Toledo Payroll Tax		\$578,250
TOTAL		\$1,231,866



### **State Revenue Impacts**

The current analysis considers incremental additions to state revenues from three sources – state-level Sales and Use Tax revenues, Personal Income Tax revenues, and the recently enacted Commercial Activity Tax levied against business activity.

State-level Sales and Use Tax collections were calculated on the same base developed in the estimation of local Sales and Use revenues, except that the state rate of 5.5 percent was applied to the resulting base. As in the case of the local estimations, vendor and merchant sales, other than those resulting from increased residential incomes were purposely omitted. Accordingly, state Sales and Use Tax revenue estimates understate the likely affect of the proposed improvements.

Personal Income Tax revenue calculations were based on the cross-sector average annual income estimates developed through the IMPLAN modeling. Specifically, a gross annual per-job income of \$28,000 was assumed, and then the current state tax formula was applied to estimate the tax revenues attributable to the 893 new jobs.

Finally, in an attempt to substantially simplify the structure of state-level business taxes, Ohio has replaced a number of individual tax instruments with a Commercial Activity Tax. In most respects, this tax resembles a gross receipts tax that is applied to intrastate transactions.

IMPLAN modeling provides an estimate of the incremental growth in gross receipts (output) attributable to the proposed improvements. Unfortunately, there is no immediately tractable method for dividing this sum into interstate and intrastate transactions. This is particularly vexing when much of the resulting direct supply chain investment will be aimed at capturing efficiencies in interstate transportation. After examining employment and income estimates from both the current study and work elsewhere, the study team ultimately decided to allocate sixty-five percent of gross sales to the intrastate category and apply the Commercial Activity Tax to that sum. It should be noted, however, that this is simply the result of professional judgment that is not substantiated by empirical findings.

The results of state-level revenue estimates are reported in Table B-2.

**Table B2**  
**State-Level Revenue Estimates**

ANNUAL STATE SALES TAX COLLECTIONS		
Item	Calculation	Result
Incremental (Gross) Incomes	Modeled / IMPLAN	\$25,700,000
Expenditures Subject to SAU Tax	HH Expend Worksheet	\$13,286,900
Annual Revenue Value	Base x 0.055	\$730,780

ANNUAL STATE PERSONAL INCOME TAX COLLECTIONS		
Item	Calculation	Result
Incremental (Gross) Incomes	Modeled / IMPLAN	\$25,700,000
Annual State Income Tax Revenue	Based on State Formula	\$570,629

ANNUAL STATE COMMERCIAL ACTIVITY TAX COLLECTIONS		
Item	Calculation	Result
Estimated Incremental Sales	Modeled / IMPLAN	\$112,266,320
Estimated CAT Base	Professional Judgment	\$72,973,108
Annual State CAT Tax Revenue	Based on State Formula	\$189,730

SUMMARY OF INCREMENTAL STATE TAXES		
State Sales and Use Tax		\$730,780
State Personal Income Tax		\$570,627
Commercial Activities Tax		\$189,730
TOTAL		\$1,491,137

## **Appendix C**

### **2007 Economic Profile Data**

**The following data tables provide the 2007 economic profile of the six Northwest Ohio counties and the two Southeast Michigan counties most economically impacted by the Norfolk Southern intermodal project at Airline Yard**

**Data Table C-1**  
**2007 Economic Profile Data by: County**

	A	B	C	D	E	F
2	Table	(All)				
7	County2	County	Sales	Jobs	Establishments	FloorSpace
8	NS Study					
9		Lucas	\$39,314,155,065	91,027	5,608	50,761,490
10		Wood	\$16,113,363,594	30,526	1,670	19,952,630
11		Monroe	\$6,927,076,741	25,569	2,116	14,760,850
12		Lenawee	\$4,721,737,784	18,752	1,521	11,091,810
13		Sandusky	\$3,029,076,774	13,665	894	8,436,470
14		Fulton	\$1,869,438,094	12,194	669	11,838,390
15		Ottawa	\$983,621,378	6,243	555	3,172,350
16		Henry	\$724,640,347	4,302	374	2,746,850
17	NS Study Total		\$73,683,109,777	202,278	13,407	122,760,840
18						
19	Grand Total		\$73,683,109,777	202,278	13,407	122,760,840

**Data Table C-2**  
**2007 Economic Profile Data by: NAICS Title**

	A	B	C	D	E	F
2	Table	(All)				
7	County2	NAICS Title	Sales	Jobs	Establishments	FloorSpace
8	NS Study					
9		Manufacturing	\$47,962,097,513	93,615	2,297	59,858,790
10		Wholesale Trade	\$9,821,103,528	18,643	1,957	16,031,860
11		Retail Trade	\$9,084,038,335	51,405	5,230	25,025,330
12		Construction	\$2,603,809,045	7,768	1,815	3,708,660
13		Utilities	\$1,701,362,203	3,174	74	411,020
14		Transportation and Warehousing	\$1,661,395,489	16,993	1,246	11,764,740
15		Other Services (except Public Administration)	\$140,301,499	1,763	251	1,446,380
16		Health Care and Social Assistance	\$138,291,250	1,890	31	438,320
17		Mining	\$137,722,459	979	39	210,700
18		Administrative and Support and Waste Management and Remediation Services	\$128,659,292	1,514	100	1,450,700
19		Professional, Scientific, and Technical Services	\$112,624,391	1,325	99	662,390
20		Real Estate and Rental and Leasing	\$49,281,365	605	77	494,590
21		Accommodation and Food Services	\$44,749,275	1,363	38	267,850
22		Management of Companies and Enterprises	\$41,365,000	163	5	310,600
23		Arts, Entertainment, and Recreation	\$20,518,623	359	38	299,910
24		Information	\$14,996,560	167	15	52,090
25		Agriculture, Forestry, Fishing and Hunting	\$14,464,950	371	80	245,840
26		Finance and Insurance	\$4,858,000	36	7	18,310
27		Educational Services	\$1,471,000	145	8	62,760
28	NS Study Total		\$73,683,109,777	202,278	13,407	122,760,840
29						
30	Grand Total		\$73,683,109,777	202,278	13,407	122,760,840

# Data Table C-3

## 2007 Economic Data Profile by: Area / NAICS Title

	A	B	C	D	E	F
2	Table	(All)				
7	Area	NAICS Title	Sales	Jobs	Establishments	FloorSpace
8	NW OH					
9		Manufacturing	\$40,540,911,122	71,727	1,698	47,432,030
10		Wholesale Trade	\$8,767,159,058	15,749	1,497	13,311,690
11		Retail Trade	\$7,330,005,894	39,695	3,825	18,623,580
12		Construction	\$2,368,446,791	5,867	1,171	2,562,570
13		Utilities	\$925,854,823	1,476	48	307,600
14		Transportation and Warehousing	\$1,417,993,493	14,875	930	10,509,880
15		Other Services (except Public Administration)	\$99,490,016	1,271	194	1,127,880
16		Health Care and Social Assistance	\$134,603,250	1,736	24	387,720
17		Mining	\$120,951,146	809	28	175,710
18		Administrative and Support and Waste Management and Remediation Services	\$74,480,843	1,018	74	747,100
19		Professional, Scientific, and Technical Services	\$100,437,850	1,102	80	514,100
20		Real Estate and Rental and Leasing	\$39,899,638	491	63	407,000
21		Accommodation and Food Services	\$39,356,195	1,167	29	189,950
22		Management of Companies and Enterprises	\$28,365,000	157	4	60,600
23		Arts, Entertainment, and Recreation	\$14,469,623	320	28	268,360
24		Information	\$14,425,560	152	12	42,790
25		Agriculture, Forestry, Fishing and Hunting	\$12,033,950	277	54	181,130
26		Finance and Insurance	\$4,208,000	30	6	16,310
27		Educational Services	\$1,203,000	38	5	42,180
28	NW OH Total		\$62,034,295,252	157,957	9,770	96,908,180
29						
30	SE MI					
31		Manufacturing	\$7,421,186,391	21,888	599	12,426,760
32		Wholesale Trade	\$1,053,944,470	2,894	460	2,720,170
33		Retail Trade	\$1,754,032,441	11,710	1,405	6,401,750
34		Construction	\$235,362,254	1,901	644	1,146,090
35		Utilities	\$775,507,380	1,698	26	103,420
36		Transportation and Warehousing	\$243,401,996	2,118	316	1,254,860
37		Other Services (except Public Administration)	\$40,811,483	492	57	318,500
38		Health Care and Social Assistance	\$3,688,000	154	7	50,600
39		Mining	\$16,771,313	170	11	34,990
40		Administrative and Support and Waste Management and Remediation Services	\$54,178,449	496	26	703,600
41		Professional, Scientific, and Technical Services	\$12,186,541	223	19	148,290
42		Real Estate and Rental and Leasing	\$9,381,727	114	14	87,590
43		Accommodation and Food Services	\$5,393,080	196	9	77,900
44		Management of Companies and Enterprises	\$13,000,000	6	1	250,000
45		Arts, Entertainment, and Recreation	\$6,049,000	39	10	31,550
46		Information	\$571,000	15	3	9,300
47		Agriculture, Forestry, Fishing and Hunting	\$2,431,000	94	26	64,710
48		Finance and Insurance	\$650,000	6	1	2,000
49		Educational Services	\$268,000	107	3	20,580
50	SE MI Total		\$11,648,814,525	44,321	3,637	25,852,660
51						
52	Grand Total		\$73,683,109,777	202,278	13,407	122,760,840

**Data Table C-4**  
**2007 Economic Data Profile by: Area/County/NAICS Title**

	A	B	C	D	E	F	G
2							
7	<b>Area</b>	<b>County</b>	<b>NAICS Title</b>	<b>Sales</b>	<b>Jobs</b>	<b>Establishments</b>	<b>FloorSpace</b>
8	NW OH						
9		Lucas					
10			Manufacturing	\$25,390,257,391	35,367	927	21,171,370
11			Wholesale Trade	\$5,567,953,483	9,710	936	9,166,380
12			Retail Trade	\$5,320,127,059	25,988	2,332	11,824,370
13			Construction	\$902,962,509	3,070	638	1,279,320
14			Utilities	\$792,937,044	1,214	21	177,980
15			Transportation and Warehousing	\$935,115,566	10,659	449	5,087,000
16			Other Services (except Public Administration)	\$48,715,092	648	99	550,270
17			Health Care and Social Assistance	\$132,083,250	1,590	9	341,800
18			Mining	\$47,421,768	168	19	63,210
19			Administrative and Support and Waste Management and Remediation Services	\$32,498,453	591	41	187,270
20			Professional, Scientific, and Technical Services	\$70,349,630	817	43	289,510
21			Real Estate and Rental and Leasing	\$34,167,022	379	32	274,280
22			Accommodation and Food Services	\$11,011,995	408	12	47,400
23			Management of Companies and Enterprises	\$12,365,000	40	2	20,600
24			Arts, Entertainment, and Recreation	\$5,191,803	127	14	132,010
25			Information	\$442,000	6	4	5,600
26			Agriculture, Forestry, Fishing and Hunting	\$5,632,000	186	23	91,640
27			Finance and Insurance	\$3,831,000	25	3	12,900
28			Educational Services	\$1,093,000	34	4	38,580
29		<b>Lucas Total</b>		<b>\$39,314,155,065</b>	<b>91,027</b>	<b>5,608</b>	<b>50,761,490</b>
30		<b>Wood</b>					
31			Manufacturing	\$11,470,636,762	14,642	299	8,939,930
32			Wholesale Trade	\$2,023,520,701	3,707	258	2,407,290
33			Retail Trade	\$1,128,068,603	7,044	591	2,855,170
34			Construction	\$1,004,610,421	1,338	191	603,980
35			Utilities	\$45,448,577	113	8	70,100
36			Transportation and Warehousing	\$296,031,515	2,000	185	3,845,670
37			Other Services (except Public Administration)	\$34,568,431	368	44	330,110
38			Health Care and Social Assistance	\$700,000	10	3	6,320
39			Mining	\$5,993,224	42	4	10,000
40			Administrative and Support and Waste Management and Remediation Services	\$34,545,390	304	22	441,930
41			Professional, Scientific, and Technical Services	\$17,554,000	174	20	136,390
42			Real Estate and Rental and Leasing	\$3,596,000	54	15	91,200
43			Accommodation and Food Services	\$22,843,200	465	8	81,150
44			Management of Companies and Enterprises	\$16,000,000	117	2	40,000
45			Arts, Entertainment, and Recreation	\$3,542,820	63	4	27,500
46			Information	\$1,945,000	38	4	16,390
47			Agriculture, Forestry, Fishing and Hunting	\$3,648,950	43	11	45,900



**Data Table C-4**  
**2007 Economic Data Profile by: Area/County/NAICS Title**

	A	B	C	D	E	F	G
2							
48	NW OH	Wood	Educational Services	\$110,000	4	1	3,600
49		Wood Total		\$16,113,363,594	30,526	1,670	19,952,630
50		Sandusky					
51			Manufacturing	\$1,753,682,015	8,861	181	5,257,690
52			Wholesale Trade	\$667,658,206	972	107	662,900
53			Retail Trade	\$288,279,284	2,205	314	1,386,110
54			Construction	\$156,963,718	429	136	241,480
55			Utilities	\$78,561,402	85	8	29,720
56			Transportation and Warehousing	\$57,822,039	803	98	692,320
57			Other Services (except Public Administration)	\$3,339,000	53	11	47,900
58			Health Care and Social Assistance	\$475,000	11	4	7,300
59			Mining	\$140,000	2	1	1,800
60			Administrative and Support and Waste Management and Remediation Services	\$900,000	20	1	2,500
61			Professional, Scientific, and Technical Services	\$4,249,000	28	7	16,000
62			Real Estate and Rental and Leasing	\$994,550	15	5	12,000
63			Accommodation and Food Services	\$401,000	8	3	10,400
64			Arts, Entertainment, and Recreation	\$1,960,000	43	3	24,050
65			Information	\$11,998,560	106	3	18,300
66			Agriculture, Forestry, Fishing and Hunting	\$1,576,000	23	11	25,090
67			Finance and Insurance	\$77,000	1	1	910
68		Sandusky Total		\$3,029,076,774	13,665	894	8,436,470
69		Fulton					
70			Manufacturing	\$1,126,034,737	8,452	132	9,426,200
71			Wholesale Trade	\$253,047,025	861	91	623,090
72			Retail Trade	\$207,631,600	1,531	230	914,890
73			Construction	\$228,683,106	450	83	197,650
74			Utilities	\$1,300,000	22	3	7,400
75			Transportation and Warehousing	\$26,775,186	347	80	288,430
76			Other Services (except Public Administration)	\$6,671,000	90	16	103,400
77			Health Care and Social Assistance	\$845,000	109	6	27,400
78			Mining	\$1,996,154	7	3	59,200
79			Administrative and Support and Waste Management and Remediation Services	\$5,720,000	92	7	109,500
80			Professional, Scientific, and Technical Services	\$6,925,220	55	5	38,900
81			Real Estate and Rental and Leasing	\$757,066	16	7	12,120
82			Accommodation and Food Services	\$2,500,000	150	1	20,000
83			Information	\$40,000	2	1	2,500
84			Agriculture, Forestry, Fishing and Hunting	\$512,000	10	4	7,710
85		Fulton Total		\$1,869,438,094	12,194	669	11,838,390
86		Ottawa					
87			Manufacturing	\$501,291,002	2,305	81	1,255,190
88			Wholesale Trade	\$66,703,558	244	60	253,530

**Data Table C-4**  
**2007 Economic Data Profile by: Area/County/NAICS Title**

	A	B	C	D	E	F	G
2							
89	NW OH	Ottawa	Retail Trade	\$239,045,005	1,908	235	994,000
90			Construction	\$34,568,202	299	66	112,780
91			Utilities	\$5,567,800	25	5	12,800
92			Transportation and Warehousing	\$59,804,126	553	70	293,060
93			Other Services (except Public Administration)	\$2,380,685	47	13	67,200
94			Health Care and Social Assistance	\$500,000	16	2	4,900
95			Mining	\$65,400,000	590	1	41,500
96			Administrative and Support and Waste Management and Remediation Services	\$817,000	11	3	5,900
97			Professional, Scientific, and Technical Services	\$1,085,000	24	3	15,000
98			Real Estate and Rental and Leasing	\$294,000	25	3	8,400
99			Accommodation and Food Services	\$2,160,000	111	4	19,000
100			Arts, Entertainment, and Recreation	\$3,565,000	78	6	84,200
101			Agriculture, Forestry, Fishing and Hunting	\$270,000	5	2	3,690
102			Finance and Insurance	\$170,000	2	1	1,200
103		<b>Ottawa Total</b>		<b>\$983,621,378</b>	<b>6,243</b>	<b>555</b>	<b>3,172,350</b>
104		<b>Henry</b>					
105			Manufacturing	\$299,009,215	2,100	78	1,381,650
106			Wholesale Trade	\$188,276,085	255	45	198,500
107			Retail Trade	\$146,854,343	1,019	123	649,040
108			Construction	\$40,658,835	281	57	127,360
109			Utilities	\$2,040,000	17	3	9,600
110			Transportation and Warehousing	\$42,445,061	513	48	303,400
111			Other Services (except Public Administration)	\$3,815,808	65	11	29,000
112			Professional, Scientific, and Technical Services	\$275,000	4	2	18,300
113			Real Estate and Rental and Leasing	\$91,000	2	1	9,000
114			Accommodation and Food Services	\$440,000	25	1	12,000
115			Arts, Entertainment, and Recreation	\$210,000	9	1	600
116			Agriculture, Forestry, Fishing and Hunting	\$395,000	10	3	7,100
117			Finance and Insurance	\$130,000	2	1	1,300
118		<b>Henry Total</b>		<b>\$724,640,347</b>	<b>4,302</b>	<b>374</b>	<b>2,746,850</b>
119	<b>NW OH Total</b>			<b>\$62,034,295,252</b>	<b>157,957</b>	<b>9,770</b>	<b>96,908,180</b>
120							
121	SE MI						
122		Monroe					
123			Manufacturing	\$4,011,257,540	11,408	320	6,332,060
124			Wholesale Trade	\$722,145,338	1,783	288	1,982,330
125			Retail Trade	\$1,120,581,190	7,042	804	3,447,480
126			Construction	\$141,383,154	1,052	392	689,130
127			Utilities	\$604,021,002	1,162	16	59,320
128			Transportation and Warehousing	\$190,481,903	1,524	202	780,480
129			Other Services (except Public Administration)	\$34,621,110	393	30	213,300

**Data Table C-4**  
**2007 Economic Data Profile by: Area/County/NAICS Title**

	A	B	C	D	E	F	G
2							
130	SE MI	Monroe	Health Care and Social Assistance	\$1,016,000	32	5	15,200
131			Mining	\$14,980,000	152	5	26,100
132			Administrative and Support and Waste Management and Remediation Services	\$42,707,999	393	14	670,600
133			Professional, Scientific, and Technical Services	\$10,304,698	183	7	120,800
134			Real Estate and Rental and Leasing	\$8,250,727	90	7	72,470
135			Accommodation and Food Services	\$4,888,080	159	4	21,000
136			Management of Companies and Enterprises	\$13,000,000	6	1	250,000
137			Arts, Entertainment, and Recreation	\$5,592,000	23	5	20,000
138			Information	\$240,000	8	1	6,000
139			Agriculture, Forestry, Fishing and Hunting	\$756,000	48	12	32,980
140			Finance and Insurance	\$650,000	6	1	2,000
141			Educational Services	\$200,000	105	2	19,600
142		<b>Monroe Total</b>		<b>\$6,927,076,741</b>	<b>25,569</b>	<b>2,116</b>	<b>14,760,850</b>
143		<b>Lenawee</b>					
144			Manufacturing	\$3,409,928,851	10,480	279	6,094,700
145			Wholesale Trade	\$331,799,132	1,111	172	737,840
146			Retail Trade	\$633,451,251	4,668	601	2,954,270
147			Construction	\$93,979,100	849	252	456,960
148			Utilities	\$171,486,378	536	10	44,100
149			Transportation and Warehousing	\$52,920,093	594	114	474,380
150			Other Services (except Public Administration)	\$6,190,373	99	27	105,200
151			Health Care and Social Assistance	\$2,672,000	122	2	35,400
152			Mining	\$1,791,313	18	6	8,890
153			Administrative and Support and Waste Management and Remediation Services	\$11,470,450	103	12	33,000
154			Professional, Scientific, and Technical Services	\$1,881,843	40	12	27,490
155			Real Estate and Rental and Leasing	\$1,131,000	24	7	15,120
156			Accommodation and Food Services	\$505,000	37	5	56,900
157			Arts, Entertainment, and Recreation	\$457,000	16	5	11,550
158			Information	\$331,000	7	2	3,300
159			Agriculture, Forestry, Fishing and Hunting	\$1,675,000	46	14	31,730
160			Educational Services	\$68,000	2	1	980
161		<b>Lenawee Total</b>		<b>\$4,721,737,784</b>	<b>18,752</b>	<b>1,521</b>	<b>11,091,810</b>
162	<b>SE MI Total</b>			<b>\$11,648,814,525</b>	<b>44,321</b>	<b>3,637</b>	<b>25,852,660</b>
163							
164	<b>Grand Total</b>			<b>\$73,683,109,777</b>	<b>202,278</b>	<b>13,407</b>	<b>122,760,840</b>

**Data Table C-5**  
**2007 Economic Data Profile by: Area/NAICS Title/County**

	A	B	C	D	E	F	G
2							
7	Area	NAICS Title	County	Sales	Jobs	Establishments	FloorSpace
8	NW OH						
9		Manufacturing					
10			Lucas	\$25,390,257,391	35,367	927	21,171,370
11			Wood	\$11,470,636,762	14,642	299	8,939,930
12			Sandusky	\$1,753,682,015	8,861	181	5,257,690
13			Fulton	\$1,126,034,737	8,452	132	9,426,200
14			Ottawa	\$501,291,002	2,305	81	1,255,190
15			Henry	\$299,009,215	2,100	78	1,381,650
16		Manufacturing Total		\$40,540,911,122	71,727	1,698	47,432,030
17		Wholesale Trade					
18			Lucas	\$5,567,953,483	9,710	936	9,166,380
19			Wood	\$2,023,520,701	3,707	258	2,407,290
20			Sandusky	\$667,658,206	972	107	662,900
21			Fulton	\$253,047,025	861	91	623,090
22			Ottawa	\$66,703,558	244	60	253,530
23			Henry	\$188,276,085	255	45	198,500
24		Wholesale Trade Total		\$8,767,159,058	15,749	1,497	13,311,690
25		Retail Trade					
26			Lucas	\$5,320,127,059	25,988	2,332	11,824,370
27			Wood	\$1,128,068,603	7,044	591	2,855,170
28			Sandusky	\$288,279,284	2,205	314	1,386,110
29			Fulton	\$207,631,600	1,531	230	914,890
30			Ottawa	\$239,045,005	1,908	235	994,000
31			Henry	\$146,854,343	1,019	123	649,040
32		Retail Trade Total		\$7,330,005,894	39,695	3,825	18,623,580
33		Construction					
34			Lucas	\$902,962,509	3,070	638	1,279,320
35			Wood	\$1,004,610,421	1,338	191	603,980
36			Sandusky	\$156,963,718	429	136	241,480
37			Fulton	\$228,683,106	450	83	197,650
38			Ottawa	\$34,568,202	299	66	112,780
39			Henry	\$40,658,835	281	57	127,360
40		Construction Total		\$2,368,446,791	5,867	1,171	2,562,570
41		Utilities					
42			Lucas	\$792,937,044	1,214	21	177,980
43			Wood	\$45,448,577	113	8	70,100
44			Sandusky	\$78,561,402	85	8	29,720
45			Fulton	\$1,300,000	22	3	7,400
46			Ottawa	\$5,567,800	25	5	12,800
47			Henry	\$2,040,000	17	3	9,600
48		Utilities Total		\$925,854,823	1,476	48	307,600
49		Transportation and Warehousing					
			Lucas	\$935,115,566	10,659	449	5,087,000

**Data Table C-5**  
**2007 Economic Data Profile by: Area/NAICS Title/County**

	A	B	C	D	E	F	G
2							
51	NW OH	Transportation and Warehousing	Wood	\$296,031,515	2,000	185	3,845,670
52			Sandusky	\$57,822,039	803	98	692,320
53			Fulton	\$26,775,186	347	80	288,430
54			Ottawa	\$59,804,126	553	70	293,060
55			Henry	\$42,445,061	513	48	303,400
56		<b>Transportation and Warehousing Total</b>		<b>\$1,417,993,493</b>	<b>14,875</b>	<b>930</b>	<b>10,509,880</b>
57		<b>Other Services (except Public Administration)</b>					
58			Lucas	\$48,715,092	648	99	550,270
59			Wood	\$34,568,431	368	44	330,110
60			Sandusky	\$3,339,000	53	11	47,900
61			Fulton	\$6,671,000	90	16	103,400
62			Ottawa	\$2,380,685	47	13	67,200
63			Henry	\$3,815,808	65	11	29,000
64		<b>Other Services (except Public Administration) Total</b>		<b>\$99,490,016</b>	<b>1,271</b>	<b>194</b>	<b>1,127,880</b>
65		<b>Health Care and Social Assistance</b>					
66			Lucas	\$132,083,250	1,590	9	341,800
67			Wood	\$700,000	10	3	6,320
68			Sandusky	\$475,000	11	4	7,300
69			Fulton	\$845,000	109	6	27,400
70			Ottawa	\$500,000	16	2	4,900
71		<b>Health Care and Social Assistance Total</b>		<b>\$134,603,250</b>	<b>1,736</b>	<b>24</b>	<b>387,720</b>
72		<b>Mining</b>					
73			Lucas	\$47,421,768	168	19	63,210
74			Wood	\$5,993,224	42	4	10,000
75			Sandusky	\$140,000	2	1	1,800
76			Fulton	\$1,996,154	7	3	59,200
77			Ottawa	\$65,400,000	590	1	41,500
78		<b>Mining Total</b>		<b>\$120,951,146</b>	<b>809</b>	<b>28</b>	<b>175,710</b>
79		<b>Administrative and Support and Waste Management and Remediation Services</b>					
80			Lucas	\$32,498,453	591	41	187,270
81			Wood	\$34,545,390	304	22	441,930
82			Sandusky	\$900,000	20	1	2,500
83			Fulton	\$5,720,000	92	7	109,500
84			Ottawa	\$817,000	11	3	5,900
85		<b>Administrative and Support and Waste Management and Remediation Services Total</b>		<b>\$74,480,843</b>	<b>1,018</b>	<b>74</b>	<b>747,100</b>
86		<b>Professional, Scientific, and Technical Services</b>					
87			Lucas	\$70,349,630	817	43	289,510
88			Wood	\$17,554,000	174	20	136,390
89			Sandusky	\$4,249,000	28	7	16,000
90			Fulton	\$6,925,220	55	5	38,900
91			Ottawa	\$1,085,000	24	3	15,000
92			Henry	\$275,000	4	2	18,300
93		<b>Professional, Scientific, and Technical Services Total</b>		<b>\$100,437,850</b>	<b>1,102</b>	<b>80</b>	<b>514,100</b>
		<b>Real Estate and Rental and Leasing</b>					

**Data Table C-5**  
**2007 Economic Data Profile by: Area/NAICS Title/County**

	A	B	C	D	E	F	G
2							
95	NW OH	Real Estate and Rental and Leasing	Lucas	\$34,167,022	379	32	274,280
96			Wood	\$3,596,000	54	15	91,200
97			Sandusky	\$994,550	15	5	12,000
98			Fulton	\$757,066	16	7	12,120
99			Ottawa	\$294,000	25	3	8,400
100			Henry	\$91,000	2	1	9,000
101		<b>Real Estate and Rental and Leasing Total</b>		<b>\$39,899,638</b>	<b>491</b>	<b>63</b>	<b>407,000</b>
102		Accommodation and Food Services					
103			Lucas	\$11,011,995	408	12	47,400
104			Wood	\$22,843,200	465	8	81,150
105			Sandusky	\$401,000	8	3	10,400
106			Fulton	\$2,500,000	150	1	20,000
107			Ottawa	\$2,160,000	111	4	19,000
108			Henry	\$440,000	25	1	12,000
109		<b>Accommodation and Food Services Total</b>		<b>\$39,356,195</b>	<b>1,167</b>	<b>29</b>	<b>189,950</b>
110		Management of Companies and Enterprises					
111			Lucas	\$12,365,000	40	2	20,600
112			Wood	\$16,000,000	117	2	40,000
113		<b>Management of Companies and Enterprises Total</b>		<b>\$28,365,000</b>	<b>157</b>	<b>4</b>	<b>60,600</b>
114		Arts, Entertainment, and Recreation					
115			Lucas	\$5,191,803	127	14	132,010
116			Wood	\$3,542,820	63	4	27,500
117			Sandusky	\$1,960,000	43	3	24,050
118			Ottawa	\$3,565,000	78	6	84,200
119			Henry	\$210,000	9	1	600
120		<b>Arts, Entertainment, and Recreation Total</b>		<b>\$14,469,623</b>	<b>320</b>	<b>28</b>	<b>268,360</b>
121		Information					
122			Lucas	\$442,000	6	4	5,600
123			Wood	\$1,945,000	38	4	16,390
124			Sandusky	\$11,998,560	106	3	18,300
125			Fulton	\$40,000	2	1	2,500
126		<b>Information Total</b>		<b>\$14,425,560</b>	<b>152</b>	<b>12</b>	<b>42,790</b>
127		Agriculture, Forestry, Fishing and Hunting					
128			Lucas	\$5,632,000	186	23	91,640
129			Wood	\$3,648,950	43	11	45,900
130			Sandusky	\$1,576,000	23	11	25,090
131			Fulton	\$512,000	10	4	7,710
132			Ottawa	\$270,000	5	2	3,690
133			Henry	\$395,000	10	3	7,100
134		<b>Agriculture, Forestry, Fishing and Hunting Total</b>		<b>\$12,033,950</b>	<b>277</b>	<b>54</b>	<b>181,130</b>
135		Finance and Insurance					
136			Lucas	\$3,831,000	25	3	12,900
137			Sandusky	\$77,000	1	1	910
138			Ottawa	\$170,000	2	1	1,200

**Data Table C-5**  
**2007 Economic Data Profile by: Area/NAICS Title/County**

	A	B	C	D	E	F	G
2							
139	NW OH	Finance and Insurance	Henry	\$130,000	2	1	1,300
140		Finance and Insurance Total		\$4,208,000	30	6	16,310
141		Educational Services					
142			Lucas	\$1,093,000	34	4	38,580
143			Wood	\$110,000	4	1	3,600
144		Educational Services Total		\$1,203,000	38	5	42,180
145	NW OH Total			\$62,034,295,252	157,957	9,770	96,908,180
146							
147	SE MI						
148		Manufacturing					
149			Monroe	\$4,011,257,540	11,408	320	6,332,060
150			Lenawee	\$3,409,928,851	10,480	279	6,094,700
151		Manufacturing Total		\$7,421,186,391	21,888	599	12,426,760
152		Wholesale Trade					
153			Monroe	\$722,145,338	1,783	288	1,982,330
154			Lenawee	\$331,799,132	1,111	172	737,840
155		Wholesale Trade Total		\$1,053,944,470	2,894	460	2,720,170
156		Retail Trade					
157			Monroe	\$1,120,581,190	7,042	804	3,447,480
158			Lenawee	\$633,451,251	4,668	601	2,954,270
159		Retail Trade Total		\$1,754,032,441	11,710	1,405	6,401,750
160		Construction					
161			Monroe	\$141,383,154	1,052	392	689,130
162			Lenawee	\$93,979,100	849	252	456,960
163		Construction Total		\$235,362,254	1,901	644	1,146,090
164		Utilities					
165			Monroe	\$604,021,002	1,162	16	59,320
166			Lenawee	\$171,486,378	536	10	44,100
167		Utilities Total		\$775,507,380	1,698	26	103,420
168		Transportation and Warehousing					
169			Monroe	\$190,481,903	1,524	202	780,480
170			Lenawee	\$52,920,093	594	114	474,380
171		Transportation and Warehousing Total		\$243,401,996	2,118	316	1,254,860
172		Other Services (except Public Administration)					
173			Monroe	\$34,621,110	393	30	213,300
174			Lenawee	\$6,190,373	99	27	105,200
175		Other Services (except Public Administration) Total		\$40,811,483	492	57	318,500
176		Health Care and Social Assistance					
177			Monroe	\$1,016,000	32	5	15,200
178			Lenawee	\$2,672,000	122	2	35,400
179		Health Care and Social Assistance Total		\$3,688,000	154	7	50,600
180		Mining					
181			Monroe	\$14,980,000	152	5	26,100
182			Lenawee	\$1,791,313	18	6	8,890



**Data Table C-5**  
**2007 Economic Data Profile by: Area/NAICS Title/County**

	A	B	C	D	E	F	G
2							
183	SE MI	Mining Total		\$16,771,313	170	11	34,990
184		Administrative and Support and Waste Management and Remediation Services					
185			Monroe	\$42,707,999	393	14	670,600
186			Lenawee	\$11,470,450	103	12	33,000
187		Administrative and Support and Waste Management and Remediation Services Total		\$54,178,449	496	26	703,600
188		Professional, Scientific, and Technical Services					
189			Monroe	\$10,304,698	183	7	120,800
190			Lenawee	\$1,881,843	40	12	27,490
191		Professional, Scientific, and Technical Services Total		\$12,186,541	223	19	148,290
192		Real Estate and Rental and Leasing					
193			Monroe	\$8,250,727	90	7	72,470
194			Lenawee	\$1,131,000	24	7	15,120
195		Real Estate and Rental and Leasing Total		\$9,381,727	114	14	87,590
196		Accommodation and Food Services					
197			Monroe	\$4,888,080	159	4	21,000
198			Lenawee	\$505,000	37	5	56,900
199		Accommodation and Food Services Total		\$5,393,080	196	9	77,900
200		Management of Companies and Enterprises					
201			Monroe	\$13,000,000	6	1	250,000
202		Management of Companies and Enterprises Total		\$13,000,000	6	1	250,000
203		Arts, Entertainment, and Recreation					
204			Monroe	\$5,592,000	23	5	20,000
205			Lenawee	\$457,000	16	5	11,550
206		Arts, Entertainment, and Recreation Total		\$6,049,000	39	10	31,550
207		Information					
208			Monroe	\$240,000	8	1	6,000
209			Lenawee	\$331,000	7	2	3,300
210		Information Total		\$571,000	15	3	9,300
211		Agriculture, Forestry, Fishing and Hunting					
212			Monroe	\$756,000	48	12	32,980
213			Lenawee	\$1,675,000	46	14	31,730
214		Agriculture, Forestry, Fishing and Hunting Total		\$2,431,000	94	26	64,710
215		Finance and Insurance					
216			Monroe	\$650,000	6	1	2,000
217		Finance and Insurance Total		\$650,000	6	1	2,000
218		Educational Services					
219			Monroe	\$200,000	105	2	19,600
220			Lenawee	\$68,000	2	1	980
221		Educational Services Total		\$268,000	107	3	20,580
222	SE MI Total			\$11,648,814,525	44,321	3,637	25,852,660
223							
224	Grand Total			\$73,683,109,777	202,278	13,407	122,760,840