

## ***W.E. Upjohn Institute for Employment Research***

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### **Economic Impact of Kalamazoo-Battle Creek International Airport**

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#### **Executive Summary**

This study estimates the economic impact of the Kalamazoo-Battle Creek International Airport on the greater Kalamazoo-Battle Creek region. If the airport were to close in 2008, we estimate that the region would lose close to 1,350 jobs, and personal income would shrink by \$46.2 million. The region's Gross Regional Product—the value of all goods and services generated in the region—would decline by \$105.3 million. Finally, total sales of goods and services in the region would fall by \$175.2 million in 2008. In the Kalamazoo-Portage MSA (Kalamazoo and Van Buren counties), the total employment loss would reach 1,166 and loss in personal income would climb to \$40.7 million.

<b>First year economic impact of the closing of the Kalamazoo-Battle Creek International Airport</b>	
<b>Employment</b>	<b>1348</b>
Direct employment	302
Indirect employment lost in the Kalamazoo-Portage MSA	182
Employment loss due to increase in the cost of doing business	
Kalamazoo-Portage MSA	682
Battle Creek MSA	182
<b>Personal Income (\$million)</b>	<b>46.2</b>
Direct and indirect	19.2
Employment loss due to increase in the cost of doing business	
Kalamazoo-Portage MSA	21.5
Battle Creek MSA	5.5
<b>Gross Regional Product (\$million)</b>	<b>105.3</b>
<b>Total Output (sales) (\$million)</b>	<b>175.2</b>

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In the later years, the region would continue to lose jobs due to the increase in the cost of doing business in the area resulting from not having an airport. In 2014, we estimate the region would employ 2,244 fewer workers solely because of the added expense of doing business in the region without a commercial airport.

## Overview

This report assesses the economic impact of the Kalamazoo-Battle Creek International Airport on the Kalamazoo-Portage MSA. In short, it answers the following question: What would be the economic impact if the airport were closed and no other airport opened in its place in southwest Michigan? The negative economic impact of this purely hypothetical case would be the following:

- 1. The loss of the direct and indirect economic impacts of the day-to-day operations of the airport.** These impacts include the consumer expenditures of airport employees as well as the economic impact of the companies that are directly dependent on airport operations. All of these jobs and their impact on the local economy would disappear if the airport closed.
- 2. An increase in the cost of doing business in the Kalamazoo-Portage area.** Businesses would have to absorb the increased costs associated with having to travel out of the area to other airports. These costs include out-of-pocket mileage costs as well as time costs.
- 3. The loss of an important regional development economic asset.** Most all economic development site selection studies report the importance of a commercial airport. The lack of a commercial airport for a metropolitan area the size of the greater Kalamazoo-Battle Creek region is extremely unusual and would put the area at a competitive disadvantage.

This report estimates the effects in terms of jobs and income of the first two impacts listed above that would occur if the airport ceased to exist in the area. Again, in this hypothetical scenario, we assume that another regional airport would not open somewhere else in southwest Michigan but that customers of the airport would instead have to travel to existing airports in Grand Rapids, Lansing, South Bend, Detroit, or Chicago to utilize commercial airline service.

Additionally, we assume that businesses and other users of charter jet airline services would also have to travel to one of these existing airports to catch flights as well—that is they would not be able to transfer service to one of the other small private airstrips located elsewhere in the area.

We are unable in this report to quantify the impact on the area's competitiveness of being one if not the largest metropolitan area without a commercial airport. The impact is immeasurable because it would require an estimation of the number and types of businesses that would no longer view the Kalamazoo-Portage area as a feasible location for their expansion. In particular, professional and technical service firms would find the Kalamazoo-Portage area less attractive than surrounding metro areas that have airports.

All information regarding the basic functioning of the airport—e.g. employment levels, payroll—was provided by administrators of the airport. Estimates of indirect employment

impacts were generated using the Upjohn Institute's REMI<sup>1</sup> model. For estimation of the costs associated with additional travel and business-time losses resulting from the loss of a local commercial airport, the Upjohn Institute relied on data provided by the airport, as well as publicly available sources of employment, travel costs, and business activity, which are detailed in this report's appendix.

### **Impact of the Loss of the Day-to-Day Activities at the Airport**

As of mid-2008, the airport directly supports a staff of 55 FAA and Kalamazoo County employees who are responsible for the facility's daily operations. Also, another 247 jobs are located at the airport that are part of the unique, direct employment impact of the facility—jobs that would not otherwise exist in the region if not for the airport. This includes 56 jobs with commercial airlines (e.g. American, Delta, Northwest, and United), 39 federal TSA employees, 28 positions for charter and private aviation companies, and 76 jobs with private maintenance and repair companies. Additionally, there are also a small number of jobs supported by airport retail and food services, parking, firefighting, and weather tracking—all of which are operated by private companies. In total, 302 jobs are supported directly by the airport or private entities uniquely affiliated with the airport,

The day-to-day operations of the Kalamazoo-Battle Creek generate an indirect impact as well through:

1. The consumer expenditures of the airport's employees and those of the businesses directly dependent on the airport.
2. The purchases of goods and services by the airport and the businesses directly dependent on its operation of goods and services from local suppliers.
3. The following rounds of local spending generated as the new employees of impacted retailers and business suppliers spend their increase in income at local stores. In turn, these businesses increase their purchases from local suppliers.

According to the Institute's REMI model, 182 indirect jobs are also supported by the presence of the airport in the Kalamazoo-Portage MSA. The largest numbers of indirect jobs are in the administrative and support services (64), retail (34), and food service (34) sectors.

The total employment activity impact of the Kalamazoo-Battle Creek airport is 484 jobs—302 of which are directly associated with air travel activity, and 182 of which are indirect or “spin-off” jobs associated with local spending and supply linkages.<sup>2</sup> This result is an employment multiplier of 1.8 for the airport, which means that for every ten jobs directly associated with the airport, we estimate that another eight jobs are generated elsewhere in the Kalamazoo-Portage metropolitan area. The multiplier is simply another way of stating the airport's economic impact.

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<sup>1</sup> A custom model created and maintained by Regional Economic Models, Inc. More information about the model is included in a brief appendix at the end of this report.

<sup>2</sup> We estimate that five jobs are also generated in the Battle Creek MSA due to the day-to-day operations Kalamazoo-Battle Creek International Airport. It is important to note that this is an estimate of the number of jobs created in the Battle Creek MSA and not the number of impacted employees living in the Battle Creek MSA.

## Kalamazoo-Battle Creek International Airport Employment Impact Summary

<b>Direct Employment</b>	
Airport Employees (Federal and County)	55
Commercial passenger airlines	56
Airport retail (pub, café, gift shop, etc)	10
TSA (Federal government)	39
Package and freight services	14
Parking	9
Charter aviation	28
Firefighting services	10
Weather reporting service	5
Maintenance companies	76
<b>Total</b>	<b>302</b>
<b>Indirect Employment</b>	
Construction	16
Retail	34
Health care	13
Food Services	34
Prof, tech services	14
Administrative, support services	64
Other services	7
<b>Total</b>	<b>182</b>
<b>Total Jobs Generated</b>	<b>484</b>
<b>Employment Multipliers</b>	<b>1.6</b>

It should be noted that two major types of workers potentially associated with the airport are not included in this analysis. First, workers employed by the rental car agencies located at or near the airport are excluded, since it is unclear what portion of rental car business is directly associated with air travelers and what portion would continue to serve a market of this size, regardless of the presence of an airport. Second, taxi and limo services are also included for lack of data. Again, it is unclear how much income for local taxi and limousine services is generated specifically by air travelers and would not otherwise occur if the airport were to disappear.

The employment activities associated with the airport also generate personal income, both through direct job opportunities, as well as indirect or spin-off activities. In total, we estimate that the airport will generate personal income of \$19.2 million in the Kalamazoo metropolitan area. Approximately \$3.9 million of this personal income is the result of the payroll of those employed at the airport directly by Kalamazoo County, while the remaining \$15.3 million of personal income is associated with the payroll of private employers located at the airport or generated by spin-off jobs elsewhere in the region. We also estimate that approximately \$13.6 million of the personal income generated in 2008 will be available as disposable income, much of which will likely be spent on goods and services in the area.

## The Increase in the Cost of Doing Business in the Kalamazoo-Portage Area

The loss of the Kalamazoo-Battle Creek International Airport would increase the cost of doing business in the greater Kalamazoo-Battle Creek area. Business travelers would have to tack on to their travel expenses the cost of driving to another airport and the foregone time opportunity costs of having to make this journey.

We took the following steps in estimating these costs:

1. Using the BEA national input-output model, which shows the importance of air transportation in the production of goods and services by specific industry, we estimated air transportation's share of total variable cost of doing business. Variable costs include the prices of all inputs and services used in the production of the industry's good or service plus its labor and occupancy costs. The share of air transportation in an industry's total variable costs ranges from 0.04 percent for warehousing to 0.6 percent for professional and technical services.
2. To estimate the potential change in air transportation's share of total variable cost, we estimated the additional cost of having to drive out of the area to other airports. As shown below, we estimated that 40 percent of the current business users of the Kalamazoo-Battle Creek Airport who work or live in the Kalamazoo-Portage MSA would drive to the Grand Rapids Airport while 50 percent of the Battle Creek MSA workers would drive to Detroit. These estimates are based on distance and the number of available flights. Out-of-pocket costs of driving to these other airports are based on a 50.5 cent per mile total cost factor and a time opportunity cost of \$40 per hour of driving.

<b>Alternative Airport Usage if the Kalamazoo-Battle Creek Airport Closed</b>		
	Percent of Air Travels living in the MSA of:	
	Kalamazoo	Battle Creek
Grand Rapids	40%	15%
Detroit	30%	50%
South Bend	20%	5%
Lansing	0%	20%
Chicago	10%	10%

Source: Upjohn Institute

3. We made an additional assumption that the Kalamazoo-Battle Creek airport is used by 80 percent of the business air travelers in the Kalamazoo-Portage MSA and 50 percent of the Battle Creek business travelers.

Based on these assumptions, we estimate that the cost of air transportation would increase by just under 50 percent for businesses in the Kalamazoo-Portage MSA and by 30 percent for businesses in the Battle Creek MSA. These cost increases are then multiplied by air transportation's share of total business costs by industry and entered into the Institute REMI model. The Institute's REMI model has the capability to estimate the change in employment by industry due to a change in a region's cost structure relative to the nation's—in this case an increase in the air transportation costs.

As shown in the table below, we estimate that the combined Kalamazoo-Portage Battle Creek region would lose 864 jobs due to the increase in air transportation costs resulting from the closure of the Kalamazoo-Battle International Airport. These employment losses grow with time to over 2,200 jobs in 2014. This growth in the estimated loss of jobs is due in part to the expected growth in importance of air transportation in the global economy.<sup>3</sup>

Personal income in the greater Kalamazoo-Battle Creek would be impacted as well starting in 2008 with a loss of \$27 million and then climbing to a loss of \$112.6 million in 2014.

<b>Economic Impact of Higher Air Travel Expenditures on the Kalamazoo-Battle Creek region</b>							
	2008	2009	2010	2011	2012	2013	2014
<b>Total employment</b>							
Kalamazoo-Portage	-682	-1000	-1250	-1439	-1586	-1691	-1766
Battle Creek	<u>-182</u>	<u>-270</u>	<u>-339</u>	<u>-390</u>	<u>-430</u>	<u>-458</u>	<u>-478</u>
Total	-864	-1270	-1589	-1829	-2016	-2149	-2244
<b>Personal income in millions of dollars</b>							
Kalamazoo-Portage	-21.5	-36.3	-49.7	-61.5	-72.2	-81.4	-89.4
Battle Creek	<u>-5.5</u>	<u>-9.5</u>	<u>-13.0</u>	<u>-16.1</u>	<u>-18.8</u>	<u>-21.1</u>	<u>-23.2</u>
Total	-27.0	-45.8	-62.7	-77.5	-91.0	-102.5	-112.6

### **The Loss of an Important Regional Development Economic Asset**

Being in close proximity to a commercial airport is a location necessity to a growing number of firms especially in high-tech and business service providers. In its most recent survey of corporations regarding site selection factors, *Area Development* found that 54 percent of the respondents ranked accessibility to a major airport as either very important or important.<sup>4</sup> While the Kalamazoo-Battle Creek International Airport is not a hub airport and may not rank as a “major” airport for some, its existence still provides direct access to two of the nation’s largest airports, Chicago and Detroit.

If the Kalamazoo-Battle Creek area no longer offers commercial air service, it is possible that it would be removed from the list of potential site locations for some firms looking to expand. However, it is impossible for us to estimate this possible negative impact.

### **Consideration of Alternative Uses**

A complete economic impact of the hypothetical closure of the Kalamazoo-Battle Creek International Airport is not complete without a discussion of the impact of potential alternative uses. While a complete analysis of alternative uses of the airport parcel is beyond the scope of this report, we can highlight some of the challenges facing several alternative uses for the airport properties including

1. industrial or business park
2. retail or commercial development

<sup>3</sup> These employment losses include the indirect impact of the region’s increase in air transportation costs. For example, it includes the loss of retail and consumer services jobs that result when a region’s professional services companies reduce their operations in the greater Kalamazoo area.

<sup>4</sup> Geraldine Gambale ed. “The 22<sup>nd</sup> Annual Corporate Survey,” *Area Development*, December 2007/January 2008.

3. residential development
4. public space.

The airport site offers excellent access to Interstate 94 which would make all of these options attractive.

Regarding the development of an industrial/business park, the region already has numerous industrial parcels available for development including the Fort Custer Industrial Park in Calhoun County. In addition, the Business and Research Park in Kalamazoo and numerous full-service sites are available along Sprinkle Road and other locations in Portage. Site-ready land is readily available for development and thus is not perceived as a barrier to economic growth in the region.

The airport could make an attractive location for retail activity, but its success would likely come from the loss of business in the region’s more established retail centers.

Most population forecasts suggest that southwest Michigan would experience modest population growth during the next decade. If the airport property was developed as residential, it would result in few new permanent jobs as the residential development would be populated with households who already lived in the region.

In short, it is our opinion that potential net economic impact of alternative uses for the airport property would likely be small.

### Conclusion

In conclusion we estimate that if the Kalamazoo-Battle Creek International Airport closed in 2008, 1,166 jobs would be lost in the Kalamazoo-Portage MSA and an additional 182 jobs would disappear in the neighboring Battle Creek MSA. In terms of personal income, \$40.7 million dollars would be lost in the Kalamazoo-Portage MSA and another \$5.5 million would be lost in the Battle Creek MSA. The airport’s closing would also cause a \$105.3 million decline in its Gross Regional Product (GRP) and a loss of \$175.2 million in total output (sales). The Kalamazoo-Battle Creek region’s GRP is a measure of the value of goods and services produced in the region and is the region’s equivalent measure to the nation’s GDP. Total output is the measure of all sales in the region regardless of origin.

<b>Kalamazoo-Battle Creek International Airport Income and Regional Product Summary</b>	
Millions of Dollars	
<b>Personal Income</b>	<b>46.2</b>
Airport Employees Payroll	3.9
Other direct and indirect income	15.3
Loss to increased transportation costs	27.0
<b>Gross Regional Product</b>	<b>105.3</b>
<b>Total Outputs (sales)</b>	<b>175.2</b>

Additional jobs would be eliminated from 2009 to 2014, because of the resulting increase in the cost of doing business in the region. By 2014, there would be 2,244 fewer jobs in the greater Kalamazoo-Battle Creek region.

Moreover, these impact estimates do not take into consideration the potential loss of employment due to firms no longer finding the greater Kalamazoo area attractive because of its lack of a commercial airport. While it is impossible to estimate the potential impact of businesses taking the region off their site selection list, we believe that it is not insignificant.

## Appendix

The W.E. Upjohn Institute maintains an economic computer model especially designed to estimate the economic impact of changes in the greater Kalamazoo-Battle Creek region which includes the two metropolitan areas of Kalamazoo-Portage MSA (Kalamazoo and Van Buren counties) and Battle Creek MSA (Calhoun County). The model was constructed by Regional Economic Models Incorporated (REMI) and contains three separate components that together capture the resulting total impact on the local economy because of a change in employment and in the relative cost of doing business. These components are:

- An input-output model that estimates the impact on the local economy of changes in inter-industry purchases. This component of the model captures the impact of an increase in orders to local suppliers of goods and services as well as the impact of households increasing their purchases of consumer goods and services.
- A relative cost component that estimates the impact of the expected changes in the area's cost structure due to changes in the cost of doing business. For instance, when a major employer moves into the area, it can cause wages to increase across most all industries due to the increased demand for workers and other local resources. This boost in wages, while generating additional consumption expenditures, increases the cost of doing business in the area, making the area slightly less attractive to other industries.
- A forecasting and demographic component that forecasts the resulting changes in future employment and population levels due to a change in economic activity.

The model generates two separate “realities” for the period 2008 to 2014: one with the Kalamazoo-Battle Creek International Airport in full operation and the other being with the airport closed. It is the difference between the two that estimates the economic impact of the airport on the county.