

Project Report



Economic Impact & Benefits Analysis

Prepared for

**MBS International Airport
Commission**

The Boyd Group
Aviation Consulting & Forecasting

Note:

This document is prepared for the exclusive use of the MBS International Airport Commission. No other utilization is authorized.

The data, analyses, and conclusions contained in this document are based on information and sources deemed reliable as of January 2006, however due to the dynamic nature of the subject matter they cannot be guaranteed.

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I. Project Overview

Scope of Project

The MBS International Airport commissioned The Boyd Group to conduct an impact analysis of the airport on the regional economy.

Specifically, the primary objectives of this analysis were as follows:

- The total economic impact attributable to the MBS International Airport – directly, indirectly and induced;
- The total number of jobs attributable to the economic activity generated by the MBS International Airport; and
- The income generated by the MBS International Airport, including the impact of payroll dollars and tax revenues.

Secondary objectives of this analysis were:

- Estimation of the transportation cost savings that local residents realize as a result of scheduled air service at MBS International Airport; and
- Estimate of the contribution by MBS scheduled passengers through payment of ticket taxes, security fees and Passenger Facility Charges (PFC).

From these analyses, an overall estimate of the economic contribution of MBS International Airport to the Saginaw Valley was developed. Put another way, these analyses sought to quantify the economic benefits that would not accrue to the local economy in the absence of MBS International Airport.

Measuring the Full Economic Benefit

In a global economy, airports represent a region's gateway to the world. Simply put, airports translate into economic opportunity.

For example, because of access provided by an airport, businesses are able to locate in a region and in turn provide employment and tax revenues. That "value" – i.e., the competitive attractiveness of a community with an airport and/or air service – is difficult to measure.

The findings in this document represent the core economic value of MBS.

There are numerous intangible benefits beyond the data herein that impact the economy and quality of life in the mid-Michigan/ Saginaw Valley.

An airport also provides support to existing local industries that depend on aviation and air service to bring potential clients to their facilities, facilitate time critical air shipments, or transport employees to distant customers and facilities. Finally, airports represent a vital component of the public infrastructure, providing a base of operation for important government functions such as law enforcement.

For these reasons, the economic impacts described in this document represent the core value of the MBS International Airport. There are, however, numerous other impacts that are too subtle to be effectively measured, yet make enormous contributions to the economy and quality of life in mid-Michigan and the Saginaw Valley.

II. Methodology

Data Collection Surveys

During November and December 2005, The Boyd Group surveyed businesses, organizations and agencies that conduct business at the MBS International Airport.

Included in the survey group were the following types of businesses and activities:

- Scheduled airlines;
- Service providers to scheduled airlines and their customers (i.e., ground handlers, fuelers, catering, retail operations, parking, car rental, etc.);
- Government activities, such as the Federal Aviation Administration and the Transportation Security Administration, as well as law enforcement;
- Airport tenants (including those that conduct non-aviation related businesses at the airport); and
- MBS International Airport Commission.

Businesses, organizations and government entities conducting business at MBS were surveyed during November 2005.

Their responses form the basis for data analysis contained herein.

Each survey participant provided key information about the nature of their business, employment levels that are dependent on the MBS International Airport, operating and capital expenditures related to the airport, and percentages of these expenditures within Midland, Bay, and Saginaw counties.

To assure the maximum possible response rate, The Boyd Group assured participants that the information provided would be presented in aggregate form and that specific information about each entity would remain confidential.

Examples of survey forms are provided in the Appendix of this document.

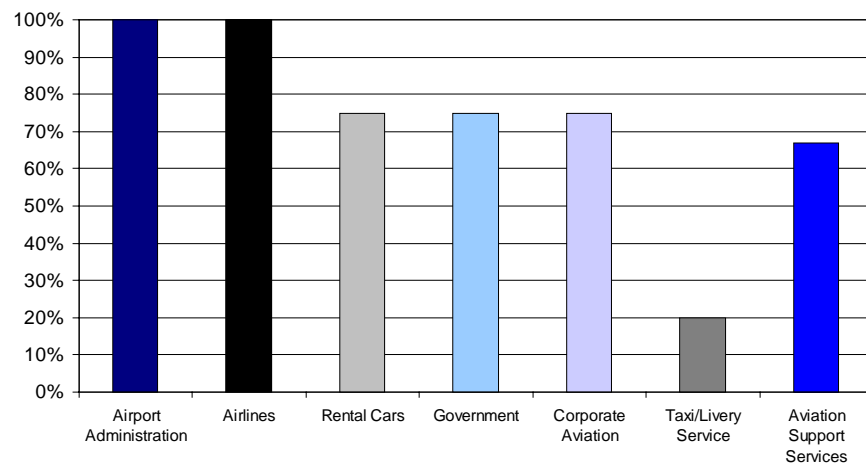
Survey of MBS International Tenants

Including the airport administration, 24 entities were surveyed via facsimile, e-mail and U.S. mail.

In total, 18 entities contributed data for this analysis, equating to a response rate of 75%. Based on surveys and analyses The Boyd Group has completed of other airports, we would note that this represents a very satisfactory response rate, which provides a fundamentally sound basis for accurate estimation of the economic impact and benefits generated by MBS International Airport.

Survey Response Rates

Percent of MBS International Airport Survey Responses by Industry/Sector



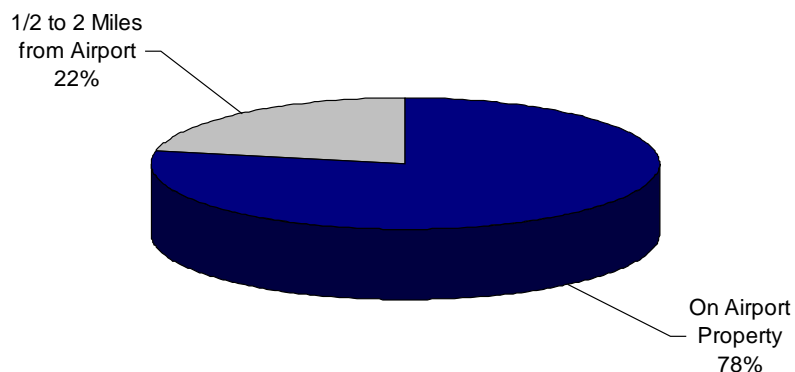
In those instances when a survey was not returned, or when the respondent provided incomplete data, estimates of data were extrapolated based on information available in the public domain either about the specific entity or the industry in which it operates. To test the reasonableness, the data assumptions were correlated to verifiable data about similar entities at airports of similar size.

Proximity of Survey Respondents to MBS

The majority of the survey respondents were located on the MBS International Airport. All other participants were taxi/livery services which, while conducting business at MBS, are based off the airport.

Location of Survey Participants

Proximity to MBS International Airport



Study Area

This analysis sought to quantify the economic impact of MBS International Airport specifically on Midland, Bay and Saginaw counties (hereafter referred to as the “study area”).



MBS International Airport is a special municipality owned by the City of Midland, City of Saginaw and County of Bay. The airport location in Freeland is central between the three communities.

The focus of the study area specifically on Midland, Bay and Saginaw counties was based on this ownership structure of MBS and the

geographic position of the airport, as well as in consultation with airport management.

Difference Between Study Area And MBS Service Area

It is important that the “study area” not be confused with the “service area,” which represents the region from which MBS could reasonably be expected to generate passenger volume and other aviation activity. In the case of the service area, counties to the north and west of the study area are included because they lack air service and/or airport infrastructure comparable to that available at MBS International Airport.

Given the limited study area, it is important to point out the economic impacts and benefits presented and analyzed herein include only those on Midland, Bay and Saginaw counties. The economic benefits of MBS extend to other counties in the region, although the impacts decline as distance increases.¹

Analysis of Data Collected

To determine the impact of activities at the MBS International Airport the study area, the survey response data was entered into the IMPLAN Pro Input-Output (I/O) model developed by the Minnesota IMPLAN Group, Inc.

The IMPLAN I/O model is quite sophisticated and is the standard for software used for economic impact analysis. It addresses a wide range of inputs, including the number of employees and the standard industrial classifications (SIC) of the each respondent, to produce an estimate of economic impact based on known econometric data of the study area.² There are five primary categories used by the IMPLAN model to develop projections of economic impact:

- **Production Function** – Estimates demand by specific industries for a given commodity.
- **By-Products** – Estimates the use of commodities by industry within the study area.

¹ Because of variations in population density, demographics, economic bases, etc., there is no simple formula for, or linear relationship between, distance and impacts. Each airport and study area represents a unique economic relationship with varying levels of impacts and benefits.

² The IMPLAN model does not allow for differentiation between full- and part-time jobs. As such, two part-time jobs indicated on a survey response were assumed to equal one full-time equivalent job.

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- **Trade Flows** – Estimates the portion of demand that is satisfied by local production.
 - **Institutional Transfers** – Estimates the flow of commodities and byproducts between industries within the study area.
 - **Multipliers** – Predicts the successive effects of direct, indirect and induced expenditures (as defined below).

The survey response data was compared to assumptions in the I/O model for each specific industry sector. Where variations were significant (i.e., +/- 5%), manual adjustments to data files were inputted.

Key Definitions

There are three basic categories used to define economic impact in the input/output mode.

Direct Impacts

Direct impacts are the impacts resulting from expenditures by MBS International Airport and the airport tenants. These are the expenditures associated with the provision of aviation related services at the airport, including fixed based operators (FBOs), freight operations, retailers, concessions, government activities, airport administration/operation, and others.

The value of the direct impacts is the combined total of all payroll, operating expenditures, and capital investment.

- **Payroll** – Includes the payroll of the airport operator and the tenants on the airport.
- **Operating Expenses** – Includes the expenses incurred by the airport and tenants to keep the airport open and operate their businesses. These include office supplies, operating supplies, rentals, landing fees, repairs and maintenance, and other general business expenses.
- **Capital Investment** – Includes all expenditures by the airport and tenants for land, buildings, machinery and equipment, facility improvements, and other capital outlays that are typically not expensed in accordance with generally accepted accounting procedures.

The value of direct impacts includes payroll, operating expenses, and capital investment occurring on the airport.

Indirect impact is that economic activity occurring off the airport as a result of activities on the airport.

Indirect Impacts

Indirect impacts are those expenditures that typically occur off the airport property, but which in some way are associated with the activities on the airport. In other words, these are the inter-industry effects above and beyond the direct impacts.

The level of indirect impacts generated can vary significantly from airport to airport. A primary determinant of the amount of indirect impacts is the economic profile of the study area (i.e., industrial v. service v. tourism-centric economy). The greater quantity of goods and services purchased locally, the more economic activity that will be stimulated within the study area.

Induced Impacts

Induced impact is the “rolling” of dollars through the economy that results from activity, primarily payroll dollars, at the airport.

Induced impacts are those that result from the subsequent rounds of spending within the study area, and which begins with activities at the airport. These are commonly referred to as “multipliers.” This primarily consists of the payroll spending of those persons who are either directly or indirectly dependent on the MBS International Airport for their employment.

Where economic data indicates, the IMPLAN I/O model assumes there is a linear relationship between local income and local expenditures within the study area. Allowances are made for social security and income tax leakage, institutional savings, inter-regional transfers, and commuting, based on the economic profile of the study area.

III. Summary of Impact and Benefits

The analyses conducted for MBS International Airport resulted in the following conclusions with regard to the airport's economic impact on Midland, Bay and Saginaw counties during 2005.

Employment

The MBS International Airport is responsible for the existence of approximately 676 jobs in the study area. Of these, 293 are directly attributable to the airport, with the balance being either indirect or induced impacts of MBS.

Wages & Salaries

The wages and salaries generated by the MBS International Airport total approximately \$23.8 million in the region. Of this amount, 47% are direct impacts of the airport.

The average annual salary (full-time equivalent) for jobs resulting from MBS is approximately \$35,196. This figure represents an approximate 59% premium over the per capita income for the State of Michigan as a whole.

Economic Output

At \$66.1 million, economic output represents the majority of the benefits generated by the MBS International Airport in the study area during 2005. Economic output is the "value" of the goods and services generated as a result of the economic activity (direct, indirect, and induced) at MBS.

Other Property Type Income

Approximately \$10.3 million in rents, royalties and dividends resulted in the study area during 2005 as a result of activities at MBS International Airport.

Taxes & Fees

The economic activity resulting from MBS International Airport generated approximately \$7.4 million in tax revenues during 2005. The majority of this amount - \$4.1 million - was received by the federal government in the form of personal and corporate income taxes.

Summary of Qualitative Impacts

In total, the economic impact of MBS International Airport on Midland, Bay and Saginaw counties is estimated to have been approximately \$100.1 million during 2005. This figure includes wages, economic output, and tax revenues. These findings are summarized on the chart below:

The total economic benefit to Midland, Bay and Saginaw counties as a result of MBS, based on 2005 data, is over \$100 million annually.

Economic Impact of MBS During 2005				
	Direct	Indirect	Induced	Total
Labor Income	\$ 11,268,389	\$ 5,266,143	\$ 7,255,168	\$ 23,789,700
Employment	293	155	228	676
Average Income Level	\$ 38,433	\$ 33,945	\$ 31,878	\$ 35,196
Tax Impacts				
Employee Compensation				\$ 2,442,754
Proprietary Income				\$ 102,398
Household Expenditures				\$ 1,593,524
Enterprise Taxes				\$ 1,023,356
Indirect Business Taxes				\$ 2,209,448
Other Property Type Income	\$ 5,071,530	\$ 1,717,951	\$ 3,552,564	\$ 10,342,045
Economic Output	\$ 33,903,572	\$ 14,129,849	\$ 18,026,712	\$ 66,060,134
TOTAL	\$ 50,243,491	\$ 21,113,943	\$ 28,834,444	\$ 100,191,878

These impacts represent economic activity that would not have occurred in the studied counties without the activity generated by the MBS International Airport and, as such, it is reasonable to project that the economy of the study area would be approximately \$100 million smaller in the absence of MBS International Airport.

Qualitative Benefits

In addition to the quantitative impacts as calculated by the IMPLAN I/O model, there are substantial qualitative impacts of MBS that yield benefits to the community. These include:

- The ability of businesses to locate, or operate more profitably, in Midland, Bay and Saginaw counties;
- Approximately \$7.1 in transportation cost savings through a combination of reduced travel time and ground transportation costs; and
- A contribution of approximately \$54.5 million by MBS travelers through taxes and user fees that support maintenance and enhancements to the air transportation system infrastructure and security.

All of the benefits summarized above – quantitative and qualitative – are discussed in more detail in the following sections.

IV. Quantitative Impacts of MBS

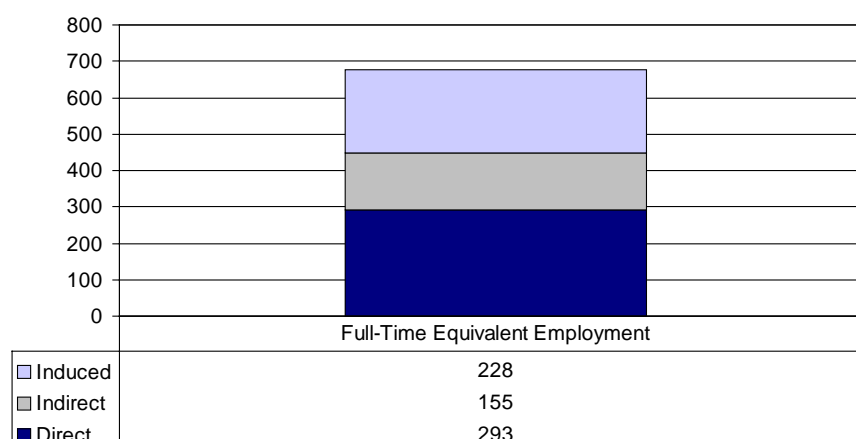
This section reviews the economic impacts of each component of the survey data processed through the IMPLAN I/O model.

Employment and Labor Income

The MBS International Airport generated approximately 676 jobs within the study area during 2005.

Employment Generation

Full-Time Equivalent Jobs Created Within Study Area as Result of Economic Activity at MBS During 2005



Direct employment includes aviation and non-aviation related jobs located at the airport. Most survey responses indicated that 100% of their work force resided within the three county study area. Among those respondents that did provide employment census data, the lowest percentage rate was 92%.

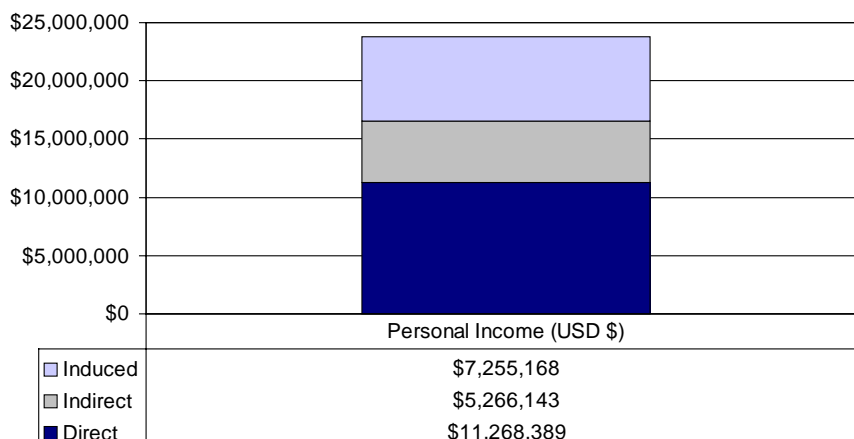
Indirect employment represents those jobs not at the airport, but directly related to the activities of the airport, including those which serve airport tenants and users of the airport (i.e., commercial passengers).

Induced employment is that which results from the successive rounds of personal spending of payroll dollars on items such as food, clothing, shelter, entertainment, etc.

This employment generated approximately \$23.8 million of personal income within the study area during 2005.

Personal Income Generation

Personal Income Generated Within Study Area as Result of Economic Activity at MBS During 2005



The average job (direct, indirect and induced) resulting from the MBS International Airport had an average annual salary of approximately \$35,196 during 2005, with the highest income levels being among those directly resulting from activity at the airport.

While indirect and induced employment data indicate lower income levels, they still represent a significant premium over average per capita income levels in the study area and the State of Michigan as whole.³

Recognizing that not all persons are willing to, or able to be employed, The Boyd Group generated a comparison of average salaries generated as a result of MBS to an estimate of median income levels. These were based on the assumption that 1.5 persons per household were willing and able to be employed and divided by Census estimates of median household incomes.

While less so than on a per capita basis, the employment generated at MBS continues to generate a significant income premium, based on the analysis.

³ SOURCE: U.S. Census Bureau 2004 estimates, per capita basis.

Income Level Comparison: MBS International Airport Generated Employment v. Study Area				
	Direct	Indirect	Induced	Totals
Labor Income	\$11,268,389	\$5,266,143	\$7,255,168	\$23,789,700
FTE Equivalent Generated	293	155	228	676
Avg. Per FTE	\$38,433	\$33,945	\$31,878	\$35,196
	State of Michigan	Bay County	Midland County	Saginaw County
Per Capita Income	\$22,168	\$19,698	\$23,383	\$19,438
MBS Direct Premium	73%	95%	64%	98%
MBS Indirect Premium	53%	72%	45%	75%
MBS Induced Premium	44%	62%	36%	64%
Median Household Income	\$44,667	\$38,646	\$45,674	\$38,637
Persons per Household	2.56	2.47	2.56	2.54
MBS Direct Premium	-14%	-1%	-16%	-1%
MBS Indirect Premium	-24%	-12%	-26%	-12%
MBS Induced Premium	-29%	-18%	-30%	-17%
Estimated Median Workforce Income (@ 1.5 per household)	\$29,778	\$25,764	\$30,449	\$25,758
MBS Direct Premium	29%	49%	26%	49%
MBS Indirect Premium	14%	32%	11%	32%
MBS Induced Premium	7%	24%	5%	24%

Economic Output

Economic output is defined as the “value” of the goods and services produced and consumed as a result of the economic activity (direct, indirect, and induced) resulting from MBS International Airport.

In addition, economic output:

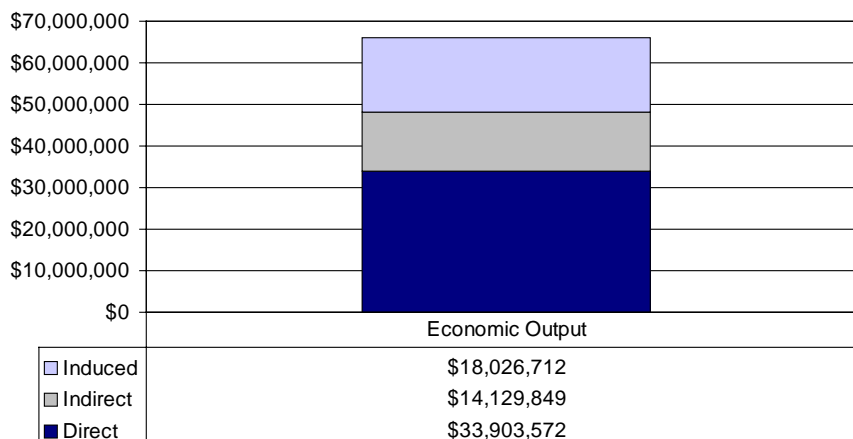
- Should not be confused with the value of commodities (i.e., raw materials) prior to final assembly or processing, or the cost of labor; and
- Includes both operating expenses and capital investment in equipment and facilities.

As with the other impacts, direct economic output is that which is directly attributable to the airport operator and tenants doing business at MBS. Indirect economic output represents the expenditures and investments made by companies that support the airport and its tenants, while induced outputs are the successive “multiplier” effects of payroll dollars purchasing goods and services in the local economy.

In the year 2005, MBS International Airport was responsible for generating approximately \$66.1 million in economic output within the study area, as illustrated on the chart on the next page. Of this amount, approximately \$33 million - or approximately half - represented direct operating expenses and capital investments made by the airport and tenants.

Economic Output

Value of Goods and Services (Less Personal Income)
Produced and Purchased Within Study Area as Result of
Economic Activity at MBS During 2005



As with other data points, these results represent economic output within only the Study Area comprised of Saginaw, Midland, and Bay counties. Total regional and national figures for economic output resulting from MBS-related activities are substantially higher.

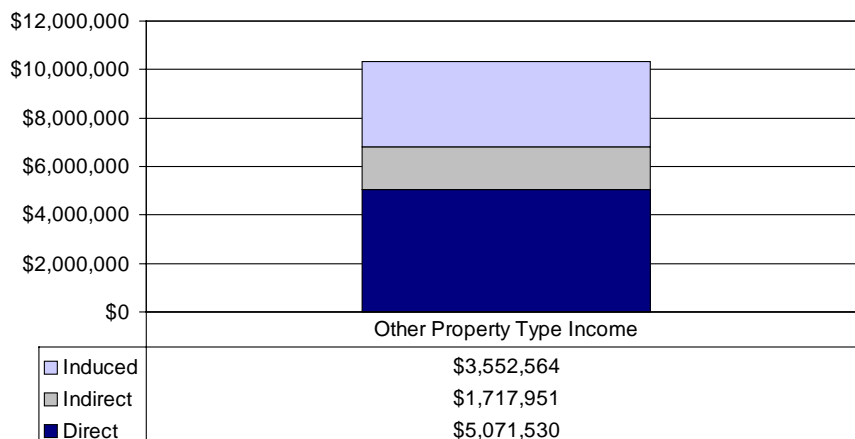
Other Property Type Income

“Other Property Type Income” consists of payments to individuals in the form of rents received on property and equipment, royalties from contracts and franchise agreements (i.e., intellectual properties, such as brands), and dividends paid by corporations. In the case of MBS, this includes payments to the airport by tenants, such as airline leaseholds, ground leases, etc.

In total, it is estimated that MBS International Airport generated approximately \$10.3 million of such income during 2005. Of this amount, approximately 50% was directly related to airport activities, while the balance was indirect or induced.

Other Property Type Income

Rents, Royalties and Dividends Paid Within Study Area as Result of Economic Activity at MBS During 2005



Tax Revenues

The tax revenues generated due to the activity at and resulting from MBS International Airport totaled approximately \$7.4 million during 2005. Of this amount, \$4.1 million was remitted to the federal government, with the balance to state and local governments.

Taxes can generally be divided into the following four categories, as calculated by IMPLAN I/O model:

- **Employee Compensation** – Describes the total payroll taxes (including taxes on benefits) for all industries in the study area impacted by MBS.
- **Proprietary Income** – Includes tax payments by self-employed individuals.
- **Household Expenditures** – Includes taxes and fees paid by households on general living expenditures, and using personal income generated as a result of activities at MBS (either directly, indirectly, or induced).
- **Enterprise Taxes** – Includes income taxes (federal and state) paid by businesses.

- **Indirect Business Taxes** – Consist primarily of excise and sales taxes paid by individuals to businesses. These taxes occur during the conduct of business, and do not include business income taxes.

The tax revenues generated in each of these categories during 2005 and as a result of activities at MBS International Airport are summarized on the following table.

Tax Revenues Attributable to Activities At and Resulting From MBS International Airport						
	Employee Compensation	Proprietary Income	Household Expenditures	Enterprises (Corporation)	Indirect Business Taxes	Total
Federal Government Tax Revenues						
Corporate Profits Tax				\$ 603,923		\$ 603,923
Indirect Bus Tax: Custom Duty					\$ 15,734	\$ 15,734
Indirect Bus Tax: Excise Taxes					\$ 50,215	\$ 50,215
Indirect Bus Tax: Fed NonTaxes					\$ 17,057	\$ 17,057
Personal Tax: Income Tax			\$ 921,370			\$ 921,370
Social Ins Tax- Employee Contribution	\$ 1,180,677	\$ 102,398				\$ 1,283,075
Social Ins Tax- Employer Contribution	\$ 1,220,621					\$ 1,220,621
Total Federal Government Tax Revenues	\$ 2,401,298	\$ 102,398	\$ 921,370	\$ 603,923	\$ 83,006	\$ 4,111,994
State/Local Govt Non-Education Tax Revenues						
Corporate Profits Tax				\$ 221,882		\$ 221,882
Dividends				\$ 197,551		\$ 197,551
Indirect Bus Tax: Motor Vehicle Lic					\$ 10,144	\$ 10,144
Indirect Bus Tax: Other Taxes					\$ 32,277	\$ 32,277
Indirect Bus Tax: Property Tax					\$ 1,702,938	\$ 1,702,938
Indirect Bus Tax: Sales Tax					\$ 379,675	\$ 379,675
Indirect Bus Tax: Severance Tax					\$ 1,408	\$ 1,408
Personal Tax: Income Tax			\$ 490,787			\$ 490,787
Personal Tax: Motor Vehicle License			\$ 46,056			\$ 46,056
Personal Tax: NonTaxes (Fines- Fees)			\$ 44,673			\$ 44,673
Personal Tax: Other Tax (Fish/Hunt)			\$ 10,123			\$ 10,123
Personal Tax: Property Taxes			\$ 80,515			\$ 80,515
Social Ins Tax- Employee Contribution	\$ 9,768					\$ 9,768
Social Ins Tax- Employer Contribution	\$ 31,688					\$ 31,688
Total State/Local Govt Non-Education Tax Revenues	\$ 41,457	\$ -	\$ 672,155	\$ 419,433	\$ 2,126,442	\$ 3,259,486
Total Tax Generation	\$ 2,442,754	\$ 102,398	\$ 1,593,524	\$ 1,023,356	\$ 2,209,448	\$ 7,371,480

Except as noted on the table, the estimates of tax revenue generation produced by the IMPLAN I/O model do not differentiate between direct, indirect, and induced.

Summary of Impacts by Specific Industry

The tables on the following pages summarize the economic output, jobs, and personal income attributable to the MBS International Airport in specific industries within the study area.

The tables reflect the total economic impacts (e.g., inclusive of direct, indirect and induced impacts) and provide a clear illustration of the inter-dependencies (i.e., economic relationships) between the activities at MBS International Airport and rest of the economy within the study area.

Summary of Employment, Personal Income and Economic Impact Attributable to MBS			
Industrial Sector	Employment	Personal Income	Economic Output
Grain farming	0.5	\$ 532	\$ 20,946
Vegetable and melon farming	0.3	\$ 6,301	\$ 38,231
Greenhouse and nursery production	0.4	\$ 14,806	\$ 43,985
Cattle ranching and farming	0.1	\$ 597	\$ 12,040
Oil and gas extraction	0.1	\$ 3,707	\$ 23,031
Power generation and supply	2.0	\$ 165,264	\$ 798,966
Manufacturing and industrial buildings	1.4	\$ 60,719	\$ 137,368
Commercial and institutional buildings	1.1	\$ 46,860	\$ 91,499
Highway- street- bridge- and tunnel construction	0.8	\$ 35,241	\$ 77,766
Water- sewer- and pipeline construction	0.3	\$ 11,974	\$ 22,370
Other new construction	0.4	\$ 18,751	\$ 46,827
Maintenance and repair of farm and nonfarm residences	0.4	\$ 15,755	\$ 62,348
Maintenance and repair of nonresidential buildings	2.1	\$ 90,879	\$ 205,365
Maintenance and repair of highways- streets- bridges	0.3	\$ 11,565	\$ 28,686
Other maintenance and repair construction	2.2	\$ 100,397	\$ 166,529
Fruit and vegetable canning and drying	0.1	\$ 4,765	\$ 40,322
Fluid milk manufacturing	0.0	\$ 649	\$ 6,479
Animal- except poultry- slaughtering	0.0	\$ 1,330	\$ 12,414
Bread and bakery product- except frozen- manufacturing	0.7	\$ 30,943	\$ 94,905
Soft drink and ice manufacturing	0.1	\$ 12,684	\$ 77,732
Sawmills	0.1	\$ 2,485	\$ 14,877
Other millwork- including flooring	0.1	\$ 3,622	\$ 12,184
Wood container and pallet manufacturing	0.1	\$ 2,931	\$ 8,990
Paperboard container manufacturing	0.2	\$ 16,458	\$ 62,759
Manifold business forms printing	0.4	\$ 16,627	\$ 46,532
Books printing	0.1	\$ 3,382	\$ 8,998
Commercial printing	2.6	\$ 111,827	\$ 183,817
Prepress services	0.1	\$ 2,978	\$ 5,514
Other basic organic chemical manufacturing	0.1	\$ 5,234	\$ 50,816
Plastics material and resin manufacturing	0.1	\$ 10,321	\$ 83,418
Other miscellaneous chemical product manufacturing	0.1	\$ 8,622	\$ 40,363
Plastics packaging materials- film and sheet	0.1	\$ 6,435	\$ 27,988
Plastics plumbing fixtures and all other plastics	0.5	\$ 27,362	\$ 99,489
Foam product manufacturing	0.1	\$ 3,855	\$ 19,948
Other rubber product manufacturing	0.1	\$ 3,929	\$ 14,489
Glass and glass products- except glass containers	0.1	\$ 3,223	\$ 11,538
Ready-mix concrete manufacturing	0.1	\$ 7,290	\$ 31,420
Ferrous metal foundries	0.1	\$ 7,117	\$ 15,425
Fabricated structural metal manufacturing	0.1	\$ 4,993	\$ 18,389
Sheet metal work manufacturing	0.2	\$ 6,143	\$ 21,938
Machine shops	1.2	\$ 54,514	\$ 126,341
Miscellaneous fabricated metal product manufacturing	0.1	\$ 5,959	\$ 18,312
Automatic environmental control manufacturing	0.1	\$ 4,687	\$ 28,050
Motor vehicle parts manufacturing	1.2	\$ 173,107	\$ 448,053
Wood kitchen cabinet and countertop manufacturing	0.1	\$ 3,499	\$ 9,865
Showcases- partitions- shelving- and lockers	0.1	\$ 1,638	\$ 5,914
Surgical and medical instrument manufacturing	0.2	\$ 7,863	\$ 26,301
Dental laboratories	0.1	\$ 4,209	\$ 5,842
Sign manufacturing	0.1	\$ 4,052	\$ 8,548
Gasket- packing- and sealing device manufacturing	0.0	\$ 574	\$ 1,317
Buttons- pins- and all other miscellaneous manufac	0.0	\$ 1,288	\$ 3,214
Wholesale trade	8.2	\$ 393,898	\$ 923,507
Air transportation	105.9	\$ 3,465,884	\$ 15,420,858
Rail transportation	0.1	\$ 15,160	\$ 41,493

Summary of Employment, Personal Income and Economic Impact Attributable to MBS			
Industrial Sector	Employment	Personal Income	Economic Output
Truck transportation	2.4	\$ 97,527	\$ 258,073
Transit and ground passenger transportation	11.7	\$ 230,985	\$ 542,783
Scenic and sightseeing transportation and support	15.3	\$ 667,670	\$ 942,104
Postal service	3.1	\$ 213,791	\$ 285,590
Couriers and messengers	4.1	\$ 116,472	\$ 245,201
Warehousing and storage	6.0	\$ 288,257	\$ 563,055
Motor vehicle and parts dealers	5.2	\$ 209,086	\$ 410,513
Furniture and home furnishings stores	1.8	\$ 49,035	\$ 109,930
Electronics and appliance stores	1.4	\$ 41,991	\$ 75,630
Building material and garden supply stores	3.1	\$ 96,850	\$ 208,885
Food and beverage stores	6.7	\$ 130,480	\$ 303,706
Health and personal care stores	2.5	\$ 78,219	\$ 173,855
Gasoline stations	2.1	\$ 43,299	\$ 89,946
Clothing and clothing accessories stores	4.1	\$ 74,298	\$ 181,281
Sporting goods- hobby- book and music stores	2.4	\$ 37,334	\$ 65,333
General merchandise stores	7.6	\$ 156,780	\$ 308,083
Miscellaneous store retailers	7.9	\$ 138,101	\$ 266,435
Nonstore retailers	2.5	\$ 24,669	\$ 84,630
Newspaper publishers	2.0	\$ 70,945	\$ 186,211
Motion picture and video industries	0.8	\$ 8,877	\$ 80,740
Radio and television broadcasting	0.7	\$ 38,287	\$ 115,625
Telecommunications	4.4	\$ 242,497	\$ 1,114,567
Information services	0.1	\$ 3,447	\$ 16,998
Data processing services	0.7	\$ 23,681	\$ 90,205
Nondepository credit intermediation and related a	0.6	\$ 38,376	\$ 88,205
Securities- commodity contracts- investments	1.8	\$ 90,042	\$ 165,186
Insurance carriers	3.3	\$ 165,582	\$ 583,420
Insurance agencies- brokerages- and related	3.4	\$ 140,578	\$ 323,174
Funds- trusts- and other financial vehicles	0.1	\$ 6,521	\$ 37,473
Monetary authorities and depository credit interme	5.9	\$ 257,795	\$ 1,062,585
Real estate	8.1	\$ 279,236	\$ 1,803,388
Automotive equipment rental and leasing	26.9	\$ 1,005,768	\$ 4,083,837
Video tape and disc rental	0.6	\$ 7,155	\$ 30,994
Machinery and equipment rental and leasing	0.3	\$ 17,054	\$ 27,136
General and consumer goods rental except video tap	1.8	\$ 52,347	\$ 129,063
Lessors of nonfinancial intangible assets	0.0	\$ 358	\$ 4,965
Legal services	3.1	\$ 153,895	\$ 295,868
Accounting and bookkeeping services	3.4	\$ 132,974	\$ 255,860
Architectural and engineering services	3.7	\$ 267,145	\$ 428,631
Specialized design services	0.4	\$ 22,871	\$ 55,081
Custom computer programming services	0.6	\$ 70,998	\$ 78,986
Computer systems design services	1.8	\$ 141,151	\$ 157,016
Other computer related services- including facilit	0.4	\$ 19,289	\$ 55,560
Management consulting services	1.6	\$ 80,476	\$ 166,346
Environmental and other technical consulting servi	0.2	\$ 10,188	\$ 27,506
Scientific research and development services	0.2	\$ 14,612	\$ 22,988
Advertising and related services	0.7	\$ 32,205	\$ 74,559
Photographic services	0.3	\$ 8,056	\$ 20,494
Veterinary services	0.4	\$ 11,188	\$ 25,267
All other miscellaneous professional and technical	0.2	\$ 5,953	\$ 73,510
Management of companies and enterprises	3.1	\$ 301,713	\$ 608,158
Office administrative services	3.7	\$ 123,326	\$ 505,821
Facilities support services	2.2	\$ 5,847	\$ 86,669
Employment services	15.8	\$ 375,858	\$ 406,402

Summary of Employment, Personal Income and Economic Impact Attributable to MBS

Industrial Sector	Employment	Personal Income	Economic Output
Business support services	24.5	\$ 464,387	\$ 1,063,896
Travel arrangement and reservation services	26.4	\$ 632,212	\$ 2,606,398
Investigation and security services	2.5	\$ 34,844	\$ 62,618
Services to buildings and dwellings	28.8	\$ 412,919	\$ 1,204,868
Waste management and remediation services	1.5	\$ 39,013	\$ 168,353
Elementary and secondary schools	2.4	\$ 48,673	\$ 68,666
Colleges- universities- and junior colleges	1.7	\$ 42,791	\$ 84,565
Other educational services	1.5	\$ 28,463	\$ 76,177
Home health care services	2.1	\$ 49,860	\$ 80,776
Offices of physicians- dentists- and other health	9.9	\$ 585,339	\$ 915,076
Other ambulatory health care services	1.7	\$ 104,826	\$ 248,233
Hospitals	10.1	\$ 455,482	\$ 958,875
Nursing and residential care facilities	6.8	\$ 161,304	\$ 269,474
Child day care services	2.8	\$ 18,886	\$ 62,797
Social assistance- except child day care services	5.7	\$ 85,711	\$ 158,250
Promoters of performing arts and sports and agents	0.6	\$ 11,631	\$ 36,000
Museums- historical sites- zoos- and parks	0.2	\$ 5,348	\$ 14,813
Fitness and recreational sports centers	0.7	\$ 12,174	\$ 25,009
Bowling centers	0.2	\$ 2,383	\$ 7,305
Other amusement- gambling- and recreation industries	2.2	\$ 36,731	\$ 108,304
Hotels and motels - including casino hotels	6.0	\$ 118,749	\$ 294,669
Food services and drinking places	58.3	\$ 746,759	\$ 2,418,588
Car washes	0.7	\$ 9,106	\$ 28,078
Automotive repair and maintenance- except car wash	5.7	\$ 156,020	\$ 416,510
Electronic equipment repair and maintenance	0.7	\$ 19,810	\$ 71,596
Commercial machinery repair and maintenance	0.8	\$ 31,434	\$ 88,688
Household goods repair and maintenance	0.6	\$ 10,857	\$ 75,606
Personal care services	2.0	\$ 30,526	\$ 81,135
Death care services	0.5	\$ 13,555	\$ 27,611
Drycleaning and laundry services	1.1	\$ 18,877	\$ 38,241
Other personal services	0.4	\$ 5,647	\$ 37,070
Religious organizations	5.0	\$ 104,708	\$ 131,900
Grantmaking and giving and social advocacy organiz	0.6	\$ 14,579	\$ 48,055
Civic- social- professional and similar organizati	2.7	\$ 60,225	\$ 155,160
Private households	4.4	\$ 31,729	\$ 28,850
Other Federal Government enterprises	31.3	\$ 2,092,651	\$ 5,521,121
State and local government passenger transit	0.8	\$ 36,269	\$ 34,032
State and local government electric utilities	0.6	\$ 48,752	\$ 279,183
Other State and local government enterprises	14.9	\$ 748,900	\$ 2,770,465
State & Local Education	23.7	\$ 1,013,097	\$ 1,118,005
State & Local Non-Education	13.1	\$ 542,227	\$ 653,735
Federal Military	2.3	\$ 84,697	\$ 86,952
Federal Non-Military	34.4	\$ 2,475,463	\$ 2,556,653
Sub-Total	671.4	\$ 23,593,638	\$ 63,440,201
Other Agricultural and Manufacturing Industries	3.0	\$ 115,633	\$ 482,315
Other Private Sector Service Industries and Government	1.6	\$ 80,429	\$ 210,147
TOTALS	675.9	\$ 23,789,699.7	\$ 64,132,662.3

Payroll dollars generated at MBS multiply throughout the study area, creating jobs and revenues in businesses far removed from the airport and having little or nothing to do directly with aviation.

V. Qualitative Impacts of MBS

To this point, we have provided quantitative measures of the economic impact and benefits of MBS International Airport on the study area. It is also important, however, to measure the qualitative impact that the airport is perceived as having on Midland, Bay and Saginaw counties.

To achieve this, focus was placed on three primary measures:

- Perceptions of the importance of MBS to tenants;
- Transportation cost savings realized by air service provided; and
- Receipts generated through Passenger Facility Charges (PFC) for future improvements at MBS International Airport.

Each of these measures is discussed below.

Perceptions of MBS by Tenants

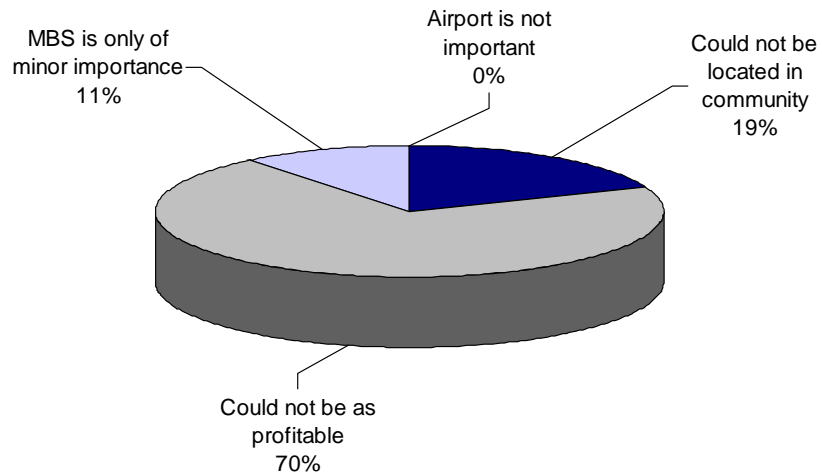
The Boyd Group asked survey respondents to rate the relative importance of the airport to the overall success and profitability of their business.

Survey respondents overwhelmingly perceive MBS as an important factor in the ability of their business to locate and thrive in the region.

- The vast majority – 89% - stated that they could not be located in the community or would not be as profitable in the absence of MBS International Airport;
- A very small 11% stated that the airport played only a minor role in the success of their business or activity (these represented non-aviation and government entities); and
- No respondent said that the airport was unimportant to the success of their business.

Perceived Importance of MBS International Airport

Among Survey Respondents



Perceived Limitations

Respondents were also asked to provide assessments of infrastructure or operational constraints that prevent them from realizing maximum benefits from MBS International Airport.

Among the feedback provided by survey respondents are paraphrased below:

- *"Second security screening lane would reduce passenger wait times resulting in a better customer experience, as would relocation of baggage screening behind ticket counters";*
- *"Need an ILS approach to runway 32";*
- *"Limited lot availability for construction of new hangars";*
- *"Option of co-locating fuel farms at hangars";*
- *"Increased incentives for passenger to use MBS, thus generating more volume for airport businesses";*
- *"Improved road access (four-lanes) from US 10 to improve convenience";*
- *"Additional jetways";* and

- *“Limited scheduled air service and pricing issues result in traffic leakage to Flint Bishop International Airport.”*

Understandably, not all of the above noted limitations can be addressed. Even those that can be addressed may have a questionable cost-to-economic benefit ratio, particularly those that would benefit only one tenant.

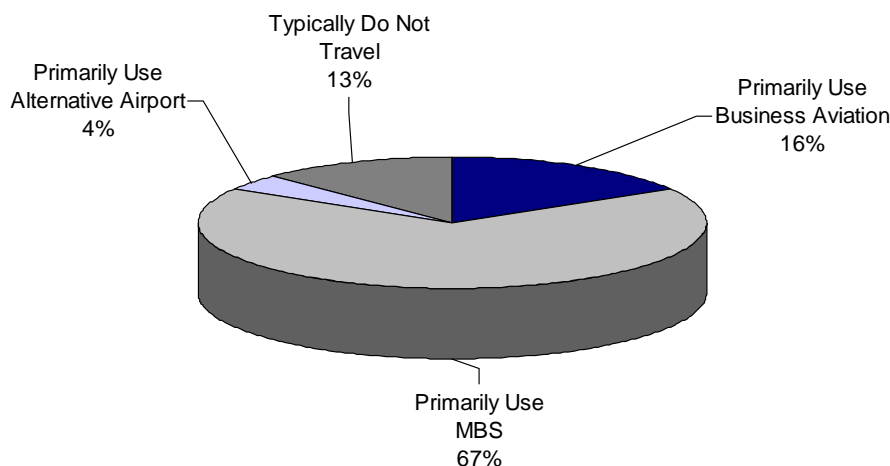
Use of MBS by Tenants

Of the limitations/challenges raised by respondents, availability and pricing of scheduled air service was the only issue cited more than once. Given the growth of low-fare service at FNT, which has been driven mainly by population and business migration up the I-75 corridor into Oakland and Genesee counties in recent years, this was not entirely unexpected.

To further this point, respondents were asked how their firm addressed their business travel needs.

Use of MBS International Airport for Business-Related Air Travel

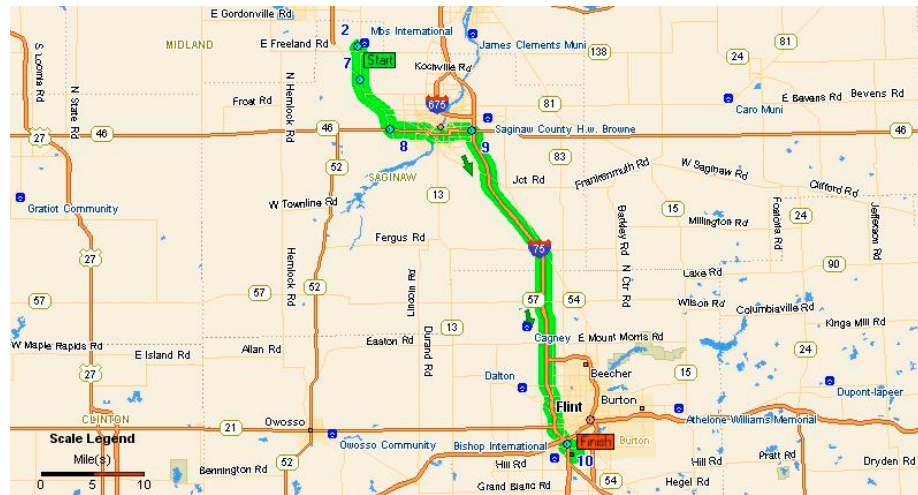
Among Survey Respondents



Of those enterprises that have business travel - 87% of respondents – the majority do use MBS International Airport as their primary airport, either in the form of business aviation or as commercial airline customers. For those that do typically use an alternative airport, Flint was the only one cited.

Transportation Cost Savings

As part of this analysis, The Boyd Group sought to quantify the transportation cost savings that MBS International Airport represents to the region by estimating the value of time and cost of transportation to the nearest airport with scheduled airline service – again, Flint Bishop International Airport.



The distance to FNT is approximately 53 miles and travel time is approximately 1 hour and 9 minutes.⁴ To be sure, this is not an onerous journey, which is one of the reasons that MBS has suffered traffic leakage due to the population-supported growth in air service at Flint.⁵

Value of Time

To calculate the value of time, the following methodology was employed:

1. The reported 2005 annual enplanements of 201,322 at MBS International Airport were multiplied by two (assumes that enplanements and deplanements are roughly equal);

⁴ The distance between MBS and FNT was calculated using BusinessMapPro software. While we understand that does not represent the exact travel distance for every passenger, it does provide a reasonable basis for estimation.

⁵ Bishop International has been the beneficiary of strong population and business growth in both Oakland and Genesee counties, which has allowed the airport to support very strong increases in airline service.

2. This figure was then multiplied by a factor of .607 to calculate that portion of the traffic at MBS that originates locally and therefore is assumed to represent local users of the airport.⁶
3. The number of locally generated trips was then multiplied by the estimated roundtrip travel time to FNT, to generate an average of 281,066 travel hours per year.
4. The average per capita income level in the study area of \$22,867 was divided by an assumed 2,080 annual work hours per person (40 hours per week times 52 weeks), to generate an average hourly income of \$10.99.

The travel hours were then multiplied by the average hourly income rate to generate an estimated annual value of time calculation of approximately \$3.1 million.

Cost of Travel

To estimate the cost of travel, the following methodology was employed:

1. The same estimates for the locally generated component of O&D traffic at MBS were utilized;
2. This number was divided by an assumed average of 2.8 occupants per car to provide for families and business associates traveling together;⁷
3. The resultant number of auto trips was multiplied by the roundtrip distance to generate a total number of vehicle miles; and
4. The vehicle miles were then multiplied by \$.445 per mile (maximum allowable by U.S. Internal Revenue Service).

This calculation yields an estimated annual cost of travel savings to users of MBS International Airport of approximately \$4.1 million.

⁶ Trip origination data is obtained from [Airports:USA DATAMINER](#), a software program developed by The Boyd Group to filter and analyze O&D traffic data obtained in "raw" from the U.S. Department of Transportation 10% ticket sample.

⁷ We would note that this probably generates a conservative number given it exceeds the average persons per household in the study area.

In total, the combined value of time and cost of travel benefits to local users of MBS International Airport exceeds \$7 million annually.

MBS International Airport Transportation Cost Savings Calculation	
Traffic Data	
2005 MBS Enplanements	201,322
O&D Traffic = Enplanements x2	402,644
% of MBS Traffic Local Base	60.7%
Local Component of MBS O&D Traffic	244,405
Value of Time	
Average per Capita Income in Study Area	\$ 22,867
Divided by 2,080 = Average per Capita Hourly Income	\$ 10.99
Travel time = 1 Hour 9 mins each way	1.15
Total Travel Time = Time x MBS O&D	281,066
Value of Time = Total Travel Time x Average Per Capita Hourly Income	\$ 3,089,945
Cost of Travel	
Vehicle Trips = Local O&D component/2.8 occupants per vehicle	87,287
Vehicle Miles = Mileage (106 roundtrip to FNT) x Vehicle Trips	9,252,472
Cost of Travel = Vehicle Miles x \$.445 per mile	\$ 4,117,350
Total Transportation Cost Savings = Value of Time + Cost of Travel	\$ 7,207,295

It is important to note that while the above calculations provide an estimation of the transportation cost savings that realized by users of MBS, it in no way provides an estimate of the cost penalty incurred by those that opt to use an alternative airport.

Transportation Tax & PFC Collections

As part of our analysis and at the request of MBS staff, The Boyd Group sought to estimate the contribution of scheduled passenger service at MBS to the Aviation Trust Fund, as well as specific earmarks.

Enplanement Data

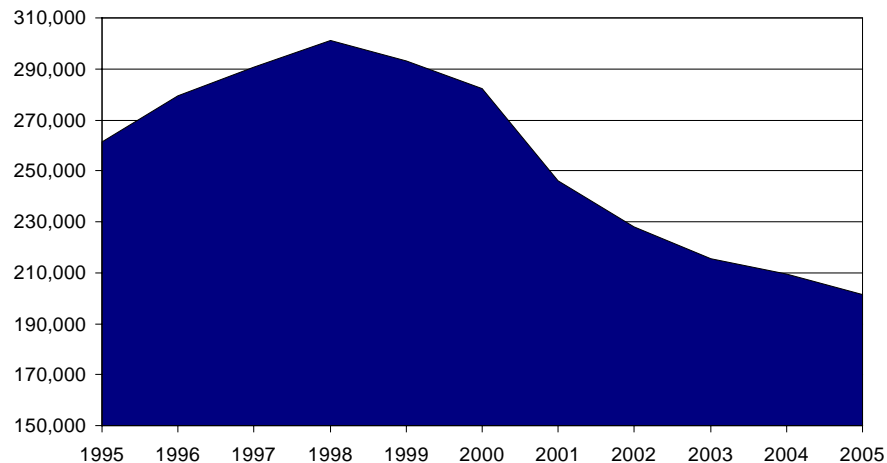
As each tax, segment charge, or other user fee is based on a per passenger and/or per fare basis, the basis for all of these calculations is enplanement data for MBS.

Since 1995, over 2.8 million passengers have enplaned at MBS International Airport.⁸

⁸ SOURCE: MBS International Airport Commission

MBS Enplanement Trend

1995-2005



SOURCE: MBS International Airport Commission

The high mark occurred in 1998, with over 300,000 enplanements in one year. Enplanements in recent years have been impacted by the attacks of September 11th, as well as development of low-fare airline service at FNT.

In total, MBS departing passengers have paid approximately \$54.5 million in taxes, user fees, and passenger facility charges since 1995.

Summary of Taxes and Fees Paid by MBS Enplaning Passengers: 1995-2005							
Year	Passenger Enplanements	Average Fare	Estimated Gross Revenues	PFC Collections	Federal Excise Tax	Segment Fees	Sept. 11th Security Fee
1995	261,441	\$ 196.51	\$ 51,375,771	\$ -	\$ 5,137,577	\$ -	\$ -
1996	279,392	\$ 193.94	\$ 54,185,284	\$ -	\$ 1,806,176	\$ -	\$ -
1997	290,773	\$ 192.67	\$ 56,023,234	\$ 799,626	\$ 4,995,405	\$ 72,693	\$ -
1998	301,235	\$ 183.10	\$ 55,156,129	\$ 903,705	\$ 4,826,161	\$ 376,544	\$ -
1999	293,012	\$ 185.94	\$ 54,482,651	\$ 879,036	\$ 4,290,509	\$ 604,337	\$ -
2000	282,217	\$ 201.25	\$ 56,796,171	\$ 846,651	\$ 4,259,713	\$ 705,543	\$ -
2001	246,026	\$ 198.56	\$ 48,850,923	\$ 738,078	\$ 3,663,819	\$ 676,572	\$ -
2002	228,119	\$ 183.49	\$ 41,857,555	\$ 684,357	\$ 3,139,317	\$ 684,357	\$ 522,773
2003	215,398	\$ 176.48	\$ 38,013,439	\$ 646,194	\$ 2,851,008	\$ 646,194	\$ 358,997
2004	209,354	\$ 184.33	\$ 38,590,223	\$ 628,062	\$ 2,894,267	\$ 648,997	\$ 523,385
2005	201,322	\$ 193.72	\$ 39,000,098	\$ 603,966	\$ 2,925,007	\$ 644,230	\$ 503,305
TOTAL	2,808,289			\$ 6,729,675	\$ 40,788,959	\$ 5,059,467	\$ 1,908,459

Most of the user fees listed on the table are assessed on "per segment" basis. The data presented above includes only MBS departing segments. It does not include the assessments for connecting flights. As such, while the figure provides a conservative projection of the revenues attributable to MBS International Airport, it does not provide a total representation of the fees incurred by MBS users. Each of the taxes and fees is briefly described below.

Domestic Transportation Excise Tax and Segment Fees

U.S. value domestic ticket tax (currently 7.5% of base fare plus \$3.30 per segment) is used to fund FAA operations and the Airport Improvement Program.⁹

Passenger Facility Charges

The Passenger Facility Charge (PFC) Program authorizes the collection of PFC fees up to a maximum of \$4.50 for every enplaned passenger at commercial airports controlled by public agencies. These monies are used by the airports to fund FAA-approved projects that enhance safety, security, or capacity; reduce noise; or increase air carrier competition.

Since February 1997, MBS International Airport has assessed a \$3.00 PFC. The airport is authorized to collect a maximum of \$8.925 million through March 2010.

September 11th Security Fees

The Transportation Security Administration (TSA) has mandated that airlines add a security fee to all tickets sold on or after February 1, 2002.¹⁰ This government-imposed fee, called the "September 11th Security Fee," is used to pay the government's cost for providing Federal civil aviation security services. This includes training and salaries for security screeners, law enforcement personnel, and Federal Air Marshals.

The September 11th Security Fee applies to all airline tickets, including frequent flyer award travel, and is calculated at \$2.50 per flight number to a maximum of \$5 per one-way or \$10 per roundtrip.

Current Economic Impact - Sustainability

It is noted that the economic impact of MBS is in large part predicated on the levels of scheduled airline passenger traffic that flow through the MBS terminal.

⁹ The domestic ticket taxes are periodically reauthorized by Congress and, from time to time, have expired without congressional action. For example, ticket taxes were not in effect from January 1 to August 26, 1996, and January 1 to March 7, 1997. The calculated estimates of taxes paid by users of MBS provide for these expiration ("tax free") periods.

¹⁰ Fees were temporarily suspended from June 1 to September 30, 2003.

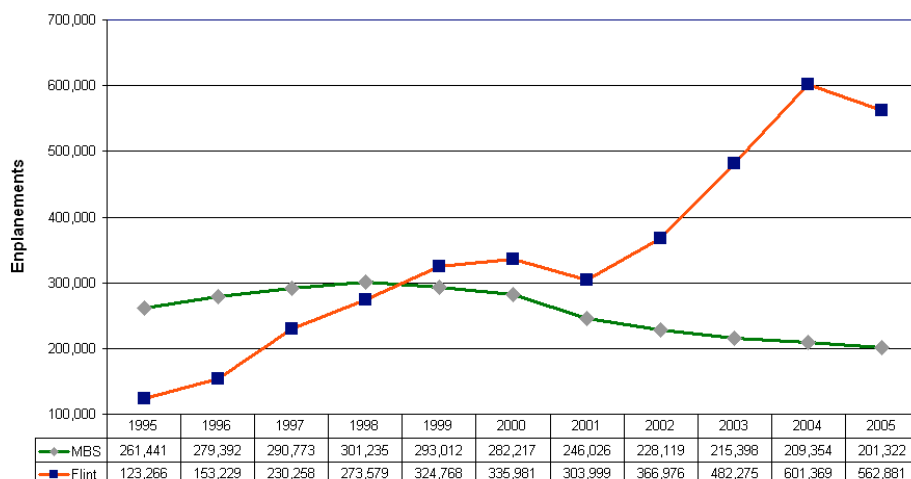
The levels of leakage to Flint have been of concern to the Airport over the past eight years. As Bishop International's population and business base grew, it supported – and has successfully attracted – substantial new levels of air service. In addition, Flint has been the beneficiary of intense competition between Northwest and AirTran, resulting in almost tit-for-tat increases in service, which in some cases have not proved to be sustainable.¹¹

The enormous in-migration to Oakland and Genesee counties that has supported Flint's strong traffic growth is now slowing. Improvements in highway access to Detroit/Metro has concurrently re-directed some Flint traffic back to DTW, particularly in areas south of Grand Blanc. Furthermore, the FNT traffic dynamic has a logical limit to the passenger levels it can generate, and that limit today appears to have been reached.

The traffic dynamics that created the massive growth at Flint – and the resulting leakage from MBS – have essentially run their course.

To be sure, leakage will continue, driven by the much higher levels of service that FNT can support. However, it will not likely continue to grow year after year.

Flint Air Service Levels Are Now Stabilized Leakage Rate To FNT Will Also Stabilize



Note that Flint in 2005 experienced a decline in enplanements, after several years of meteoric growth. Forecasts by The Boyd Group indicate that Bishop International will experience enplanement growth in the future that is at or slightly above the national average, with limited additions of substantial new service.¹²

¹¹ An example is the addition of Las Vegas service from Flint. As soon as AirTran announced nonstop flights, Northwest initially countered with flights of its own, with departure and arrival times exactly the same – to the minute – as those of AirTran. The result has been intense competition that offered very low fares to the consumer.

¹² Source: Airports:USA™ which is a forecast comprising 136 of the nation's largest airports, responsible for over 95% of all enplanements in the nation.

To be sure, there will continue to be substantial numbers of passengers who will drive south to access the higher levels of air service that FNT can support. However, the conclusion is that the rate of traffic leakage from the MBS service area to Bishop International has essentially plateaued.

Therefore, we forecast that the 2005 data are representative of a stabilized air traffic market at MBS. Currently, The Boyd Group foresees no substantial shifts in air service levels at FNT. In the case of Bishop International, recent moves by AirTran and by Northwest indicate that the competitive sparring that has in the past spiked FNT traffic has now moved to a new battleground at Detroit.¹³

This does not preclude the effects of enhanced air service at MBS, which is an on-going goal of the Airport. Nor should this be taken to indicate that passenger leakage to FNT will be substantially reduced in the near future. It does, however, point to a stabilization in the relationship of the two airports in terms of traffic shifts.

¹³ After years of trying to serve southeast Michigan from FNT, AirTran has now entered DTW, signaling an end to expansion of that carrier's flight levels at Bishop.

Appendix

Survey Data Collection Forms