

Forecasts of aviation activity are an essential part of the Michigan Airport System Plan (MASP) 2008. Planning for changes in aviation demand is a primary objective of the MASP 2008. The amount of activity generated by future users determines the demand for the airport facilities that make up the state system. The primary measure of general aviation demand is based general aviation. Based aircraft at each airport are used to forecast operations and facility utilization.

General aviation airports represent the majority of the facilities included in the MASP 2008. However, the unprecedented growth in commercial aviation has not been reflected in general aviation activity. Many facets of general aviation in the U.S. have declined steadily throughout the airline industry. Contributing factors of this decline were deregulation of the airline industry, loss of tax incentives for aircraft ownership, high interest rates and lack of new technology. In addition, laws and rulings which have increased the civil liability awards for domestic aircraft suits virtually brought general aviation construction to a halt, and to some extent, moved the manufacturing industry overseas. These, along with increased aviation fuel prices, have served to further adversely affect an already depressed industry. These factors have reduced the growth in general aviation activities in Michigan and the U.S. aviation industry in general.

Many of these same factors have helped to lower interest rates, spur the development of new technology, and produce a turnaround throughout the industry. The laws and rulings covering civil liability awards have almost ceased. These rulings, along with lowered aviation fuel prices, have helped spur the aviation industry and new aircraft manufacturing and sales. Aircraft manufacturers are using new technology that involves composite materials and Global Positioning System (GPS).

The MASP 2008 serves as an important component of the NPIAS. As such, it includes airport locations that are considered to be important to state air transportation objectives as well as those that are of sufficient national interest to be incorporated in the NPIAS. The MASP 2008 planning process also assists in identifying airports that meet national criteria, but might not be identified by the FAA alone. In addition, the airport development included in the MASP 2008 is limited to those items of development eligible not only for federal financial aid, but state aid as well. To be included in the NPIAS and become eligible for federal funding, an airport must first be included in the MASP 2008.

### **MASP 2008 Forecast Objectives**

The purpose of state airport system planning is to determine the location, service level, role criteria, and timing of airport development needed in the state to establish a viable, balanced integrated system of airports. The MASP 2008 is designed to identify those airports that will perform an essential role in the economic and social development of Michigan.

Airport system planning is a continuous process which identifies the level of federal, state and local capital investment required to maintain and develop system airports. It provides guidance for the expenditure of funds under the FAA AIP and the MDOT Airport Development Program. The planning process also supports the development of state aviation policies.

These forecasts will also assist in the capital improvement identification needs of the MASP 2008. Airports have been identified as a part of the planning process in order to provide a guide for programming federal and state funds for airport development.

The individual airport master plan objectives are to identify issues, goals and needs of the specific airport and to provide a guide for how to best meet future aviation demand. The airport master plan focuses on developing an attainable, detailed, phased development program that will satisfy the airport needs in a safe, economical, efficient and environmentally sound manner. The plan serves as a guide to decision makers, airport users and the public concerning realistic and achievable airport development in line with both the airport and community objectives. The airport master plan process provides a forum for discussing airport and local community objectives and establishing the linkages between community goals and those of the airport.

General aviation airports with roles of sea plane bases or heliports were not evaluated as part of this update of the MASP 2008. Scheduled airline service was not studied under the MASP 2008, but the operations and based aircraft at the air carrier sites were studied.

### **Forecast Usage in the MASP 2008**

Forecasts of aviation activity are important to the evaluation of future airport needs and facility requirements. These are used in different calculations throughout the individual airport master plans and designs. The facility requirements section of the MASP 2008 will utilize these forecasts to determine airport deficiencies and the priority of airport needs for Michigan's 235 public use airports.

### **Definitions**

The following are key definitions used in the MASP 2008 Forecasts:

**Total Operations:** An operation is defined as a take-off or a landing. If an aircraft departs from an airport, flies to another destination, and flies back to the originating airport, the airport is considered to have two operations: one takeoff when the airplane left the airport, and one landing when the aircraft returned.

**Local Operation:** A local operation is a take-off or a landing conducted by an aircraft which is usually based at the local airport. The smaller airports are more often used for local operations such as local training, recreation flights and crop dusting.

**Itinerant Operation:** The definition of an itinerant operation is a take-off or landing conducted by an aircraft that is not based at the local airport and is generally based at least 25 miles from the specific airport.

Total operations are important in that they measure the existing and potential activity of the airport. Factors which contribute to these figures include: location of the aircraft traffic counters, weather, economic activities at the airport and the economy of the area and/or the state of Michigan. Other seasonal factors at the airport could be changes in flight training activities, price of aviation fuel, pricing of hangars, and the location of the airport in relation to the home or business of the aircraft owner. Fluctuations may occur for a variety of reasons in any of the above factors.

The breakdown of local and itinerant operations are valued in the MASP 2008 because they differentiate between a business flight (an itinerant operation) and a training or a recreational flight (a local operation). Operations which are considered itinerant operations are important elements of the local economy. These aircraft are traveling to the local airport from different destinations by corporate flights carrying passengers and freight.

The operations which are considered itinerant operations are very important factors in the Michigan Aviation System. These aircraft are traveling to local airports from various cities in the U.S., Canada and Mexico.

The forecasts of activity for the MASP 2008 over the 25-year planning period, assuming the base year of 2005, are shown in Table 63. These forecasts of operations are shown in different categories which are depicted to evaluate airport facilities. Each of these different formats are shown because they represent a different element of data for the MASP 2008 forecasts and the necessary FAA design standards for the airport facilities.

**Based Aircraft:** An aircraft is considered to be based at an airport if it uses that airport as a permanent parking area.

The number of based aircraft is an important figure because it is used to determine airport facility requirements.

## **Changes in Technology**

One reason for optimism in the aviation industry is significant changes in technology have occurred in all elements of the aircraft fleet. These changes are presenting new opportunities for longer trip lengths (stage lengths), and for more fuel efficient, faster, and quieter aircraft engines.

Some of this new technology has been the use of composite materials and Microwave/GPS in aircraft manufacture. A microwave landing system is a new type of instrument landing system which, when fully installed, will allow landing procedures in conditions which are currently not possible. This system is not yet serviceable, and will be used as an approach system due to the advent of the GPS. The GPS uses satellites to determine exact locations, and with the addition of a ground net, can determine altitude. It is being considered as the precision instrument landing system of the future. It is less expensive to equip and maintain onboard the aircraft than on the ground facilities. The GPS would be installed in place of existing Instrument Landing System and microwave landing systems.

## **Growth in Regional and Classes of Airports**

Some general aviation airports, especially former U.S. Air Force Bases need upgrading. At these locations there is business and cargo aircraft operating with heavier and larger aircraft than at standard transport locations. These larger aircraft have requirements for all weather facilities, paved surfaces, runway and taxiway lighting, precision landing systems, and fuel sales.

Runways in excess of 5,000 feet can accommodate scheduled air carrier passenger service and can act as cargo hubs. Runway lengths of 4,500 to 6,000 feet would be utilized by business and cargo users. Airport complexity increases with use by jets and cargo aircraft, which demand extra engineering and planning to accommodate.



## **MDOT FORECAST METHODOLOGY**

Initial investigation has shown that Michigan will continue to experience modest growth in the general aviation industry. The Bureau of Transportation Planning has developed a forecast system which is felt to accurately model the future growth in Michigan's general aviation operations.

The Bureau of Transportation Planning models are based on linear regression methods using historical data collected from TMS and AIMS.

### **Developing the MDOT Forecast Models**

In order to forecast the based aircraft and the total operations at each airport, the Bureau of Transportation Planning and Bureau of Aeronautics & Freight Services concluded that separate models be developed for airports based on class and respective region. Separate models for based aircraft and total operations were developed using the categories previously mentioned.

#### **Step one: Model Development and Calibration**

The first step in establishing the regression models was to graph the based aircraft and total operations in each category versus their respective historical year.

#### **Step two: Group Forecasts**

After the trend, line equations were developed and calibrated for each forecasted category, values for the forecasted year were determined by inserting the forecast year into equation 1.

$$TF = M * (T_y) \pm B \text{ (Equation 1)}$$

TF = Total Based Aircraft/Ops in Forecasted Year ( $T_y$ )

M = Slope of Trend Line

$T_y$  = Forecast Year

B = Y - Intercept

An example of Step two, using equation 1 is shown below. The example problem determined the forecasted based aircraft in 2030 for the model developed and illustrated in figure 2.

Example: Determination of Total Based Aircraft Using Equation 1.

$$T_{2010} = 1.7818 * (2030) - 2840$$

$$T_{2010} = 777 \text{ (Based Aircraft in Year 2030)}$$

The output from the equation gives the "total" (based aircraft or operations) for the entire category in which the model forecasts. If, for example, the model were used for all C-II class airports within the Bay region, the equation would forecast a total of 777 based aircraft in the year 2030. The forecasted values, both based aircraft and total operations, for each year (2010, 2020, and 2030) were then used to determine a growth factor.

#### **Step three: Growth Factors**

The growth factors were determined based on the actual 2005 data. The individual

growth factors are obtained by dividing the respective growth at each airport by the 2005 data, as shown in equation 2.

$$G_F = \left[ \frac{B_f - B_{2005}}{B_{2005}} \right] \quad (\text{Equation 2})$$

$G_F$  = Growth Factor  
 $B_f$  = Forecasted Value  
 $B_{2005}$  = 2005 Value

This example illustrates the determination of a growth factor for the year 2030 at airports within a class and region that had a total of 720 based aircraft in 2005. From the previous step, it is determined there will be 777 based aircraft in the year 2030.

Example: Calculation of Growth Factors

$$G_F = 1 + \left[ \frac{777 - 720}{720} \right]$$

$G_F = 1.0792$

#### Step four: Individual Airport Forecasts

After the growth factors for each category of airport were developed, the growth factors were multiplied to each airport's respective 2005 value to determine the forecast year projection for each individual airport. If the growth factor is below 1.0000, it is projected that the based aircraft or total operations is expected to decline from the 2005 value. A growth factor which is higher than 1.000 would lead to the assumption that the airport is forecasted to grow in either based aircraft or total operations.

$$P_F = P_{2005} * G_F \quad (\text{Equation 3})$$

$P_F$  = Forecasted Based Aircraft/Total Ops At an Airport  
 $P_{2005}$  = 2005 Historical Data (Based Aircraft or Operations)  
 $G_F$  = Growth Factor (Determined in Previous Step)

The example below shows the projected aircraft in 2030 for an example airport which had 75 based aircraft in 2005. The airport has a projected growth factor of 1.0792 (determined in previous step).

Example: Individual Airport Forecast

$$P_F = 75 * 1.0792$$

$$P_F = 81 \text{ (Forecasted Based Aircraft in 2030)}$$

#### Step five: Local - Itinerant Split

The previous steps have shown the procedure to calculate the based aircraft and total operations at an individual airport for a given forecast year. The following procedures discuss and illustrate the procedure for calculating the local and itinerant operations split at each airport.

The growth in operations within the forecasted period is expected to occur in itinerant operations while local operations growth projections are expected to decrease. More growth is anticipated within business (itinerant) operations

than local. In order to take these presumptions into account, factors were developed which allocated the total growth at an airport into the respective local/itinerant operational split. Smaller airports (A-I, B-I, and D-II) are expected to have 50 percent of the total growth in local operations while larger airports (C-II, C-III, C-VI, D-III, D-IV, and D-V) are expected to experience much higher itinerant operations growth. The table below shows the percentage of total growth which was allocated to local and itinerant operations.

**Table 53**

Local/Itinerant Split Factors		
Class	Percent Local	Percent Itinerant
A-I	50%	50%
B-I	50%	50%
B-II	30%	70%
C-II	20%	80%
C-III	10%	90%
C-VI	0%	100%
D-II	50%	50%
D-III	0%	100%
D-IV	40%	60%
D-V	0%	100%

Source: MDOT Intermodal Policy Division

The total growth forecasted at each airport was split between local and itinerant operations by the percentages shown above. The two values (local and itinerant growth) were then added to the respective 2005 local/itinerant split.

The equations below show the steps taken to find the local/itinerant operations split.

$$T_G = P_F - P_{2005} \quad \text{(Equation 4)}$$

$T_G$  = Total Growth From 2005  
 $P_F$  = Forecasted (Based Aircraft or Total Ops) at an Airport  
 $P_{2005}$  = 2005 Historical Data (Based Aircraft or Operations)

$$S_F = S_{2005} + (T_G * S\%) \quad \text{(Equation 5)}$$

$S_F$  = Local/ Itinerant Forecast Value  
 $S_{2005}$  = 2005 Local/Itinerant Value  
 $S\%$  = Percent of Total Growth Allocated to Local/Itinerant Operations

The following example is based on an airport with 5,000 total annual operations. In particular, the airport is a C-II airport and the forecasted total operations are 8,000 operations in a future year. Currently the airport is assumed to have 50 percent of the total operations being itinerant.

$$T_G = 8,000 + 5,000$$

$$T_G = 3,000$$

Local Operations: Future Year

$$S_L = 2,500 + (3,000 * .2)$$

$$S_L = 3,100$$

Itinerant Operations: Future Year

$$S_L = 2,500 + (3,000 * .8)$$

$$S_L = 4,900$$

### Based Aircraft

The following tables describe the based aircraft by the fleet size accommodated at various airports, the distribution of based aircraft by airport class and the historic based aircraft in Michigan. Additional tables depict the forecasted based aircraft by class of airport, MDOT region, and private and public ownership.

**Table 54**

Distribution of Airports by Based Aircraft Fleet, 2005		
Fleet Size	Number of Airports	% of Total Airports
100 or more	10	4.4%
50-99	24	10.5%
25-49	39	17.0%
10-24	43	18.8%
Less than to 10	113	49.3%
Total	229	100%

Source: MDOT Bureau of Aeronautics & Freight Services

**Table 55**

Distribution of Based Aircraft by Airport Class, 2005					
ARC	Number of Airports	Percent of Total Airports	Number of Based Aircraft	Percent of Total Based Aircraft	Average Number of Aircraft Per Airport
A-I	128	56.4%	1,167	20.4%	9
B-I	11	4.8%	460	8.0%	42
B-II	53	23.3%	1,769	31.0%	33
C-II	13	5.7%	631	11.0%	49
C-III	8	3.5%	453	7.9%	57
C-VI	1	.4%	29	.5%	29
D-II	2	.9%	123	2.2%	62
D-III	2	.9%	507	8.9%	254
D-IV	6	2.6%	498	8.7%	83
D-V	3	1.3%	77	1.3%	26
Total	227		5,714		

Source: MDOT Bureau of Aeronautics & Freight Services

For planning purposes, MDOT divides Michigan into seven geographic regions: Superior, North, Grand, Bay, Southwest, University and Metro. Table 56 describes the 20-year growth of based aircraft by class of airport and by Michigan's seven regions.

**Table 56**

Forecasted Based Aircraft				
By Class of Airport				
	2005	2010	2020	2030
A-I	1,167	1,249	1,272	1,295
B-I	460	520	511	497
B-II	1,769	2,070	2,140	2,229
C-II	631	606	472	347
C-III	453	507	498	489
C-VI	29	31	31	31
D-II	123	193	156	244
D-III	507	735	679	624
D-IV	498	608	478	349
D-V	77	80	113	146
By Michigan Region				
	2005	2010	2020	2030
Bay	769	897	857	890
Grand	706	804	787	773
Metro	1,592	1,943	1,839	1,735
North	596	652	648	647
Southwest	694	814	771	790
Superior	247	276	285	296
University	1,110	1,213	1,164	1,119
Total	5,714	6,599	6,351	6,250

Source: MDOT Intermodal Policy Division

Table 57 shows the breakdown of private and public airport ownership in the state. The privately owned smaller airports are more often used for local operations such as local training, recreation flights and crop dusting. The larger privately owned airports in urban areas contribute to the distribution of operational activity and based aircraft.

**Table 57**

Airport Ownership			
Region	Private	Public	Military
Bay	17	19	
Grand	12	15	
Metro	11	10	
North	17	38	1
Southwest	7	14	
Superior	3	21	
University	39	11	
Total	106	128	1

Source: MDOT Bureau of Aeronautics & Freight Services

Table 58 shows the percent of based aircraft within the total fleet of aircraft first by airport class, then by Michigan region.

**Table 58**

Percent of Based Aircraft within Total Fleet Mix				
By Class of Airport				
	2005	2010	2020	2030
A-I	20.4%	18.9%	20.0%	20.7%
B-I	8.0%	7.9%	8.0%	8.0%
B-II	31.0%	31.4%	33.7%	35.7%
C-II	11.0%	9.2%	7.4%	5.6%
C-III	7.9%	7.7%	7.8%	7.8%
C-VI	.5%	.5%	.5%	.5%
D-II	2.2%	2.9%	2.5%	3.9%
D-III	8.9%	11.1%	10.7%	10.0%
D-IV	8.7%	9.2%	7.5%	5.6%
D-V	1.3%	1.2%	1.8%	2.3%
By Michigan Region				
	2005	2010	2020	2030
Bay	13.5%	13.6%	13.5%	14.2%
Grand	12.4%	12.2%	12.4%	12.4%
Metro	27.9%	29.4%	29.0%	27.8%
North	10.4%	9.9%	10.2%	10.4%
Southwest	12.1%	12.3%	12.1%	12.6%
Superior	4.3%	4.2%	4.5%	4.7%
University	19.4%	18.4%	18.3%	17.9%

Source: MDOT Intermodal Policy Division

Table 59 shows the forecasted growth in based aircraft in most classes, and a slight decline in a few classes.

**Table 59**

<b>Growth Rates for Based Aircraft by Class of Airport *</b>			
	2010	2020	2030
A-I	7.0%	9.0%	11.0%
B-I	13.0%	11.1%	8.0%
B-II	17.0%	21.0%	26.0%
C-II	-4.0%	-25.2%	-45.0%
C-III	11.9%	9.9%	7.9%
C-VI	6.9%	6.9%	6.9%
D-II	56.9%	26.8%	98.4%
D-III	45.0%	33.9%	23.1%
D-IV	22.1%	-4.0%	-29.9%
D-V	3.9%	46.8%	89.6%
*Base Year is 2005			

Source: MDOT Bureau of Aeronautics & Freight Services

Table 60 shows the forecasted growth in based aircraft by MDOT region. The large amount of short-term growth experienced through 2010 will be lessened by 2030.

**Table 60**

<b>Growth Rates for Based Aircraft by Class of Airport *</b>			
	2010	2020	2030
Bay	16.6%	11.4%	15.7%
Grand	13.9%	11.5%	9.5%
Metro	22.0%	15.5%	9.0%
North	9.4%	8.7%	8.6%
Southwest	17.3%	11.1%	13.8%
Superior	11.7%	15.4%	19.8%
University	9.3%	4.9%	0.8%
*Base Year is 2005			

Source: MDOT Intermodal Policy Division

Table 61 provides the forecast of based aircraft through the year 2030 and the percentage growth rates for the planning periods of 2010, 2020 and 2030.

**Table 61**

<b>Michigan Based Aircraft Forecast Summary</b>				
	2005	2010	2020	2030
Based Aircraft	5,714	6,599	6,351	6,250
Growth from 2005		15.5%	11.1%	9.4%

Source: MDOT Intermodal Policy Division

## Operations

The following tables describe the forecasted operational levels in Michigan. All projections and adjustment factors were calculated using the same processes as with the based aircraft forecasts.

**Table 62**

Distribution of Airports by Number of Total Operations, 2005		
Operations	Number of Airports	Percent of Total Airports
100,000 or more	6	2.6%
20,000-99,999	41	18.0%
10,000-19,999	28	12.3%
5,000-9,999	25	11.0%
Less than 5,000	128	56.1%
Total	228	100%

Source: MDOT Bureau of Aeronautics & Freight Services

**Table 63**

Michigan Operations Forecast Summary				
	2005	2010	2020	2030
Local Operations	1,341,649	1,035,249	1,028,579	1,057,672
Local Growth from 2005		-22.8%	-23.3%	-21.2%
Itinerant Operations	1,721,855	2,363,834	1,244,687	3,091,102
Itinerant Growth from 2005		37.3%	-27.7%	79.5%
Total Operations	3,063,504	3,372,613	3,273,266	3,252,405
Total Growth from 2005		10.1%	6.8%	6.2%

Source: MDOT Intermodal Policy Division

**Table 64**

Forecast of Based Aircraft						
City	Airport	2005	2010	2020	2030	
Adrian	Lenawee County	41	39	31	23	
Allegan	Padgham Field	33	39	40	42	
Alma	Gratiot Community	39	37	29	21	
Alpena	Silver City Airpark	4	4	4	4	
Alpena	Alpena County Regional	29	31	31	31	
Ann Arbor	Ann Arbor Municipal	148	173	179	186	
Atlanta	Atlanta Municipal	11	12	12	12	
Avoca	Tackaberry	1	1	1	1	
Avoca	Avoca	2	2	2	2	
Bad Axe	Engler Field	3	3	3	3	
Bad Axe	Huron County Memorial	19	18	14	10	
Baldwin	Baldwin Municipal	1	1	1	1	
Baraga	Baraga	1	1	1	1	

**Table 64** (continued)

City	Airport	2005	2010	2020	2030
Bath	University Airpark	8	9	9	9
Battle Creek	W. K. Kellogg	103	126	99	72
Bay City	James Clements & S.P.B	57	67	69	72
Beaver Island	Welke	9	10	10	10
Beaver Island	Beaver Island	2	2	2	3
Bellaire	Antrim County	22	26	27	28
Belleville	Larsen Airpark	12	13	13	13
Benton Harbor	Southwest Michigan Regional	50	48	37	28
Berrien Springs	Andrews University Airpark	31	33	34	34
Big Rapids	Roben - Hood	17	20	21	21
Blissfield	Betz	8	9	9	9
Boyne City	Boyne City Municipal	13	14	14	14
Boyne Falls	Boyne Mountain	1	1	1	1
Brighton	Brighton	96	103	105	107
Brooklyn	Shamrock Field	1	1	1	1
Cadillac	Wexford County	47	45	35	26
Carleton	Wickenheiser	3	3	3	3
Caro	Tuscola Area	48	56	58	60
Carson City	Mayes	6	6	7	7
Charlevoix	Charlevoix Municipal	17	20	21	21
Charlotte	Wend Valley	5	5	5	6
Charlotte	Fitch H. Beach Municipal	28	33	34	35
Cheboygan	Hoffman's Black Mt Aerodrome	1	1	1	1
Cheboygan	Cheboygan County	16	19	19	20
Chesaning	Howard Nixon Memorial	16	17	17	18
Clare	Clare Municipal	25	29	30	32
Clinton	Honey Acres	4	4	4	4
Clio	Cagney	4	4	4	4
Coldwater	Branch County Memorial	27	32	33	34
Croswell	Arnold Field	3	3	3	3
Crystal Falls	Iron County	2	2	2	2
Davison	Athelone Williams Memorial	8	9	9	9
Deckerville	Indian Creek Ranch	0	0	0	0
Detroit	Coleman A. Young Municipal	112	108	84	62
Detroit	Willow Run	166	203	159	116
Detroit	Detroit Metro Wayne County	36	37	53	68
Detroit / Grosse Ile	Grosse Ile Municipal	90	105	109	113
Dewitt	Hoerner's Corners	0	0	0	0
Dexter	Cackleberry	4	4	4	4

**Table 64** (continued)

City	Airport	2005	2010	2020	2030
Dowagiac	Dowagiac	17	20	21	21
Drummond Island	Drummond Island	7	8	8	9
Durand	Waite Field	2	2	2	2
East Jordan	East Jordan City	7	7	8	8
East Tawas	Iosco County	20	23	24	25
Eastport	Torchport	7	7	8	8
Eaton Rapids	Skyway Estates	13	14	14	14
Elk Rapids	Yuba	3	3	3	3
Elwell	Hamp Skyport	4	4	4	4
Emmett	Sharpe's Strip	1	1	1	1
Empire	Empire	3	3	3	3
Erie	Erie Aerodrome	4	4	4	4
Escanaba	Delta County	27	30	30	29
Evart	Evart Municipal	5	6	6	5
Flint	Bishop Int'l	69	84	66	48
Flushing	Dalton	73	78	80	81
Fowlerville	Maple Grove	5	5	5	6
Frankenmuth	Wm "Tiny" Zehnder Field	21	22	23	23
Frankfort	Dow Memorial	25	29	30	32
Fremont	Fremont Municipal	41	39	31	23
Fruitport	Flying – A – Ranch	3	3	3	3
Gaylord	Lakes Of The North	2	2	2	2
Gaylord	Gaylord Regional	37	41	41	40
Genesee	Duford Field	3	3	3	3
Gladwin	Gladwin Zettel Memorial	10	12	12	13
Grand Haven	Memorial Airpark	42	49	51	53
Grand Ledge	Abrams Municipal	95	111	115	120
Grand Marais	Grand Marais	1	1	1	1
Grand Rapids	Gerald R. Ford International	75	92	72	53
Grant	Grant	8	9	9	9
Grayling	Grayling Army Airfield	0	0	0	0
Greenville	Greenville Municipal	49	57	59	62
Gregory	Richmond Field	34	36	37	38
Hale	Field Of Dreams	2	2	2	2
Hancock	Houghton County Memorial	18	20	20	19
Harbor Springs	Harbor Springs Municipal	16	19	19	20
Harrietta	Bunch's Half Acre	0	0	0	0
Harrison	Clare County	10	11	11	11
Harrisville	Harrisville City	1	1	1	1

**Table 64** (continued)

City	Airport	2005	2010	2020	2030
Harsens Island	Harsens Island	2	2	2	2
Hart/Shelby	Oceana County	29	33	32	31
Hastings	Hastings City / Barry County	42	49	51	53
Hessel	Albert J. Lindberg	1	1	1	1
Hillman	Hillman	6	6	7	7
Hillsdale	Hillsdale Municipal	13	15	16	16
Holland	Park Township	17	18	19	19
Holland	Tulip City	56	88	71	111
Houghton Lake	Roscommon County, Blodgett Memorial	14	16	17	18
Houghton Lake Heights	Houghton Lake State	14	15	15	16
Howell	Raether	1	1	1	1
Howell	Livingston County-Spencer J. Hardy	137	132	103	75
Indian River	Calvin Campbell	20	21	22	22
Interlochen	Green Lake Township	4	4	4	4
Ionia	Ionia County	80	94	97	101
Iron Mountain Kingsford	Ford	45	50	50	49
Iron River	Stambaugh	10	11	11	11
Ironwood	Gogebic Iron County	12	12	9	7
Ishpeming	Edward F. Johnson	8	9	9	9
Jackson	Jackson County – Reynolds Field	100	96	75	55
Jenison	Riverview	35	40	39	38
Kalamazoo	Newman's	26	28	28	29
Kalamazoo	Kalamazoo/Battle Creek Int'l	80	90	88	86
Kalkaska	Kalkaska	5	5	5	6
Kent City	Wilderness Airpark	6	6	7	7
Laingsburg	Dennis Farms	2	2	2	2
Lake City	Home Acres Sky Ranch	38	41	41	42
Lake Isabella	Lake Isabella Airpark	9	10	10	10
Lakeview	Lakeview – Griffith Field	34	40	41	43
Lambertville	Toledo Suburban	34	38	38	37
Lansing	Capital Region International	59	72	57	41
Lapeer	DuPont – Lapeer	62	73	75	78
Lewiston	Garland	0	0	0	0
Lincoln	Flying "M" Ranch	0	0	0	0
Linden	Price's	16	19	19	20
Lowell	Lowell City	20	21	22	22
Ludington	Mason County	30	35	36	38
Luzerne	Lost Creek	1	1	1	1
Mackinac Island	Mackinac Island	1	1	1	1

**Table 64** (continued)

City	Airport	2005	2010	2020	2030
Mancelona	Mancelona Municipal	1	1	1	1
Manchester	Rossettie	15	16	16	17
Manistee	Manistee County Blacker	7	7	5	4
Manistique	Schoolcraft County	6	6	4	3
Marine City	Marine City	83	94	92	90
Marlette	Marlette Township	31	36	38	39
Marquette	Sawyer International	29	30	43	55
Marshall	Brooks Field	35	41	42	44
Mason	Craft's Field	1	1	1	1
Mason	Mason Jewett Field	62	73	75	78
Mecosta	Mecosta – Morton	1	1	1	1
Mecosta	Canadian Lakes	2	2	2	2
Menominee	Menominee – Marinette Twin County	37	43	45	47
Midland	Jack Barstow	50	59	61	63
Mio	Oscoda County	2	2	2	2
Monroe	Monroe Custer	39	46	47	49
Moorestown	Moorestown Airpark	1	1	1	1
Mount Pleasant	Mt. Pleasant Municipal	31	36	38	39
Munising	Hanley Field	3	3	3	3
Muskegon	Muskegon County	78	87	86	84
Napoleon	Wolf Lake	6	6	7	7
Napoleon	Van Wagnen	7	7	8	8
Napoleon	Napoleon	9	10	10	10
New Hudson	Oakland / Southwest	107	121	119	116
New Lothrop	Bean Blossom	0	0	0	0
Newberry	Luce County	6	7	7	8
Niles	Jerry Tyler Memorial	34	40	41	43
Northport	Woolsey Memorial	4	4	4	4
Nunica	Jablonski	2	2	2	2
Nunica	Hat Field	5	5	5	6
Onaway	Leo E. Goetz County	1	1	1	1
Ontonagon	Ontonagon County - Schuster Field	6	7	7	6
Oscoda	Oscoda – Wurtsmith	12	12	18	23
Owosso	Owosso Community	68	80	82	86
Parchment	Triple H	2	2	2	2
Paw Paw	Almena	9	10	10	10
Pellston	Pellston Regional Of Emmet County	20	19	15	11
Petersburg	Gradolph Field	2	2	2	2
Pinconning	Gross	19	20	21	21

**Table 64** (continued)

City	Airport	2005	2010	2020	2030
Plainwell	Plainwell Municipal	21	22	23	23
Plymouth	Canton – Plymouth – Mettetal	132	141	144	147
Pointe Aux Pins	Bois Blanc Island	10	11	11	11
Pontiac	Oakland County International	501	726	671	616
Port Austin	Grindstone Air Harbor	1	1	1	1
Port Huron	St. Clair County Int'l	89	100	98	96
Pullman	Walle Airfield	0	0	0	0
Ray	Ray Community	83	89	90	92
Reed City	Nartron Field	0	0	0	0
Rockford	Wells	2	2	2	2
Rogers City	Presque Isle County / Rogers City	2	2	2	3
Romeo	Romeo State	58	68	70	73
Roscommon	Roscommon Conservation	3	3	3	3
Rothbury	Double JJ Resort	0	0	0	0
Saginaw	Saginaw County H. W. Browne	67	105	85	133
Saginaw	M B S International	26	32	25	18
Sandusky	Cowley Field	1	1	1	1
Sandusky	Sandusky City	18	19	20	20
Sault Ste Marie	Sault Ste. Marie Muni. – Sanderson	9	11	11	11
Sault Ste Marie	Chippewa County Int'l	6	9	8	7
Schoolcraft	Prairie Ronde	4	4	4	4
Sebewaing	Sebewaing Township	7	7	8	8
Sidnaw	Prickett Grooms Field	0	0	0	0
Smiths Creek	Johnson Field	0	0	0	0
South Haven	South Haven Area Regional	26	30	31	33
Sparta	Paul C. Miller – Sparta	68	80	82	86
St Clair	David's Landing	3	3	3	3
St Helen	Saint Helen	7	7	8	8
St Ignace	Mackinac County	12	14	15	15
St Johns	Glowacki	1	1	1	1
St Johns	Archer Memorial Field	3	3	3	3
St Johns	Tripp Creek	5	5	5	6
St Johns	Schiffer Acres	13	14	14	14
Stanwood	Cain Field	13	14	14	14
Sturgis	Kirsch Municipal	30	35	36	38
Sunfield	Hiram Cure Airfield	2	2	2	2
Tecumseh	Meyers – Diver's	10	11	11	11
Tecumseh	Merillat International	19	20	21	21
Thompsonville	Thompsonville	6	6	7	7

**Table 64** (continued)

City	Airport	2005	2010	2020	2030
Three Rivers	Three Rivers Muni., Dr. Haines	47	55	57	59
Topinabee	Pbeaaye	12	13	13	13
Traverse City	Sugar Loaf Wallace G. Fryer Airfield	0	0	0	0
Traverse City	Lake Ann Airway Estates	7	7	8	8
Traverse City	Cherry Capital	79	88	87	85
Troy	Oakland/Troy	109	123	121	118
Vassar	Vassar Field	2	2	2	2
Watervliet	Watervliet Municipal	16	17	17	18
Wayland	Calkins Field	5	5	5	6
Weidman	Ojibwa	5	5	5	6
West Branch	West Branch Community	20	23	24	25
Westphalia	Forest Hill	1	1	1	1
White Cloud	White Cloud	11	12	12	12
Williamston	Maidens	2	2	2	2
Winn	Woodruff Lake	12	13	13	13
Yale	Para Field	1	1	1	1
Yale	Gavagan Field	1	1	1	1
Yale	Yale	3	3	3	3
Zeeland	Ottawa Executive	31	35	34	33

Source: MDOT Intermodal Policy Division

## Forecast of Operations

		2005 Operations			2010 Operations			2020 Operations			2030 Operations		
City	Airport	Total	Itinerant	Local	Total	Itinerant	Local	Total	Itinerant	Local	Total	Itinerant	Local
Adrian	Lenawee County	41991	33593	8398	40736	32589	8147	44510	35608	8902	48710	38968	9742
Allegan	Padgham Field	22142	17714	4428	23028	16119	6908	23471	16429	7041	24135	16894	7240
Alma	Gratiot Community	9356	5562	3794	9215	7372	1843	9917	7934	1983	10853	8682	2171
Alpena	Silver City Airpark	298	65	233	340	170	170	358	179	179	375	188	188
Alpena	Alpena County Regional	9793	9536	257	17921	0	17921	18509	18509	0	19194	19194	0
Ann Arbor	Ann Arbor Municipal	64395	25903	38492	66971	46880	20091	68259	47781	20478	70191	49133	21057
Atlanta	Atlanta Municipal	1323	794	529	1330	665	665	1495	747	747	1667	833	833
Avoca	Tackaberry	280	140	140	319	160	160	336	168	168	353	176	176
Avoca	Avoca	549	225	324	626	313	313	659	329	329	692	346	346
Bad Axe	Engler Field	456	235	221	520	260	260	547	274	274	575	287	287
Bad Axe	Huron County Memorial	12000	6000	6000	11640	9312	2328	12720	10176	2544	13920	11136	2784
Baldwin	Baldwin Municipal	862	431	431	896	628	269	914	640	274	940	658	282
Baraga	Baraga	46	23	23	52	26	26	55	28	28	58	29	29
Bath	University Airpark	601	71	530	685	343	343	721	361	361	757	379	379
Battle Creek	W. K. Kellogg	90969	50690	40279	100976	60585	40390	94608	56765	37843	89150	53490	35660
Bay City	James Clements & S.PB	11490	5745	5745	11950	8365	3585	12179	8526	3654	12524	8767	3757
Beaver Island	Welke	23450	11725	11725	26733	13367	13367	28140	14070	14070	29547	14774	14774
Beaver Island	Beaver Island	3960	1980	1980	4118	2883	1236	4198	2938	1259	4316	3021	1295
Bellaire	Antrim County	11446	1145	10301	11904	8333	3571	12133	8493	3640	12476	8733	3743
Belleville	Larsen Airpark	1806	903	903	2059	1029	1029	2167	1084	1084	2276	1138	1138
Benton Harbor	Southwest Michigan Regional	36972	18486	18486	35863	28690	7173	39190	31352	7838	42888	34310	8578
Berrien Springs	Andrews University Airpark	18236	9118	9118	20789	10395	10395	21883	10942	10942	22977	11489	11489
Big Rapids	Roben-Hood	4040	2020	2020	4202	2941	1260	4282	2998	1285	4404	3083	1321
Blissfield	Betz	4224	2112	2112	4815	2408	2408	5069	2534	2534	5322	2661	2661
Boyne City	Boyne City Municipal	6573	2629	3944	7493	3747	3747	7888	3944	3944	8282	4141	4141
Boyne Falls	Boyne Mountain	4739	474	4265	5402	2701	2701	5687	2843	2843	5971	2986	2986
Brighton	Brighton	30060	15030	15030	34268	17134	17134	36072	18036	18036	37876	18938	18938
Brooklyn	Shamrock Field	3264	1632	1632	3721	1860	1860	3917	1958	1958	4113	2056	2056

Cadillac	Wexford County	18134	5440	12694	17654	14123	3531	19222	15378	3844	21035	16828	4207
Carleton	Wickenheiser	300	150	150	342	171	171	360	180	180	378	189	189
Caro	Tuscola Area	8530	4265	4265	8871	6210	2661	9042	6329	2713	9298	6508	2789
Carson City	Mayes	248	43	205	283	141	141	298	149	149	312	156	156
Charlevoix	Charlevoix Municipal	33368	16684	16684	34703	24292	10411	35370	24759	10611	36371	25460	10911
Charlotte	Wend Valley	326	163	163	372	186	186	391	196	196	411	205	205
Charlotte	Fitch H. Beach Municipal	7612	3806	3806	7916	5542	2375	8069	5648	2421	8297	5808	2489
Cheboygan	Hoffman's Black Mt Aerodrome	702	204	498	800	400	400	842	421	421	885	442	442
Cheboygan	Cheboygan County	6854	3427	3427	7128	4990	2138	7265	5086	2180	7471	5230	2241
Chesaning	Howard Nixon Memorial	8338	4169	4169	9505	4753	4753	10006	5003	5003	10506	5253	5253
Clare	Clare Municipal	5864	2932	2932	6099	4269	1830	6216	4351	1865	6392	4474	1918
Clinton	Honey Acres	2194	1097	1097	2501	1251	1251	2633	1316	1316	2764	1382	1382
Clio	Cagney	302	151	151	344	172	172	362	181	181	381	190	190
Coldwater	Branch County Memorial	14761	8857	5904	15351	10746	4605	15647	10953	4694	16089	11263	4827
Croswell	Arnold Field	782	391	391	891	446	446	938	469	469	985	493	493
Crystal Falls	Iron County	576	288	288	657	328	328	691	346	346	726	363	363
Davison	Athelone Williams Memorial	3000	1500	1500	3420	1710	1710	3600	1800	1800	3780	1890	1890
Deckerville	Indian Creek Ranch	300	150	150	342	171	171	360	180	180	378	189	189
Detroit	Coleman A. Young Municipal	75056	44042	31014	149217	119374	29843	79559	63647	15912	87065	69652	17413
Detroit	Willow Run	104243	104243	0	115710	69426	46284	108413	65048	43365	102158	61295	40863
Detroit	Detroit Metro Wayne County	482268	482268	0	593190	593190	0	684821	684821	0	781274	781274	0
Detroit/Grosse Ile	Grosse Ile Municipal Airport	55277	22111	33166	57488	40242	17246	58594	41016	17578	60252	42176	18076
Dewitt	Hoerner's Corners	40	0	40	46	23	23	48	24	24	50	25	25
Dexter	Cackleberry	300	150	150	342	171	171	360	180	180	378	189	189
Dowagiac	Dowagiac Municipal	3658	1829	1829	3804	2663	1141	3877	2714	1163	3987	2791	1196
Drummond Island	Drummond Island	7482	3741	3741	7781	5447	2334	7931	5552	2379	8155	5709	2447
Durand	Waite Field	100	50	50	114	57	57	120	60	60	126	63	63
East Jordan	East Jordan City	1700	1100	600	1938	969	969	2040	1020	1020	2142	1071	1071
East Tawas	Iosco County	3676	1103	2573	3823	2676	1147	3897	2728	1169	4007	2805	1202
Eastport	Torchport	2710	1578	1132	3089	1545	1545	3252	1626	1626	3415	1707	1707
Eaton Rapids	Skyway Estates	4817	2890	1927	5491	2746	2746	5780	2890	2890	6069	3035	3035
Elk Rapids	Yuba	300	150	150	342	171	171	360	180	180	378	189	189
Elwell	Hamp Skyport	2312	1156	1156	2636	1318	1318	2774	1387	1387	2913	1457	1457
Emmett	Sharpe's Strip	142	71	71	162	81	81	170	85	85	179	89	89

**Table 65** (continued)

		2005 Operations			2010 Operations			2020 Operations			2030 Operations		
City	Airport	Total	Itinerant	Local	Total	Itinerant	Local	Total	Itinerant	Local	Total	Itinerant	Local
Empire	Empire	1594	797	797	1817	909	909	1913	956	956	2008	1004	1004
Erie	Erie Aerodrome	1569	1253	316	1789	894	894	1883	941	941	1977	988	988
Escanaba	Delta County	35298	17649	17649	38122	34310	3812	35651	32086	3565	33180	29862	3318
Ewart	Ewart Municipal	444	444	0	446	223	223	502	251	251	559	280	280
Flint	Bishop Int'l	123610	48815	74795	137207	82324	54883	128554	77133	51422	121138	72683	48455
Flushing	Dalton	17636	8818	8818	20105	10053	10053	21163	10582	10582	22221	11111	11111
Fowlerville	Maple Grove	16082	8041	8041	18333	9167	9167	19298	9649	9649	20263	10132	10132
Frankenmuth	Wm "Tiny" Zehnder Field	15004	7502	7502	17105	8552	8552	18005	9002	9002	18905	9453	9453
Frankfort	Dow Memorial	11432	5716	5716	11889	8322	3567	12118	8483	3635	12461	8723	3738
Fremont	Fremont Municipal	24965	17649	7316	9719	7775	1944	26463	21170	5293	28959	23168	5792
Fruitport	Flying - A - Ranch	150	100	50	171	86	86	180	90	90	189	95	95
Gaylord	Lakes Of The North	2458	1229	1229	2802	1401	1401	2950	1475	1475	3097	1549	1549
Gaylord	Gaylord Regional	8118	1624	6494	8767	7891	877	8199	7379	820	7631	6868	763
Genesee	Duford Field	834	417	417	951	475	475	1001	500	500	1051	525	525
Gladwin	Gladwin Zettel Memorial	9156	4578	4578	9522	6666	2857	9705	6794	2912	9980	6986	2994
Grand Haven	Memorial Airpark	17436	8718	8718	18133	12693	5440	18482	12938	5545	19005	13304	5702
Grand Ledge	Abrams Municipal	51406	25703	25703	53462	37424	16039	54490	38143	16347	56033	39223	16810
Grand Marais	Grand Marais	1267	946	321	1444	722	722	1520	760	760	1596	798	798
Grand Rapids	Gerald R. Ford International	106580	89808	16772	118304	70982	47322	110843	66506	44337	104448	62669	41779
Grant	Grant	2714	1357	1357	3094	1547	1547	3257	1628	1628	3420	1710	1710
Grayling	Grayling Army Airfield	3788	379	3409	3940	2758	1182	4015	2811	1205	4129	2890	1239
Greenville	Greenville Municipal	8649	6054	2595	8995	6296	2698	9168	6418	2750	9427	6599	2828
Gregory	Richmond Field	4536	2268	2268	5171	2586	2586	5443	2722	2722	5715	2858	2858
Hale	Field Of Dreams	510	313	197	581	291	291	612	306	306	643	321	321
Hancock	Houghton County Memorial	15510	6204	9306	16751	15076	1675	15665	14099	1567	14579	13121	1458
Harbor Springs	Harbor Springs Municipal	24330	12165	12165	25303	17712	7591	25790	18053	7737	26520	18564	7956
Harrietta	Bunch's Half Acre	287	182	105	327	164	164	344	172	172	362	181	181
Harrison	Clare County	2776	1110	1666	3165	1582	1582	3331	1666	1666	3498	1749	1749

Harrisville	Harrisville City	300	150	150	342	171	171	360	180	180	378	189	189
Harsens Island	Harsens Island	317	132	185	361	181	181	380	190	190	399	200	200
Hart/Shelby	Oceana County	7820	3910	3910	7859	3930	3930	8837	4418	4418	9853	4927	4927
Hastings	Hastings City / Barry County	17752	5325	12427	18462	12923	5539	18817	13172	5645	19350	13545	5805
Hessel	Albert J. Lindberg	1928	964	964	2198	1099	1099	2314	1157	1157	2429	1215	1215
Highland	Ponderosa	100	100	0	114	57	57	120	60	60	126	63	63
Hillman	Hillman	1412	706	706	1610	805	805	1694	847	847	1779	890	890
Hillsdale	Hillsdale Municipal	8170	4085	4085	8497	5948	2549	8660	6062	2598	8905	6234	2672
Holland	Park Township	4128	2064	2064	4706	2353	2353	4954	2477	2477	5201	2601	2601
Holland	Tulip City	52520	31512	21008	82982	41491	41491	90334	45167	45167	97687	48844	48844
Houghton Lake	Roscommon County, Blodgett Memorial	10463	2093	8370	10882	7617	3264	11091	7764	3327	11405	7983	3421
Houghton Lake Heights	Houghton Lake State	2229	1352	877	2541	1271	1271	2675	1337	1337	2809	1404	1404
Howell	Raether	300	150	150	342	171	171	360	180	180	378	189	189
Howell	Livingston County-Spencer J. Hardy	58238	29119	29119	56491	45193	11298	61732	49386	12346	67556	54045	13511
Indian River	Calvin Campbell	3590	1795	1795	4093	2046	2046	4308	2154	2154	4523	2262	2262
Interlochen	Green Lake Township	1351	219	1132	1540	770	770	1621	811	811	1702	851	851
Ionia	Ionia County	16632	8316	8316	17297	12108	5189	17630	12341	5289	18129	12690	5439
Iron Mountain Kingsford	Ford	19729	11837	7892	21307	19177	2131	19926	17934	1993	18545	16691	1855
Iron River	Stambaugh	2057	1851	206	2345	1172	1172	2468	1234	1234	2592	1296	1296
Ironwood	Gogebic Iron County	7851	1570	6281	7120	5696	1424	8322	6658	1664	9107	7286	1821
Ishpeming	Edward F. Johnson	819	498	321	934	467	467	983	491	491	1032	516	516
Jackson	Jackson County - Reynolds Field	48873	32744	16129	47407	37926	9481	51805	41444	10361	56693	45354	11339
Jenison	Riverview	15030	7515	7515	15105	7553	7553	16984	8492	8492	18938	9469	9469
Kalamazoo	Newman's	5000	500	4500	5700	2850	2850	6000	3000	3000	6300	3150	3150
Kalamazoo	Kalamazoo/Battle Creek Int'l	84593	49996	34597	91360	82224	9136	85439	76895	8544	79517	71565	7952
Kalkaska	Kalkaska	2640	1320	1320	3010	1505	1505	3168	1584	1584	3326	1663	1663
Kent City	Wilderness Airpark	1484	479	1005	1692	846	846	1781	890	890	1870	935	935
Laingsburg	Dennis Farms	276	21	255	315	157	157	331	166	166	348	174	174
Lake City	Home Acres Sky Ranch	11913	7215	4698	13581	6790	6790	14296	7148	7148	15010	7505	7505
Lake Isabella	Lake Isabella Airpark	1342	671	671	1530	765	765	1610	805	805	1691	845	845
Lakview	Lakeview - Griffith Field	14620	7310	7310	15205	10643	4561	15497	10848	4649	15936	11155	4781

**Table 65** (continued)

		2005 Operations			2010 Operations			2020 Operations			2030 Operations		
City	Airport	Total	Itinerant	Local	Total	Itinerant	Local	Total	Itinerant	Local	Total	Itinerant	Local
Lambertville	Toledo Suburban	48240	33768	14472	48481	24241	24241	54511	27256	27256	60782	30391	30391
Lansing	Capital Region International	76075	52145	23930	84443	50666	33777	79118	47471	31647	74553	44732	29821
Lapeer	DuPont - Lapeer	12090	4836	7254	12574	8802	3772	12815	8971	3845	13178	9225	3953
Lewiston	Garland	1400	1400	0	1456	1019	437	1484	1039	445	1526	1068	458
Lincoln	Flying "M" Ranch	150	130	20	171	86	86	180	90	90	189	95	95
Linden	Price's	3662	1831	1831	3808	2666	1143	3882	2717	1165	3992	2794	1197
Lowell	Lowell City	14028	7014	7014	15992	7996	7996	16834	8417	8417	17675	8838	8838
Ludington	Mason County	14028	7014	7014	14589	10212	4377	14870	10409	4461	15291	10703	4587
Luzerne	Lost Creek	201	201	0	229	115	115	241	121	121	253	127	127
Mackinac Island	Mackinac Island	34038	33538	500	35400	24780	10620	36080	25256	10824	37101	25971	11130
Mancelona	Mancelona Municipal	150	150	0	171	86	86	180	90	90	189	95	95
Manchester	Rossettie	2851	587	2264	3250	1625	1625	3421	1711	1711	3592	1796	1796
Manistee	Manistee County - Blacker	11232	5616	5616	10249	8199	2050	11906	9525	2381	13029	10423	2606
Manistique	Schoolcraft County	2818	1409	1409	2733	2186	547	2987	2390	597	3269	2615	654
Marine City	Marine City	25296	12648	12648	25422	12711	12711	28584	14292	14292	31873	15936	15936
Marlette	Marlette Township	6452	3226	3226	6710	4697	2013	6839	4787	2052	7033	4923	2110
Marquette	Sawyer International	24958	17724	7234	30698	30698	0	35440	35440	0	40432	40432	0
Marshall	Brooks Field	11954	5977	5977	12432	8703	3730	12671	8870	3801	13030	9121	3909
Mason	Craft's Field	100	50	50	114	57	57	120	60	60	126	63	63
Mason	Mason Jewett Field	25600	12800	12800	26624	18637	7987	27136	18995	8141	27904	19533	8371
Mecosta	Mecosta - Morton	712	356	356	812	406	406	854	427	427	897	449	449
Mecosta	Canadian Lakes	482	482	0	549	275	275	578	289	289	607	304	304
Menominee	Menominee - Marinette Twin County	21000	12600	8400	21840	15288	6552	22260	15582	6678	22890	16023	6867
Midland	Jack Barstow	27054	13527	13527	28136	19695	8441	28677	20074	8603	29489	20642	8847
Mio	Oscoda County	350	213	137	399	200	200	420	210	210	441	221	221
Monroe	Monroe Custer	22778	11389	11389	23689	16582	7107	24145	16901	7243	24828	17380	7448
Moorestown	Moorestown Airpark	196	98	98	223	112	112	235	118	118	247	123	123
Mount Pleasant	Mt. Pleasant Municipal	23720	9488	14232	24669	17268	7401	25143	17600	7543	25855	18098	7756

Munising	Hanley Field	287	168	119	327	164	164	344	172	172	362	181	181
Muskegon	Muskegon County	60859	39215	21644	65728	59155	6573	61468	55321	6147	57207	51486	5721
Napoleon	Napoleon	6794	3397	3397	7745	3873	3873	8153	4076	4076	8560	4280	4280
Napoleon	Van Wagnen	224	112	112	255	128	128	269	134	134	282	141	141
Napoleon	Wolf Lake	204	102	102	233	116	116	245	122	122	257	129	129
New Hudson	Oakland / Southwest	20468	10234	10234	20570	10285	10285	23129	11564	11564	25790	12895	12895
New Lothrop	Bean Blossom	100	50	50	114	57	57	120	60	60	126	63	63
Newberry	Luce County	2686	1880	806	2793	1955	838	2847	1993	854	2928	2049	878
Niles	Jerry Tyler Memorial	3188	1594	1594	3316	2321	995	3379	2365	1014	3475	2432	1042
Northport	Woolsey Memorial	928	552	376	1058	529	529	1114	557	557	1169	585	585
Nunica	Jablonski	300	150	150	342	171	171	360	180	180	378	189	189
Nunica	Hat Field	1461	456	1005	1666	833	833	1753	877	877	1841	920	920
Onaway	Leo E. Goetz County	1072	536	536	1222	611	611	1286	643	643	1351	675	675
Ontonagon	Ontonagon County - Schuster Field	944	472	472	949	474	474	1067	533	533	1189	595	595
Oscoda	Oscoda - Wurtsmith	8857	3543	5314	10894	10894	0	12577	12577	0	14348	14348	0
Owosso	Owosso Community	25000	12500	12500	26000	18200	7800	26500	18550	7950	27250	19075	8175
Parchment	Triple H	310	155	155	353	177	177	372	186	186	391	195	195
Paw Paw	Almena	3410	1705	1705	3887	1944	1944	4092	2046	2046	4297	2148	2148
Pellston	Pellston Regional Of Emmet County	22826	4565	18261	20700	16560	4140	24196	19356	4839	26478	21183	5296
Petersburg	Gradolph Field	1374	687	687	1566	783	783	1649	824	824	1731	866	866
Pinconning	Gross	3398	1699	1699	3874	1937	1937	4078	2039	2039	4281	2141	2141
Plainwell	Plainwell Municipal	9253	3701	5552	10548	5274	5274	11104	5552	5552	11659	5829	5829
Plymouth	Canton - Plymouth - Mettetal	58042	29021	29021	66168	33084	33084	69650	34825	34825	73133	36566	36566
Point Aux Pins	Bois Blanc Island	4900	3283	1617	4925	2462	2462	5537	2769	2769	6174	3087	3087
Pontiac	Oakland County International	196951	104433	92518	220585	247055	0	133927	133927	0	47268	47268	0
Port Austin	Grindstone Air Harbor	284	142	142	324	162	162	341	170	170	358	179	179
Port Huron	St. Clair County Int'l	45000	33750	11250	48600	43740	4860	45450	40905	4545	42300	38070	4230
Pullman	Walle Airfield	121	0	121	138	69	69	145	73	73	152	76	76
Ray	Ray Community	27134	13567	13567	30933	15466	15466	32561	16280	16280	34189	17094	17094
Reed City	Nartron Field	50	50	0	57	29	29	60	30	30	63	32	32
Rockford	Wells	1122	561	561	1279	640	640	1346	673	673	1414	707	707
Rogers City	Presque Isle County / Rogers City	950	380	570	988	692	296	1007	705	302	1036	725	311
Romeo	Romeo State	25417	17792	7625	26434	18504	7930	26942	18859	8083	27705	19393	8311

**Table 65** (continued)

		2005 Operations			2010 Operations			2020 Operations			2030 Operations		
City	Airport	Total	Itinerant	Local	Total	Itinerant	Local	Total	Itinerant	Local	Total	Itinerant	Local
Roscommon	Roscommon Conservation	1000	800	200	1140	570	570	1200	600	600	1260	630	630
Rothbury	Double JJ Resort	138	138	0	157	79	79	166	83	83	174	87	87
Saginaw	Saginaw County H. W. Browne	10150	5075	5075	16037	8019	8019	17458	8729	8729	18879	9440	9440
Saginaw	M B S International	47923	32107	15816	53195	31917	21278	49840	29904	19936	46965	28179	18786
Sandusky	Sandusky City	4710	2355	2355	5369	2685	2685	5652	2826	2826	5935	2967	2967
Sandusky	Cowley Field	296	148	148	337	169	169	355	178	178	373	186	186
Sault Ste Marie	Sault Ste. Marie Muni.- Sanderson	7419	2968	4451	7716	5401	2315	7864	5505	2359	8087	5661	2426
Sault Ste Marie	Chippewa County Int'l	9392	3757	5635	10519	10519	0	6387	6387	0	2254	2254	0
Schoolcraft	Prairie Ronde	324	162	162	369	185	185	389	194	194	408	204	204
Sebewaing	Sebewaing Township	3208	1604	1604	3657	1829	1829	3850	1925	1925	4042	2021	2021
Sidnaw	Prickett Grooms Field	150	75	75	171	86	86	180	90	90	189	95	95
Smiths Creek	Johnson Field	222	0	222	253	127	127	266	133	133	280	140	140
South Haven	South Haven Area Regional	27016	13508	13508	28097	19668	8429	28637	20046	8591	29447	20613	8834
Sparta	Paul C. Miller - Sparta	7546	3773	3773	7848	5493	2354	7999	5599	2400	8225	5758	2468
St Clair	David's Landing	278	139	139	317	158	158	334	167	167	350	175	175
St Helen	Saint Helen	735	223	512	838	419	419	882	441	441	926	463	463
St Ignace	Mackinac County	39000	35000	4000	40560	28392	12168	41340	28938	12402	42510	29757	12753
St Johns	Archer Memorial Field	218	109	109	249	124	124	262	131	131	275	137	137
St Johns	Glowacki	206	103	103	235	117	117	247	124	124	260	130	130
St Johns	Tripp Creek	556	278	278	634	317	317	667	334	334	701	350	350
St Johns	Schiffer Acres	13006	6503	6503	14827	7413	7413	15607	7804	7804	16388	8194	8194
Stanwood	Cain Field	328	164	164	374	187	187	394	197	197	413	207	207
Sturgis	Kirsch Municipal	11975	2413	9562	12454	8718	3736	12694	8885	3808	13053	9137	3916
Sunfield	Hiram Cure Airfield	306	153	153	349	174	174	367	184	184	386	193	193
Tecumseh	Meyers - Diver's	8000	4000	4000	9120	4560	4560	9600	4800	4800	10080	5040	5040
Tecumseh	Merillat International	2842	1421	1421	3240	1620	1620	3410	1705	1705	3581	1790	1790
Thompsonville	Thompsonville	1608	804	804	1833	917	917	1930	965	965	2026	1013	1013
Three Rivers	Three Rivers Muni, Dr. Haines	12172	6086	6086	12659	8861	3798	12902	9032	3871	13267	9287	3980

Topinabee	Pbeaaye	269	175	94	307	153	153	323	161	161	339	169	169
Traverse City	Lake Ann Airway Estates	100	50	50	114	57	57	120	60	60	126	63	63
Traverse City	Sugar Loaf Wallace G. Fryer Airfield	330	165	165	376	188	188	396	198	198	416	208	208
Traverse City	Cherry Capital	111196	59844	51352	120092	108083	12009	112308	101077	11231	104524	94072	10452
Troy	Oakland / Troy	41484	20742	20742	41691	20846	20846	46877	23438	23438	52270	26135	26135
Vassar	Vassar Field	282	141	141	321	161	161	338	169	169	355	178	178
Watervliet	Watervliet Municipal	1640	998	642	1870	935	935	1968	984	984	2066	1033	1033
Wayland	Calkins Field	1500	750	750	1710	855	855	1800	900	900	1890	945	945
Weidman	Ojibwa	1322	803	519	1507	754	754	1586	793	793	1666	833	833
West Branch	West Branch Community	5241	2096	3145	5451	3815	1635	5555	3889	1667	5713	3999	1714
Westphalia	Forest Hill	100	50	50	114	57	57	120	60	60	126	63	63
White Cloud	White Cloud	3346	1673	1673	3814	1907	1907	4015	2008	2008	4216	2108	2108
Williamston	Maidens	292	146	146	333	166	166	350	175	175	368	184	184
Winn	Woodruff Lake	1804	902	902	2057	1028	1028	2165	1082	1082	2273	1137	1137
Yale	Para Field	202	101	101	230	115	115	242	121	121	255	127	127
Yale	Yale	1166	583	583	1329	665	665	1399	700	700	1469	735	735
Yale	Gavagan Field	100	50	50	114	57	57	120	60	60	126	63	63
Zeeland	Ottawa Executive	35936	10781	25155	36116	18058	18058	40608	20304	20304	45279	22640	22640

Source: MDOT Intermodal Policy Division