2.0

Inventory of Existing Conditions

2.0 INVENTORY OF EXISTING CONDITIONS

General Mitchell International Airport (GMIA) is the primary air carrier airport for Milwaukee and Southeast Wisconsin. With 15 passenger airlines, the 440th Airlift Wing of the US Air Force Reserves, the 128th Wing of the Wisconsin Air National Guard, and general aviation, the Airport serves many facets of the region's air transportation demand. In 2001, the Airport handled approximately 2.8 million enplaned passengers, 102 million pounds of air cargo, and 211,000 aircraft operations.

In order to establish a baseline for the Master Plan Update Study, an inventory was conducted through a review of Airport records, field interviews, telephone discussions, and an analysis of existing reports and studies. This information will be used throughout the Master Plan Update Study as the need for future aviation facilities is determined and alternative facility locations are examined. The inventory is presented in the following sections:

- *Airport History*
- *Airport Activity*
- *Airport Facilities*
- *Airport Environs*
- *Socioeconomic Setting*

Due to the dynamic nature of the Airport, a "snapshot" of the facilities as they existed in January, 2002, is used. Facilities that were under construction at that time are identified as well.

2.1 Airport History

GMIA is named in honor of General William "Billy" Mitchell, a military aviation pioneer and Milwaukee native. In 1941, Milwaukee officially changed the name of the

Airport from Milwaukee County Airport to General Mitchell Field. This name was revised to General Mitchell International Airport in 1986.

Although aviation had made its debut in Milwaukee several years earlier, the Airport was established at its current site in 1926 when Milwaukee County purchased a small airport from Thomas Hamilton for $150,000. A year later, in 1927, Northwest Airlines began passenger air service to Chicago and Minneapolis from the new airport site.

The Works Progress Administration (WPA) constructed a new terminal building on Layton Avenue that opened in 1941. Rapid growth in aviation made this terminal obsolete by the early 1950s. In 1955, a new terminal was constructed on Howell Avenue in the area that today's terminal occupies. This three-concourse terminal included 23 gates and second level aircraft loading.

The ticketing and baggage claim areas of the terminal were expanded between 1983 and 1985. At that time, the terminal configuration was redesigned to incorporate separate curbfronts for arrivals and departures, as well as the second level concession mall. In 1990, Concourse D was expanded by adding 16 gates across the end of the existing concourse. In 2002, the County expanded the Airport's parking garage to provide approximately 3,000 additional public parking spaces as well as a lobby area for rental car counters. An eight-gate addition to Concourse C is currently being designed.

Milwaukee County has continued to own and operate GMIA since 1926. Today, the Aiport is governed by the County Executive and a Board of Supervisors consisting of 25 elected members. Organizationally, the Airport is a Division within the County's Department of Public Works. The Airport Director supervises the staff of approximately 175 employees who implement the County's policies and conduct the day-to-day operations and maintenance of both General Mitchell International and Timmerman Field.

2.2 Airport Activity

GMIA serves the primary commercial air transportation requirements of Milwaukee, southeast Wisconsin, and portions of Northern Illinois. As shown on **Exhibit 2.2-1** the Airport is located entirely within Milwaukee County. It is approximately five miles south of downtown Milwaukee.

GMIA averages 230 scheduled passenger departures per day and is served by 15 major/national and regional/commuter airlines: Air Canada, AirTran, Air Wisconsin (United Express), American Eagle, America West, ATA Connection, COMAIR (Delta Connection), Continental Express, Delta, Northwest, Midwest Express, Skyway (Midwest Express), US Airways, and US Airways Express.

A summary of key airport activity indicators is provided in **Table 2.2-1**. Between 1990 and 2000, passenger enplanements increased from approximately 2.2 million to 3.0 million, representing an average annual growth rate of 3.2 percent. Passenger activity declined in 2001 due mostly from the impact of September 11, to 2.8 million passenger enplanements. Air cargo tonnage increased during this time period, from approximately 89.4 million pounds in 1990 to 126 million pounds in 2000.

TABLE 2.2-1

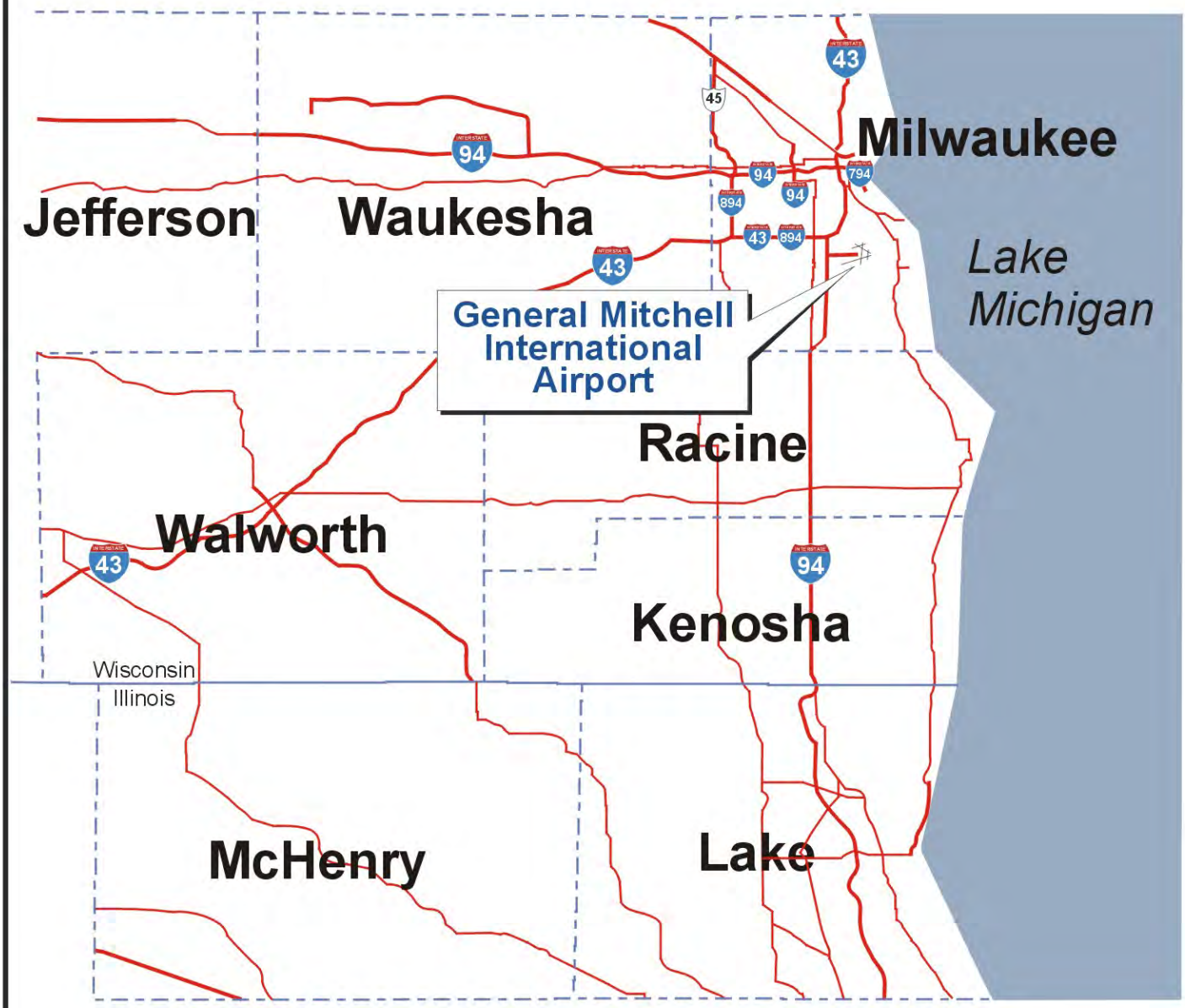
General Mitchell International Airport

HISTORICAL AIRPORT ACTIVITY

Year	Passenger Enplanements		Enplaned Cargo (pounds)[1]		Aircraft Operations	
1990	2,213,672	-	89,471,401	-	206,669	-
1991	2,027,689	-8.4%	105,124,545	17.5%	203,242	-1.7%
1992	2,189,052	8.0%	99,074,331	-5.8%	203,030	-0.1%
1993	2,264,402	3.4%	103,579,577	4.5%	201,288	-0.9%
1994	2,563,293	13.2%	120,579,888	16.4%	215,889	7.3%
1995	2,593,359	1.2%	124,165,303	3.0%	204,781	-5.1%
1996	2,732,965	5.4%	129,385,158	4.2%	200,963	-1.9%
1997	2,804,596	2.6%	131,197,846	1.4%	212,609	5.8%
1998	2,790,837	-0.5%	142,476,818	8.6%	219,087	3.0%
1999	2,906,189	4.1%	139,022,866	-2.4%	221,866	1.3%
2000	3,039,962	4.6%	126,095,651	-9.3%	221,855	0.0%
2001	2,811,954	-7.5%	107,097,313	-15.1%	211,512	-4.7%

Source: Airport activity records

Note: [1] Enplaned cargo=Air Freight+Air Mail



GENERAL MITCHELL INTERNATIONAL AIRPORT
MASTER PLAN UPDATE

AIRPORT LOCATION

EXHIBIT 2.2-1

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2.3 Airport Facilities

The Airport's existing facilities were identified and documented in the inventory in order to form a database for the airfield, terminal, air cargo, airport support, general aviation and military components of the Master Plan Update Study. Due to the size and complexity of the Airport's facilities, the inventory effort distinguishes between airside facilities (i.e. those facilities directly related to the landing and takeoff of aircraft) and landside facilities, which are classified by their function (i.e. passenger terminal, air cargo, and support).

The Airport encompasses approximately 2,386 acres of relatively flat land within a built-up urban environment. The official elevation of the Airport, based on the highest runway elevation point, is 723 feet above mean sea level (MSL).

The Airport boundaries consist of: to the north, the Airport has a boundary along Layton Avenue; to the east, the Airport is bounded by the Canadian Pacific railroad lines; to the south, the Airport is bounded by College Avenue with Airport owned property lying further south to Rawson Avenue; and to the west, the Airport is bounded by Howell Avenue and the CP railroad line. Primary access to the Airport is via State Trunk Highway (STH) 119, the Airport Spur.

The Airport's facilities, including any planned structures that were under engineering design as of January, 2002, are shown on **Exhibit 2.3-1**. The major airport structures that are located on Airport property are labeled on Exhibit 2.3-1.

Significant ground leases of Airport property are also shown in **Exhibit 2.3-2**. **Exhibit 2.3-3** lists the lessee, lease type (use), commencement and termination dates, and other pertinent remarks for each of the land leases depicted in Exhibit 2.3-2. The numerous FAA NAVAID leases, other minor ground leases, and ground access easements are not depicted in Exhibit 2.3-2.

GENERAL MITCHELL INTERNATIONAL AIRPORT
MASTER PLAN UPDATE

EXISTING AIRPORT LEASE AREAS

EXHIBIT 2.3-2

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Land Lease Exhibit No.	Lessee	Ground Lease Type	Land Area	Commencement date	Termination date	Remarks
1	FAA Air Traffic Control Tower	Control Tower	0.42 acres	5/1/1984	9/30/2024	Renewable annually
2	Signature Flight Support	General Aviation	21.95 acres	6/1/1998	5/31/2023	Includes hangars, GA terminal, and fueling parcel
3	Air Wisconsin	Aircraft Maintenance	0.42 acres	4/1/2002	3/31/1934	
4	Astral Aviation	Aircraft Maintenance	5.54 acres	4/1/2002	3/31/1934	
5	Northwestern Mutual Life	General Aviation	1.47 acres	6/1/1983	5/31/2003	Option to renew for four 5-year terms
6	Various Tenants-Small Hangar Plots	General Aviation	6.74 acres	Varies	Varies	Leases continue through 2006
7	Miller Aviation Company	General Aviation	9.53 acres	9/1/1992	8/31/2002	
8	MATC (District 9)	Training/Education	4.34 acres	11/1/1972	10/31/2002	Option to renew for one additional 10-year term
9	Cessna Aircraft Company	General Aviation	2.05 acres	9/11/1989	10/17/2000	Automatic renewal every 5 years through 2025
10	Johnson Controls, Inc.	General Aviation	3.67 acres	2/22/2001	2/21/2006	Option to renew for four 5-year terms
11	Midwest Express Airlines	Aircraft Maintenance	7.55 acres	4/1/1988	3/31/2003	Option to renew for 11 5-year terms
12	Various Tenants-Air Cargo Building	Air Cargo	5.45 acres	Varies	10/31/2008	
13	ADS/Aero Milwaukee	Air Cargo	10.38 acres	11/1/1989	10/31/2009	Third party cargo building
14	U.S. Postal Service	Cargo	2.17 acres	11/1/1985	10/31/2005	Option to renew for two 5-year terms
15	Scott Aviation	General Aviation	1.94 acres	4/1/1997	3/31/2007	
16	Allen Bradley	General Aviation	2.3 acres	6/15/1992	6/14/2002	
17	Harley Davidson and Volare Partners	General Aviation	2.3 acres	4/1/1996	3/31/2006	
18	Scott Aviation	General Aviation	2.3 acres	4/1/1997	3/31/2007	
19	Luetzow Aviation	General Aviation	1.94 acres	10/1/1995	9/30/2005	
20	Northwest Airlines	GSE Maintenance	0.49 acres	10/1/2000	9/30/2020	

Source: GMIA records

2.3.1 Airfield

The Airport's airside facilities are those dedicated to the movement of aircraft and include runways, taxiways, and aprons. The following sections describe the various elements of the airfield and specifics regarding size and location.

2.3.1.1 Runways

Table 2.3-1 summarizes key data regarding GMIA's runway system. The Airport currently has five runways. There are two sets of parallel runways: runways 7L/25R and 7R/25L which have a separation of 3,680 feet and runways 1L/19R and 1R/19L which have a separation of 1000 feet. Runway 13/31, a crosswind runway makes up the remainder of the runway system. Runway 1L/19R is 9,690 feet long, runway 1R/19L is 4,183 feet, runway 7L/25R is 4,800 feet, runway 7R/25L is 8,012 feet and runway 13/31 has a length of 5,868 feet. Runway 1L/19R has a runway width of 200 feet while runway 7L/25R has a runway width of 100 feet. All other runways have a runway width of 150 feet.

Runway 7L/25R is restricted to non-jet aircraft and to aircraft with wingspans less than 79 feet (FAA Airplane Design Group II). Runway 13/31 is closed to turbojet aircraft operations, although there are exceptions to this restriction when approved by the Airport. Additionally, turbojet departures from runway 1R are prohibited.

Exhibit 2.3-4 depicts the most recent 10-year annual wind summary for the Airport. The Airport's existing runway configuration provides 99.99 percent coverage in all weather conditions. In Instrument Meteorological Conditions (IMC), the existing runway system provides 100.0 percent coverage. This wind information provides a basis for analyzing future runway orientations in conjunction with future runway utilizations and airfield system development needs.

2.3.1.2 Taxiways

There are approximately 41,000 linear feet of existing taxiways. Runways 7R/25L and 1L/19R have parallel taxiways while the other runways are linked by connector taxiways. An apron edge taxilane is designated around the terminal area. Additionally, several taxiway restrictions are in place that limit aircraft use by weight.

The Airport has an approved Surface Movement Guidance and Control System (SMGCS) Plan in place that outlines procedures for aircraft and vehicular operations during low visibility conditions. The SMGCS Plan prescribes airfield lighting and marking requirements and taxi routes for low visibility operations. As operational needs and technologies evolve, the SMGCS Plan is updated and resubmitted to the FAA for approval.

TABLE 2.3-1

General Mitchell International Airport

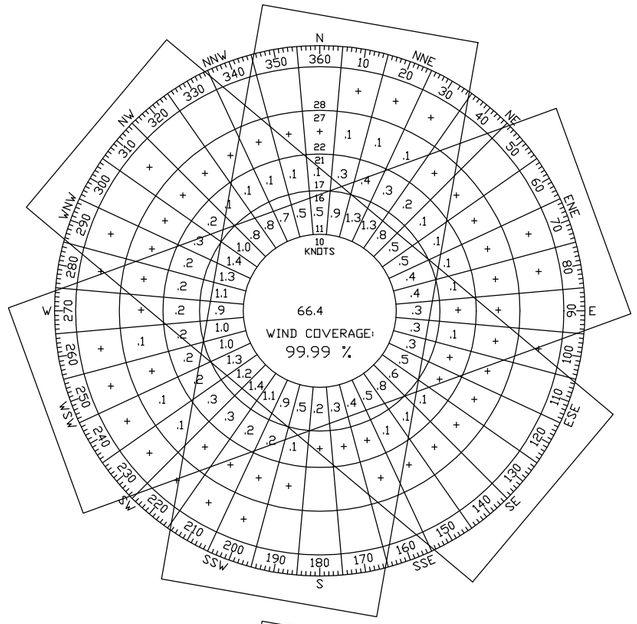
EXISTING RUNWAY DATA

Item	Runway 01L	Runway 19R	Runway 01R	Runway 19L	Runway 07L	Runway 25R	Runway 07R	Runway 25L	Runway 13	Runway 31
Runway Length	9,690 ft.		4,183 ft.		4,800 ft.		8,012 ft.		5,868ft.	
Runway Width	200 ft.		150 ft.		100 ft.		150 ft.		150 ft.	
Obstruction Clearance Slope	50:1	34:1	20:1	20:1	20:1	20:1	50:1	34:1	20:1	20:1
Effective Gradient (%)	0.35%		0.19%		0.03%		0.67%		0.06%	
Runway End Elevation (MSL)	703.6	672.7	677.3	673.9	671.9	674.4	723.1	670.4	671.3	669
True Bearing	N 7° 00’ 00”	N 187° 00’ 00”	N 7° 00’ 00”	N 187° 00’ 00”	N 72° 00’ 00”	N 252° 00’ 00”	N 72° 00’ 00”	N 252° 00’ 00”	N132° 00’ 00”	N 312° 00’ 00”
Runway End Coordinates	N 42° 55’ 52.73” W 87° 53’ 51.02”	N 42° 57’ 27.69” W 87° 53’ 34.77”	N 42° 56’ 21.75” W 87° 53’ 32.50”	N 42° 57’ 02.73” W 87° 53’ 25.47”	N 42° 57’ 09.86” W 87° 54’ 19.15”	N 42° 57’ 24.74” W 87° 53’ 17.59”	N 42° 56’ 22.34” W 87° 54’ 57.03”	N 42° 56’ 47.25” W 87° 53’ 14.81”	N 42° 57’ 29.28” W 87° 54’ 12.29”	N 42° 56’ 50.31” W 87° 53’ 13.89”
Runway Lighting	HIRL, CL, TDZ	HIRL, CL	MIRL	MIRL	MIRL	MIRL	HIRL	HIRL	MIRL	MIRL
Runway Marking	Precision Instrument		Non-Precision Instrument		Basic (BSC)		Precision Instrument		Non-Precision Instrument	
Approach Category (FAR Part 77)	PIR	PIR	C	C	A(V)	A(V)	PIR	C	B(V)	B(V)
Runway Surface	Asphalt-Concrete (grooved)		Concrete		Asphalt		Asphalt-Concrete (grooved)		Concrete	
Pavement Strength (lbs.)										
Single	100,000		85,000		30,000		100,000		80,000	
Dual	185,000		115,000		35,000		185,000		110,000	
Dual Tandem	350,000		180,000		55,000		350,000		170,000	
NAVAIDS	GS/IM/LOC/LOM/MM/ALS/PAPI	LOC/GS/LOM/MM/ALS/PAPI			VASI	PAPI	DME/GS/LOC/LOM/MM/ALS/ PAPI	LOC/PAPI	VASI	VASI
Approach Lighting	ALSF2	MALSR					SSALR			

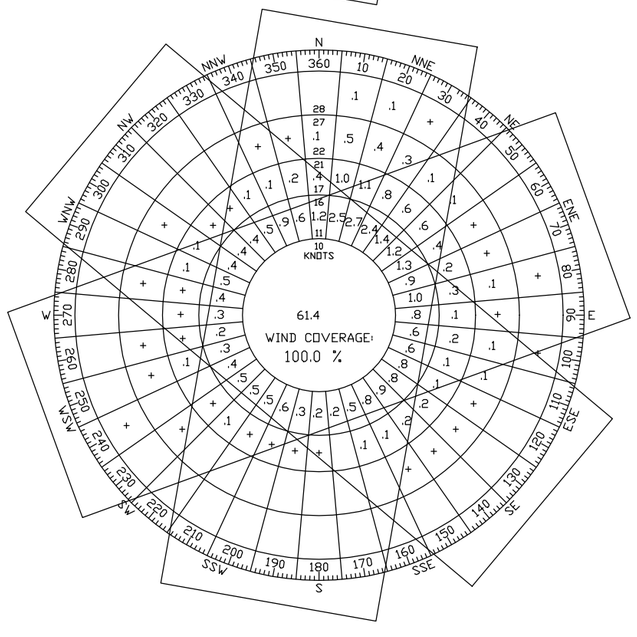
Sources: FAA 5010 Forms

GMIA Records

All-Weather
Wind Rose



IFR Wind Rose



Source : NOAA, National Weather Service, Mlwaukee, Wi.
Observation Period : January 1992 - December 2001

GENERAL MITCHELL INTERNATIONAL AIRPORT
MASTER PLAN UPDATE

ALL-WEATHER AND IFR WIND ROSE

EXHIBIT
2.3-4

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2.3.1.3 Aprons

The Airport's passenger terminal apron area consists of approximately 65 acres of concrete. Other apron areas include the seven-acre FBO apron, the 16-acre Wisconsin ANG apron, 38-acre Air Force Reserve apron, and the 22-acre apron serving the Midwest Express maintenance center and the air cargo complex.

2.3.1.4 Lighting and NAVAIDs

Lighting and NAVAIDs for each of the five runway ends are also listed on Table 2.3-1. Runways 1L/19R and 7R/25L have high intensity runway lighting (HIRL), while runways 1R/19L, 7L/25R and 13/31 carry medium intensity runway lightings (MIRL). Runway 1L/19R is equipped with center line lighting (CL) but only runway 1L has touch down zone lighting (TDZ).

Instrument Landing Systems (ILS) are in place for runways 1L, 19R, and 7R. The ILS equipment consists of glide slope transmitters (GS), distance measuring equipment (DME) (on 7R/25L only), localizers (LOC), precision approach path indicators (PAPI), approach lighting systems (ALS), location outer marker (LOM), inner markers (IM) and middle markers (MM). Runways 1L and 7R have published NDB/GPS approaches in addition to the ILS. Runway 25L has a nonprecision localizer approach.

2.3.2 Airspace

There are three major components of the airspace system which encompasses the Airport: enroute, terminal, and local airport control. Each component has a specific function and is supported in its role by a network of air traffic control facilities and NAVAIDs.

2.3.2.1 Enroute Control

Air traffic control for aircraft enroute to the Milwaukee area is the responsibility of the Chicago Air Route Traffic Control Center (ARTCC). Aircraft flying through the region

or to an airport in the area typically follow designated routes known as victor airways, or jet routes. These airways are delineated on the ground by a system of radio equipment called VORs (VHF Omni-Directional Range equipment).

2.3.2.2 Terminal Approach Control Facility

The FAA Milwaukee Approach Control Facility is responsible for the control of arrivals, departures, and overflights operating 13,000 feet and below and within a 40-mile radius of GMIA. Located at the Airport, this approach facility is also responsible for providing guidance to aircraft overflying the area.

2.3.2.3 Air Traffic Control Tower

The FAA Milwaukee air traffic control tower (ATCT) directs all traffic at the Airport and in the immediate airspace, up to approximately five miles from the tower. The tower is responsible for issuing clearances to aircraft landing or departing the Airport. Timmerman Field also has an ATCT. The tower at Timmerman operates between 0700 and 2100 local time.

2.3.2.4 Class C Airspace

As shown on **Exhibit 2.3-5,** Class C airspace for GMIA includes the airspace from the surface to 4,700 feet above the Airport's elevation. The airspace consists of a vertical cylindrical surface area with a five nautical miles radius, and an outer area with a ten nautical mile radius that extends from 1,900 feet to 4,700 feet above the Airport's elevation on the east and from 2,200 feet to 4,700 feet on the west. Two-way radio communication must be established with the Milwaukee ATCT prior to entry and thereafter maintained while in Class C airspace. Unless otherwise authorized or required by ATCT, no person may operate an aircraft at or below 4,700 feet above the Airport's elevation within four nautical miles of a Class C surface area, or at an airspeed of more that 200 knots.

GENERAL MITCHELL INTERNATIONAL AIRPORT
MASTER PLAN UPDATE

AIRSPACE

EXHIBIT 2.3-5

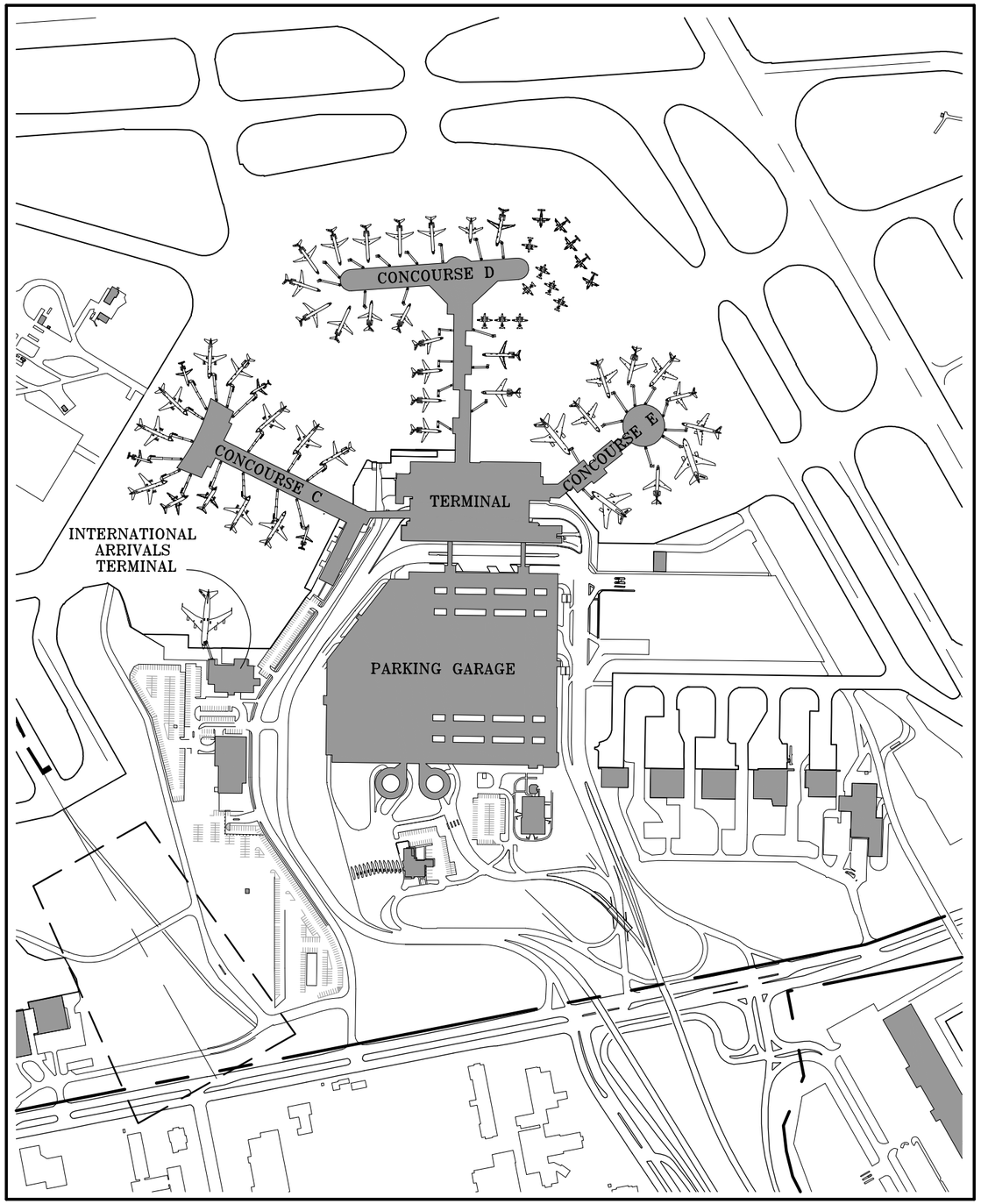
2.3.3 Passenger Terminal Facilities

The passenger terminal consists of ground level ticketing and baggage claim buildings served by separate curbfronts and a second level concession mall that connects to three concourses (C, D, and E). The terminal and concourses consist of approximately 777,000 square feet (sf) and support 42 aircraft gates. The International Arrivals Terminal, which is in the terminal area, but separate from the main terminal building, includes one gate and contains approximately 5,000 sf. The passenger terminal area is depicted in **Exhibit 2.3-6.** The list of airlines and the gate assignments are shown on **Table 2.3-2.**

TABLE 2.3-2
General Mitchell International Airport
AIRLINE GATE ASSIGNMENTS

Signatory Airline	**Gate(s)**	**Non-Signatory Sublease**
Air Canada	D33	
AirTran	E60	
America West	C24, C26	
American Eagle	C20, C21, C22, C23	
Continental Express	E62, E63	
Delta/Comair	C25, C27	
Funjet Vacations	E61	
Midwest Express	D30,D34, D36-49	
Northwest Airlines	E64-69	
Skyway	D52	ATA Connection
United Express	D31, D33, D35	
US Airways/ US Airways Express	D51, D53	

Source: Compiled by PB Aviation, Inc



GENERAL MITCHELL INTERNATIONAL AIRPORT
MASTER PLAN UPDATE

EXISTING TERMINAL LAYOUT

EXHIBIT
2.3-6

Milwaukee\Exhibits\term_area.dwg 03/03/03

PB AVIATION, INC.

2.3.4 Parking Facilities

The Airport provides vehicle parking for passengers, visitors, and employees. **Table 2.3-3** summarizes the existing parking facilities at the Airport.

TABLE 2.3-3
General Mitchell International Airport
AIRPORT PARKING SUMMARY

Category	Type	Number of Spaces
Public Parking		
Hourly	Garage	723
Daily-Garage	Garage	5,202
Daily-Surface	Surface	690
Remote	Surface	3,016

Source: Airport Records

Parking in the terminal area consists of the six-level parking garage and a surface parking lot. The parking garage is linked to the terminal via two enclosed, overhead walkways. Remote parking lots are located across Howell Avenue from the terminal adjacent to the Midwest Express maintenance complex. Shuttle bus service is provided between these lots and the terminal.

Rental car facilities are located on the lowest level of the parking garage. Spaces are designated for rental car use with queuing lanes for drop-off and booths for the seven rental car agencies. Rental car maintenance and storage are located off-Airport, on privately owned property.

A taxi queuing area is provided adjacent to the surface parking lot in the terminal area. Individual taxis are released to the terminal curbfront for passenger pickup, one at a time.

2.3.5 Air Cargo Facilitates

Major air cargo facilities at the Airport are concentrated in the area adjacent to runway 7R/25L between Howell Avenue and 6th Street. The two multi-tenant air cargo buildings are 38,000 sf and 126,000 sf. In addition to integrated cargo carriers, such as FedEx and UPS, several passenger airlines and freight forwarders lease space in the cargo buildings. Adjacent to the cargo buildings are approximately 63,300 square yards of aircraft parking apron.

The United States Postal Service (USPS) operates a 24-hour airport facility next to the corporate hangars along Howell Avenue. This location provides public access from Howell Avenue as well as secure tug access to both the air cargo complex and the terminal. Additionally, a small air cargo operator occupies two hangars along Howell Avenue north of runway 7L/25R.

2.3.6 Airport Access

Ground access to the Airport is provided by a combination of interstate highway and surface roads. The Airport Spur (STH 119) connects I-94 and the Airport terminal road system. The only exit along the Airport Spur Freeway is to Howell Avenue (STH 38). Howell Avenue is a six-lane artery that runs north/south through the Airport separating the terminal and most airfield facilities from the cargo and aircraft maintenance complex. A tunnel is in place for Howell Avenue to pass under runway 7R/25L.

2.3.7 General Aviation

Exhibit 2.3-1 depicts the General Aviation (GA) facilities that are located in several areas around the Airport. The Fixed Base Operator, Signature Flight Support, has operations concentrated north of the airfield, with public access from Layton Avenue. This area

includes a GA terminal, itinerant ramp, and aircraft maintenance and storage hangars. A GA hangar complex is located in the northeast quadrant of the Airport. This area includes 40 leased private hangars and T-hangars.

Corporate hangars are located adjacent to the terminal complex along Howell Avenue, south of runway 7R/25L near the ARFF station, and south of the Air Force Reserves on College Avenue.

2.3.8 Military Facilities

Two military units are located at General Mitchell International: the 128th Air Refueling Wing of the Wisconsin Air National Guard (ANG) and the 440th Airlift Wing of the Air Force Reserves. The ANG occupies approximately 58 acres on the east side of the airfield and operates KC-135 aircraft. The 440th Airlift Wing operates C-130 Hercules aircraft. It should be noted that the 102-acre Air Force Reserve base, located in the southwest quadrant of the airfield, is owned by the Department of Defense.

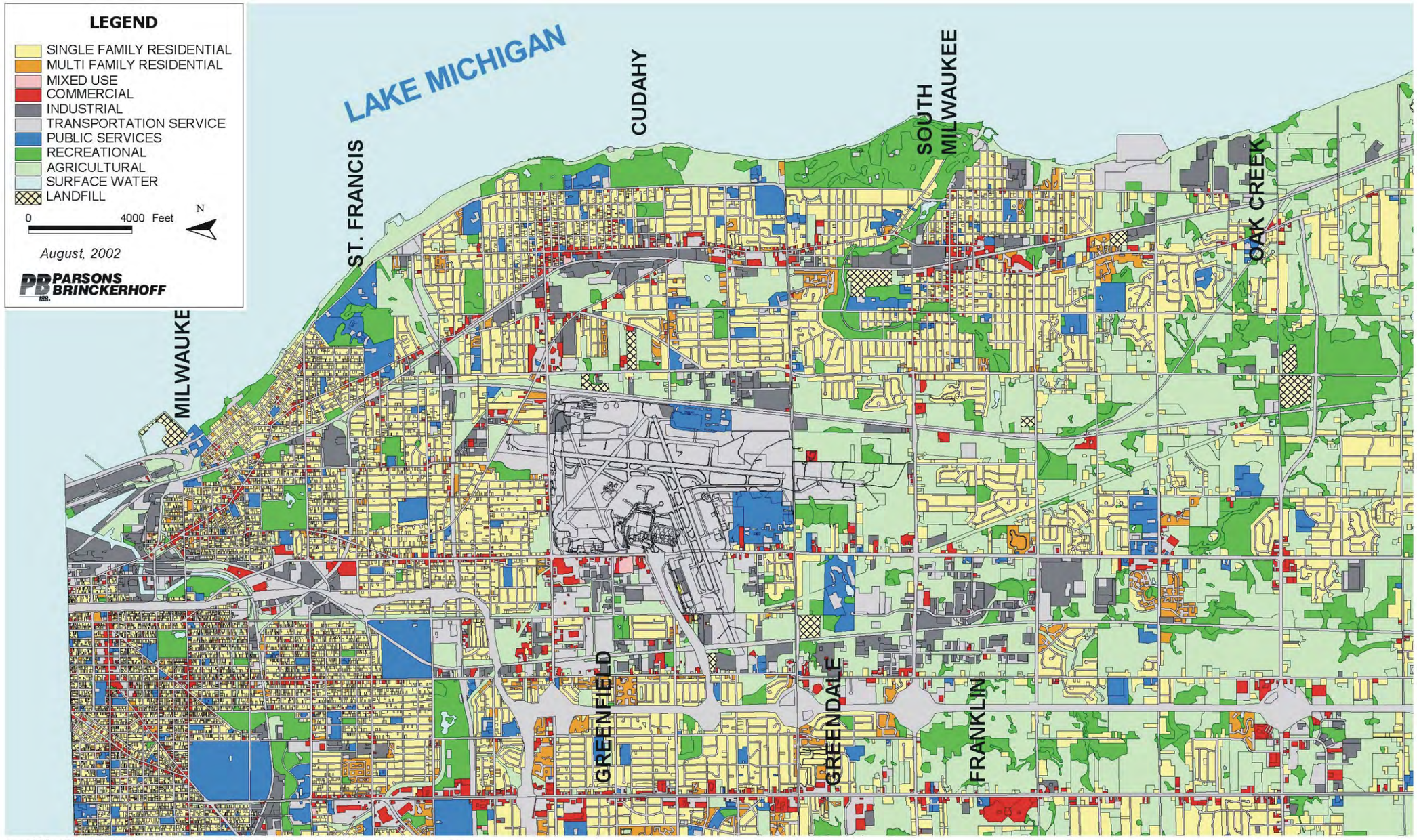
2.4 Airport Environs

Existing land uses, zoning, and the relationship of the Airport with the surrounding communities define the environs in which the Airport is located. Planned land uses are also considered for compatibility with future Airport development, where appropriate. **Exhibit 2.4-1** depicts the land uses surrounding the Airport. This information was provided by the Southeast Wisconsin Regional Planning Commission (SEWRPC).

Existing land uses surrounding the Milwaukee General Mitchell International Airport is indicated as follows:

- *Single family residential* – includes all types of detached residential units
- *Multi family residential* – includes all types of attached residential units such as duplexes, townhouses, and apartments

- *Commercial* – includes retail, business and office uses
- *Mixed Use* – includes combinations of residential and commercial uses
- *Industrial* – includes manufacturing and warehousing
- *Transportation* – includes the Airport, road right-of-way, and railroads
- *Public* – includes public institutions, and city or county owned properties used for governmental purposes
- *Recreational* – includes publicly and privately owned properties used for parks, golf courses, and conservation areas
- *Agriculture* – land used for raising crops and/or livestock
- *Surface water* – lakes and ponds



Land Use Data Source: Southeastern Wisconsin Regional Planning Commission

GENERAL MITCHELL INTERNATIONAL AIRPORT
MASTER PLAN UPDATE

EXISTING LAND USE

EXHIBIT 2.4-1

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PB AVIATION, INC.

Residential uses (both single and multi family) are the predominant land uses north of the Airport. The residential land use pattern forms a dense urban fabric which encompasses the southern portion of the City of Milwaukee and the cities of St. Francis, Cudahy and South Milwaukee.

Commercial uses are located along the heavily utilized transportation networks of the region, with some clustering in dense residential districts. Examples of this pattern are evident in the neighborhoods of South Milwaukee and Cudahy.

The mixed use category is used sparingly in SEWRPC's mapping of land uses and is considered a mixed residential-commercial use.

Industrial uses are primarily located in close proximately to the major interstates and primary access roads. Prominent industrial areas near the Airport include ACE Industrial Park and Mitchell International Business Park in Cudahy.

Public land uses, which includes government owned properties used for government and public activities are spread throughout the region. Large areas of public use are located both north and south of the Airport and include the two military installations at the Airport as well as the Milwaukee Area Technical College campus southwest of the Airport.

Recreational uses are distributed throughout the neighborhoods surrounding the Airport. Regional recreational facilities extend along the Lakefront portions of St. Francis, Cudahy and south Milwaukee. South of the Airport is the Michael F. Cudahy Nature Preserve, a 42-acre park with nature and hiking trails.

With the exception of Lake Michigan, other bodies of surface water around the Airport area are relatively small. There are a few lakes dotted in and around the cities and agricultural spaces.

2.5 Socioeconomic Setting

Socioeconomic data relevant to the Airport were collected for the Master Plan Update. The data present three Metropolitan Statistical Areas (MSAs) defined by the Office of Management and Budget that together comprise the Greater Milwaukee area. The Greater Milwaukee Area includes the metropolitan statistical areas of Milwaukee-Waukesha, Kenosha and Racine. Particular emphasis was placed on population, employment, income, and housing. These factors indicate a solid economic base for continued air transportation demand.

2.5.1 Population

Historical trends and forecasts for population of Greater Milwaukee Area are represented in **Table 2.5-1.** The decade between 1980 and 1990 showed 0.2 percent population growth for the entire region. From 1990 to 2000, population grew at a compounded growth rate of 0.6 percent. Compounded annual growth rates from 1990 to 2000 were 0.5 percent, 1.2 percent and 0.8 percent for the Milwaukee-Waukesha, Kenosha and Racine MSAs, respectively. This compares to growth rates of 0.9 percent and 1.2 percent for the state of Wisconsin and the nation, respectively.

The population for the entire area is expected to grow at an annual compounded growth rate of 0.4 percent from 1999 to 2005 and 0.4 percent from 2005 to 2010. As shown in the table, these growth rates hold steady through 2010 while the growth rate for the State of Wisconsin decreases by 2010.

TABLE 2.5-1

General Mitchell International Airport

HISTORICAL AND PROJECTED POPULATION

Area	Historical				Projected				Projected [1]	
	1980	1990	1999	2000	2005	2010	1980-1990	1990-2000	1999-2005	1999-2010
Milwaukee County	964,988	959,275	1,006,867	940,164	1,030,851	1,055,561	-0.1%	-0.2%	0.4%	0.4%
Ozaukee County	66,981	72,831	88,331	82,317	85,988	87,214	0.8%	1.2%	-0.4%	-0.1%
Washington County	84,848	95,328	117,712	117,493	122,957	126,455	1.2%	2.1%	0.7%	0.7%
Waukesha County	280,326	304,715	354,295	360,767	364,584	370,678	0.8%	1.7%	0.5%	0.4%
Milwaukee-Waukesha MSA	1,397,143	1,432,149	1,567,205	1,500,741	1,604,380	1,639,908	0.2%	0.5%	0.4%	0.4%
Kenosha MSA	123,137	128,181	144,834	144,834	149,247	152,807	0.4%	1.2%	0.5%	0.5%
Racine MSA	173,132	175,034	185,000	188,831	188,004	190,901	0.1%	0.8%	0.3%	0.3%
GREATER MILWAUKEE	1,693,412	1,735,364	1,897,039	1,834,406	1,941,631	1,983,616	0.2%	0.6%	0.4%	0.4%
State of Wisconsin	4,705,767	4,891,769	5,287,825	5,363,675	5,479,000	5,512,313	0.4%	0.9%	0.6%	0.4%
United States	227,224,681	249,464,396	281,421,906	281,421,906	285,981,000	297,716,000	0.9%	1.2%	0.3%	0.5%

[1] Population projections for 2005 and 2010 were based on 1999 population data. As a result, comparisons could not be made between 2000 and 2010.

Sources: U.S. Bureau of Census (United States). Compiled by PB Aviation, Inc.

2.5.2 Employment

The historical and projected civilian labor force for the region is represented in **Table 2.5-2.** As shown, employment grew at an annual compounded growth rate of 1.0 percent for the Milwaukee-Waukesha MSA, 0.2 percent for Racine, 2.1 percent for Kenosha, and 1.0 percent for the region from 1990 through 2000. These growth rates compare to 1.4 percent and 1.3 percent for the state of Wisconsin and the nation, respectively.

TABLE 2.5-2

General Mitchell International Airport

CIVILIAN LABOR FORCE
AND UNEMPLOYMENT RATES

Year	Civilian Labor Force					
	Milwaukee-Waukesha MSA	Racine MSA	Kenosha MSA	Greater Milwaukee	State of Wisconsin	US (000s)
1991	734,000	89,200	67,900	891,100	2,595,300	126,352
1992	754,300	91,000	70,800	916,100	2,675,300	128,099
1993	761,600	90,800	71,500	923,900	2,727,500	129,185
1994	776,300	91,800	74,000	942,100	2,798,600	131,047
1995	783,900	92,300	75,900	952,100	2,843,900	132,315
1996	805,500	93,900	77,200	976,600	2,927,300	133,945
1997	810,500	93,800	79,000	983,300	2,948,700	136,290
1998	832,800	90,900	84,100	1,007,800	2,952,000	137,665
1999	832,800	90,900	84,100	1,007,800	2,889,800	139,369
2000	802,600	90,900	81,700	975,200	2,934,900	141,500
Annual Compounded Growth						
1990 - 2000	1.0%	0.2%	2.1%	1.0%	1.4%	1.3%
1995 - 2000	-0.1%	-0.6%	1.1%	0.0%	0.1%	1.1%

Year	Unemployment Rates					
	Milwaukee-Waukesha MSA	Racine MSA	Kenosha MSA	Greater Milwaukee	State of Wisconsin	US (000s)
1990	5.0%	6.7%	6.1%	5.3%	5.5%	5.6%
1991	4.8%	7.1%	6.1%	5.1%	5.2%	6.9%
1992	4.4%	6.1%	5.1%	4.6%	4.7%	7.5%
1993	4.6%	5.8%	5.1%	4.8%	4.7%	6.9%
1994	3.5%	4.4%	3.8%	3.6%	3.7%	6.1%
1995	3.4%	4.2%	3.5%	3.5%	3.5%	5.6%
1996	3.6%	4.4%	3.6%	3.7%	3.7%	5.4%
1997	2.8%	4.1%	3.6%	3.0%	3.4%	4.9%
1998	2.8%	4.1%	3.6%	3.0%	3.0%	4.5%
1999	3.8%	4.7%	3.8%	3.9%	3.5%	4.2%

Sources: California Employment Development Department
U.S. Department of Labor, Bureau of Labor Statistics
Compiled by PB Aviation, Inc.

2.5.3 Unemployment

The unemployment rates for the region display a general annual reduction since 1990. The Greater Milwaukee region has a history of lower unemployment rates (except for 1993 and 1999) when compared to the State of Wisconsin and the nation. Within the MSAs, the Milwaukee-Waukesha MSA maintained the lowest unemployment rates through out the 1990s.

The Greater Milwaukee area has a diverse business base. **Table 2.5-3** indicates nonagricultural employment trends for the area and the nation for 1991 and 2001. The majority of people work in the Services sector followed by Trade, Manufacturing, Government, Financial/Insurance/Real Estate and Construction.

The Services and Trade sectors, having a compounded annual growth rate of 3.3 percent and 0.6 percent respectively, employ approximately 33 percent and 21 percent of the labor force, thereby being the two largest sectors in the region. These two sectors are followed by the Manufacturing sector, Government, Finance/Insurance/Real Estate, Transportation/Utilities and Construction.

Comparing the Greater Milwaukee Nonagricultural Employment with that of the nation identifies those sectors whose percent of employment is greater. These industries are considered the primary producing sectors in the region.

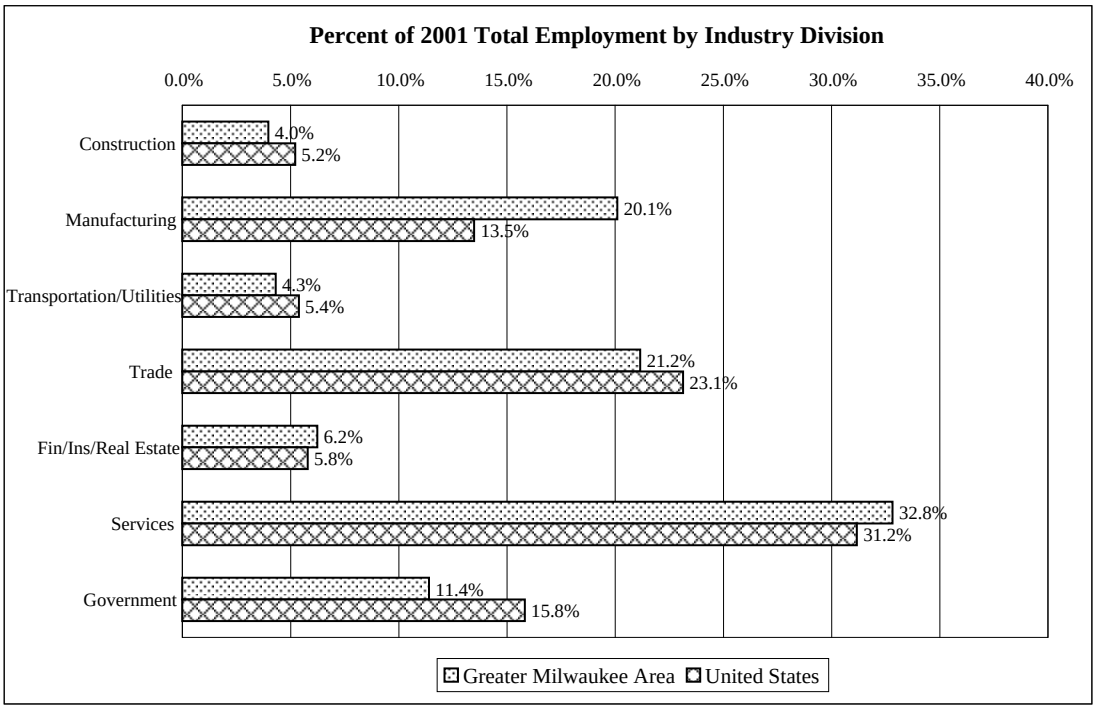
The major employers for the Milwaukee area are listed in **Table 2.5-4**. The table lists all of the companies with 1,000 employees or more. The list of employers establishes the dominance of the Service sector in the region. Noted are major employers such as Wal-Mart, U.S. Bank, Daimler Chrysler Corp., United Parcel Service, Midwest Express Airlines and several hospitals.

TABLE 2.5-3

General Mitchell International Airport

NONAGRICULTURAL EMPLOYMENT TRENDS BY MAJOR INDUSTRY DIVISIONS

Industry	Greater Milwaukee Nonagricultural Employment 1991	2001	Annual Compounded Growth	United States Nonagricultural Employment (000) 1991	2001	Annual Compounded Growth
Construction [1]	63,400	40,000	-4.5%	5,834	6,872	1.7%
Manufacturing	202,100	202,100	0.0%	19,075	17,755	-0.7%
Transportation/Utilities	40,600	43,300	0.6%	5,776	7,079	2.1%
Trade	199,900	212,800	0.6%	25,774	30,457	1.7%
Fin/Ins/Real Estate	55,100	62,800	1.3%	6,709	7,624	1.3%
Services	237,900	330,000	3.3%	27,930	41,044	3.9%
Government	101,700	114,600	1.2%	18,306	20,825	1.3%
Total	900,700	1,005,600	1.1%	109,404	131,656	1.9%



[1] Includes mining employment.

Sources:

U.S. Department of Labor, Bureau of Labor Statistics

Compiled by PB Aviation, Inc.

TABLE 2.5-4
General Mitchell International Airport

MAJOR EMPLOYERS

Employer	Product/Service
Allen-Bradley Co. LLC	Relay and Industrial Controls
Aurora Health Care Metro, Inc.	General Medical and Surgical Hospitals
Briggs and Stratton Corp.	Internal Combustion Engines
Case Corporation	Farm and Construction Equipment
Cooper Power Systems	Switchgears and Transformers
Daimler Chrysler Corp.	Automotive Manufacturer
Emerson Electric Co.	Household Appliances
U.S. Bank	National Commercial Bank
Fleming Companies	Grocery Stores
G.E. Medical Systems	X-Ray & Irradiation Equipment
Marks Five Corps	Help Supply Services
Marshall & Ilsley Corp.	Bank Holding Companies
Medical College of Wisconsin Inc.	Health Care/Education
Northwestern Mutual Life	Life Insurance
Parisian Inc.	Department Stores
Quad/Graphics	Commercial Printing
S.C. Johnson and Son Inc.	Chemical and Allied Products-Consumer
St. Joseph's Hospital	General Medical and Surgical Hospitals
The Gap Inc.	Family Clothing Store
Tower Automotive Products Co. Inc.	Motor Vehicle Parts and Accessories
United Parcel Service	Air Courier Service
Walmart Associates	Department Stores
Waukesha Memorial Hospital Inc.	General Medical and Surgical Hospitals
Midwest Express Airlines	Air Transportation

Source: Wisconsin Department of Workforce Development
Compiled by PB Aviation, Inc.

2.5.4 Income

The Greater Milwaukee area has an average cost of living as compared to other metropolitan areas in the state of Wisconsin and the United States. A survey of cost of living conducted by Dowden & Co., a respected research and recruiting firm, is presented in **Table 2.5-5**. As noted in the table, the Milwaukee area has a cost of living of 104.5, compared to the national average of 100 for areas with a population greater than 2 million.

TABLE 2.5-5

General Mitchell International Airport

SURVEY OF COST OF LIVING

Area	State	Cost of Living
Boston	MA	127.4
Chicago	IL	113.9
Detroit	MI	112.7
Seattle	WA	112.6
Lansing	MI	104.9
Madison	WI	104.7
Milwaukee	WI	104.5
Wausau	WI	103.8
Green Bay	WI	99.9
Champaign/Urbana	IL	98.3

Source: Dowden & Co.

2.5.5 Per Capita Effective Buying Income

The effective buying income is the total income a household receives minus personal and real estate taxes. The Per Capita Effective Buying Income is the estimated average amount of personal disposable income per person received during a calendar year for all persons residing in a political jurisdiction. **Table 2.5-6** shows a yearly comparison of effective buying income per capita for the Greater Milwaukee area, the state of Wisconsin and the nation. Evident is a higher disposable income for the Greater Milwaukee area compared to the state and the nation. Further, when detailed into income categories, the air trade area has a higher percentage of disposable income.

* * * * * * * *

The information presented in this chapter serves as a baseline for the projection of aviation activity and the determination of facility requirements presented in the following two chapters. As stated earlier, the inventory is a snapshot as the Airport is continually undertaking improvements.

TABLE 2.5-6

General Mitchell International Airport

PER CAPITA EFFECTIVE BUYING INCOME

Year	Air Trade Area	State of Wisconsin	United States
Historical[1]			
1992	$16,062	$14,690	$15,255
1993	$17,109	$15,645	$16,064
1994	$18,114	$16,532	$16,918
1995	$15,627	$14,435	$14,965
1996	$16,299	$15,058	$15,555
1997	$16,965	$15,708	$16,281
1998	$17,435	$16,189	$16,895
1999	$18,227	$16,848	$17,691
2000	$18,913	$17,490	$18,426
Projected			
2005	$22,514	$20,894	$21,977
	Annual Compounded Growth		
1990 - 1994	-0.7%	-0.4%	-0.5%
1995 - 1998	3.7%	3.6%	4.2%
1998 - 2003	3.5%	3.6%	3.6%
	Percentage of Households (2000 EBI)		
Income Category	Air Trade Area	State of Wisconsin	United States
Less than $20,000	0.0%	0.0%	24.4%
$20,000 - $34,999	26.1%	28.4%	20.7%
$35,000 - $49,999	23.2%	24.2%	16.8%
$50,000 or more	50.7%	47.4%	38.2%
Total	100.0%	100.0%	100.0%

[1] Data beginning in 1995 are not directly comparable to data in previous years due to a change in certain components used in the calculations.

Sources: *Sales & Marketing Management,* Survey of Buying Power
Compiled by PB Aviation, Inc.