

DETROIT METROPOLITAN WAYNE COUNTY AIRPORT
FAR PART 150 NOISE COMPATIBILITY STUDY UPDATE



DETROIT METRO • WILLOW RUN
WAYNE COUNTY AIRPORT AUTHORITY

CHAPTER A
INVENTORY

Inventory

Introduction

Detroit Metropolitan Wayne County Airport (DTW) is an integral component of the transportation infrastructure serving the Detroit Metropolitan area, southeast Michigan, and northwest Ohio. Because of its airfield and facility capabilities, Detroit Metropolitan Wayne County Airport is also a vital part of the national system of airports. The Airport serves as not only the City of Detroit's front door by providing visitors with an important first impression of the community, but also is the state's largest airport. The Airport provides transportation facilities that are an absolute necessity for some businesses, and a "required" convenience for others. Additionally, Detroit Metropolitan Wayne County Airport provides recreational and leisure traveler's convenient access to air transportation with convenient non-stop and connecting service to many popular destinations.

This Federal Aviation Regulation (FAR) Part 150 Noise Compatibility Planning Study is an update of a 1992 Study that was adopted by Wayne County and approved by the Federal Aviation Administration (FAA) in 1993. The Wayne County Airport Authority has implemented many of the recommendations contained in the previous FAR Part 150 Study. However, since completion of the previous study, there have been changes to the airfield, type of aircraft, and the number of aircraft operating at the airport. As such, many of these changes have likely resulted in changes to noise exposure and therefore the need for an update to the previous Study.

The purpose of this airport facilities INVENTORY chapter of the Part 150 Study is to establish a baseline of information about existing airport facilities and operations, as well as local land use. Much of this inventory data will be used to model new aircraft noise exposure contours showing the areas exposed to significant aircraft noise, as defined by the FAA. The inventory includes data concerning airport facilities, flight procedures, noise abatement procedures, noise complaints, and land use conditions and policies within the environs of the Airport.

Airport Facilities

Detroit Metropolitan Wayne County Airport is the primary air transportation hub of southeast Michigan. The Airport resides on approximately 6,700 acres of land within Wayne County and is located entirely within the City of Romulus, approximately 10 miles southwest of downtown Detroit. Municipalities in the vicinity of the Airport include the City of Allen Park, City of Belleville, City of Dearborn, City of Dearborn Heights, City of Garden City, City of Inkster, City of Livonia, City of Romulus, City of Taylor, City of Wayne, City of Westland, Huron Township, Sumpter Township, and Van Buren Township.

The Airport is served by 16 major scheduled legacy and low cost airlines including: Air Canada, American, American Eagle, America West, British Airways, Continental, Delta, Lufthansa, Northwest, KLM, Royal Jordanian, Southwest, Spirit, United, USA 3000, and US Airways Express. The Airport is served by seven (7) commuter airlines including: ASA (Delta), Comair (Delta), Continental Express, Mesaba (Northwest AirlinK), Pinnacle Airlines(Northwest AirlinK), United Express, and US Airways Express. There are approximately seven (7) charter airlines operating at the Airport. Both Federal Express and United Parcel Service conduct major scheduled cargo operations. The Airport provides non-stop air service to 110 cities within the United States and 44 cities internationally. In terms of passenger activity, Detroit Metropolitan Wayne County Airport was the 10th busiest US airport in 2003 with respect to scheduled enplaned passengers. The generalized Airport location is illustrated on **Figure A1, AIRPORT LOCATION MAP**.

Detroit Metropolitan Wayne County Airport is owned by Wayne County and is operated by the Wayne County Airport Authority. The Authority is managed by an independent, seven-member Board of Directors. Four members are appointed by the Wayne County Executive; two members are appointed by the Governor; and one member is appointed by the Wayne County Commission. Terms of the appointments range from two to eight years. The Authority is responsible for the management and operation of Detroit Metropolitan Wayne County Airport and Willow Run Airport - including the power to plan, promote, extend, maintain, acquire, purchase, construct, improve, repair, enlarge, and operate both Airports. The Director of the Airport is responsible for the day-to-day operations of the Detroit Metropolitan Wayne County Airport.

Airport property boundaries are completely within Wayne County and the City of Romulus. (**Figure A2, AIRPORT VICINITY MAP**). Figure A3 depicts the Existing Airport Layout.

The Wayne County Airport Authority is currently preparing an updated Master Plan package for Detroit Metropolitan Wayne County Airport that is evaluating airside and landside facility requirements for the next 20 years.

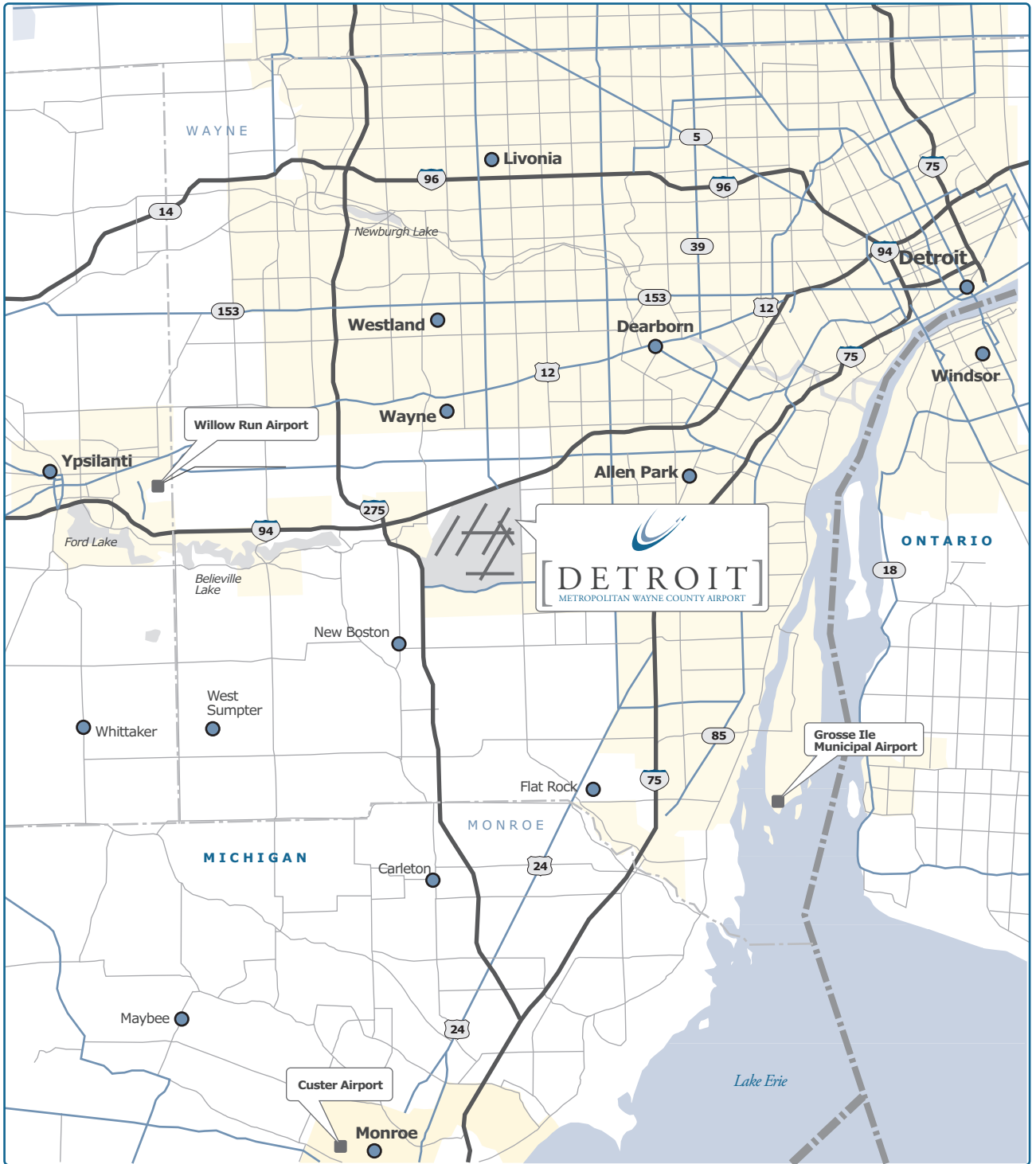


Figure A2 **Airport Vicinity Map**

Approximate Scale = ?

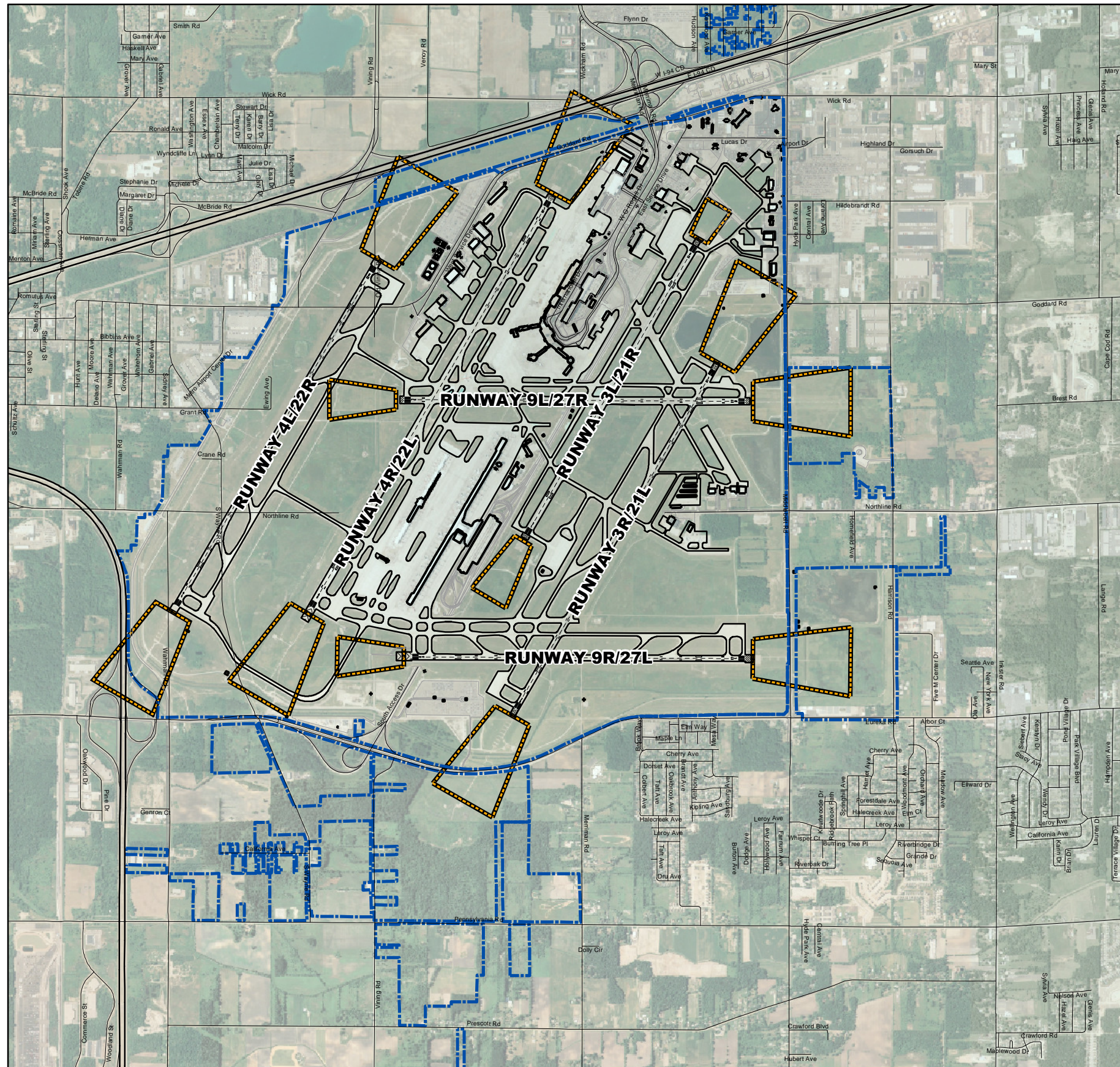




Figure A3 Existing Airport Layout

Legend

-  Airport Property Line
-  Runway Protection Zones



Airside Inventory

Runways. Detroit Metropolitan Wayne County Airport has an Airport Reference Point (ARP) of Latitude 42° 12' 44.750"N, Longitude 083° 21' 12.213"W and an elevation of approximately 646 feet above mean sea level (AMSL). The Airport currently has the following six (6) runways:

- Runway 4L/22R – 10,000 feet long and 150 feet wide.
- Runway 4R/22L – 12,001 feet long and 200 feet wide.
- Runway 3L/21R – 8,500 feet long and 200 feet wide.
- Runway 3R/21L – 10,000 feet long and 150 feet wide.
- Runway 9L/27R – 8,700 feet long and 200 feet wide.
- Runway 9R/27L – 8,500 feet long and 150 feet wide.

Runway 4L/22R (northeast/southwest orientation) is 10,000 feet in total length and 150 feet in width. Runway 4L/22R is equipped with High Intensity Runway Edge Lights (HIRL) and in-pavement centerline lights. Runway 4L has precision runway markings. Runway 4L has a Category II and III Instrument Landing System (ILS)/Distance Measuring Equipment (DME) approach with ALSF-2 (approach lighting system with sequenced flashing lights) approach lights. Runway 22R also has precision runway markings and an ILS/DME approach with MALSR (medium intensity approach lighting system) approach lights.

Runway 4R/22L (northeast/southwest orientation) is 12,001 feet in total length and 200 feet in width. Runway 4R/22L is equipped with HIRL and in-pavement centerline lights. Runway 4R has precision runway markings. Runway 4R has a Category II and III ILS/DME approach with ALSF-2 approach lights as well as a SSALR (simplified short approach lighting system with runway alignment indicator lights) approach light system. Runway 22L also has precision runway markings and an ILS/DME approach with MALSR approach lights.

Runway 3L/21R (northeast/southwest orientation) is 8,500 feet in total length and 200 feet in width. Runway 3L/21R is equipped with HIRL and in-pavement centerline lights. Runway 3L has nonprecision runway markings, Runway End Identifier Lights (REIL), and Precision Approach Path Indicator (PAPI) lights. Runway 21R has nonprecision runway markings, PAPI lights, and MALSR approach lights.

Runway 3R/21L (northeast/southwest orientation) is 10,000 feet in total length and 150 feet in width. Runway 3R/21L is equipped with HIRL and in-pavement centerline lights. Runway 3R has precision runway markings and PAPI lights. Runway 3R has Category II and III ILS with ALSF-2 approach lights and SSALR approach lights. Runway 21L also has precision runway markings and PAPI lights. Runway 21L has an ILS with MALSR approach lights.

Runway 9L/27R (east/west orientation) is 8,700 feet in total length and 200 feet in width. Runway 9L/27R is equipped with HIRL and in-pavement centerline lights. Runway 9L has precision runway markings and REIL. Runway 27R has precision runway markings and PAPI lights. Runway 27R has an ILS with MALSR approach lights.

Runway 9R/27L (east/west orientation) is 8,500 feet in total length and 150 feet in width. Runway 9R/27L is equipped with HIRL and in-pavement centerline lights. Runway 9R has precision runway markings. Runway 27L has precision runway markings and PAPI lights. Runway 27L has an ILS with MALSR approach lights.

Taxiways. All runways are provided with taxiway access to runway ends and connector or exit taxiways. All runways have a parallel taxiway. The taxiway system has been designed to primarily provide quick and safe access to and from runway ends and the main passenger terminal. The taxiway system also provides aircraft access to cargo, maintenance, and hangar areas. Taxiway width and pavement characteristics vary depending on the aircraft specifications that utilize the facilities and runways that the taxiways serve.

Landside Inventory

Terminal. Detroit Metropolitan Wayne County Airport has four (4) existing passenger terminal buildings; however, only three are in operation. The Smith Terminal (constructed in 1954) is no longer used for passenger service; the McNamara Terminal (constructed in 2002) a midfield terminal with a satellite concourse; the Berry International Terminal (constructed in 1974); and the North Terminal, opened in 2008. The North Terminal, the newest terminal, serves all domestic carriers except Northwest Airlines and its partners. The Berry International Terminal serves certain international arrivals and international departures, as well as most charter operations and some domestic service flights. The McNamara Terminal, the second newest and state-of-the-art terminal, (completed in 2002) serves all Northwest Airlines operations and those of their airline partners.

Cargo. Major air cargo facilities at Detroit Metropolitan Wayne County Airport are generally located toward the north portion of the Airport area adjacent to Runways 22R, 22L, and 21R; however, there are some cargo facilities, such as UPS, that are located in

other areas. The cargo areas for the largest cargo tenants (Federal Express and United Parcel Service) are located in separate locations. The passenger airline cargo facilities and smaller cargo carriers are generally concentrated in two areas located adjacent to Merriman Road.

Airport Maintenance Facilities. Detroit Metropolitan Wayne County Airport is host to multiple aircraft maintenance operations including: Northwest Airlines, United Airlines, UPS, FedEx, and others. Aircraft serviced at the maintenance facilities range from small single engine general aviation aircraft to Boeing 747 jets. Maintenance facilities are generally located on north end of the central terminal area; however, there are maintenance facilities in other locations as well (e.g. FedEx).

Airport Rescue and Fire Fighting Facility (ARFF). The Aircraft Rescue and Fire Fighting (ARFF) facility is located in the central portion of the airfield between the north terminal complex and the midfield terminal. A second smaller ARFF facility is located north of the International Terminal. A third ARFF is located north of Taxiway V between runways 22L and 22R. The County operates an Index E ARFF facility, the highest index, which is required by the FAA for airports that accommodate at least five daily departures by aircraft up to 200 feet in length (e.g., the B-767, DC-10).

Airport Traffic Control Tower (ATCT) Facility. The FAA ATCT located near the north end of the McNamara Terminal building operates twenty-four hours a day. The Terminal Radar Approach Control (TRACON) facility, that is responsible for Detroit Metropolitan Wayne County Airport and other regional airports, is located within the ATCT building.

General Aviation. General aviation (GA) and corporate aircraft hangars and ancillary facilities are located in various locations around the airfield that provide apron space and roadway access. The primary Fixed Base Operator (FBO) is Signature Flight Support, who supplies aircraft fuel, parking, hangars, catering, and other flight services to the GA community.

Air Traffic Operations Activity

Detroit Metropolitan Wayne County Airport averages 672 scheduled aircraft departures per day, and is served by 34 major/national, regional/commuter, and charter airlines. A summary of airport activity is provided in **Table A1, Summary of Historical Aviation Activity**. Between 1990 and 2000, total aircraft operations increased from approximately 391,000 to 561,000, representing an average annual growth rate of approximately 3.3 percent. Closely following national trends, aircraft activity declined from 2000 to 2003 to 491,000 operations. It should be noted that the decrease in overall operations and enplanements for 2001 and 2002 was influenced by the downturn in commercial

passenger traffic following the terrorist events of September 11, 2001, the temporary closure of airports in the U.S., and the subsequent economic downturn.

Between 1990 and 2000, passenger enplanements increased from approximately 10.5 million to 17.5 million, representing an average annual growth rate of approximately 5%. Passenger activity declined in 2003 to 15.6 million passenger enplanements. In 2003, the Airport provided for the transportation of 242,366 metric tons of total cargo. Approximately 89% of this cargo (215,806 metric tons) was freight, and approximately 11% (27,061 metric tons) was mail. Approximately 74% of the freight transported at Detroit Metropolitan Wayne County Airport was carried in cargo aircraft and the remaining 26% of air freight was transported on passenger aircraft. All of the 27,061 metric tons of mail transported at Detroit Metropolitan Wayne County Airport was transported on passenger aircraft.

Table A1

SUMMARY OF HISTORICAL AVIATION ACTIVITY, 1990-2006*Detroit Metropolitan Wayne County Airport FAR Part 150 Noise Compatibility Study Update*

Year	Passenger Enplanements	Air Carrier Operations	Air Taxi/Commuter Operations	General Aviation Operations	Military Operations	Total Operations
1990	10,552,053	279,148	56,001	55,796	220	391,165
1991	10,241,703	271,720	68,429	50,147	567	390,863
1992	10,983,586	277,880	83,788	49,804	2,072	413,544
1993	11,496,509	297,422	97,419	63,011	2,157	460,009
1994	12,801,476	316,855	94,316	66,682	1,885	479,738
1995	13,990,302	333,002	94,644	69,721	1,520	498,887
1996	14,866,851	349,630	100,370	79,532	1,566	531,098
1997	15,028,353	351,053	106,019	84,000	1,554	542,626
1998	15,456,583	336,457	108,989	84,199	1,689	531,334
1999	16,962,103	331,153	154,790	73,667	1,685	561,295
2000	17,520,806	330,399	159,972	69,154	1,598	561,123
2001	16,766,532	319,194	167,672	52,692	1,408	540,966
2002	15,166,353	337,816	127,236	25,309	302	490,663
2003	15,630,702	330,110	140,984	19,768	213	491,075
2004	16,748,147	325,704	172,349	15,369	168	513,590
2005	17,545,384	325,415	191,394	14,725	344	531,777
2006	17,323,171	287,793	185,109	12,841	105	485,848
2007 ¹	17,885,915	280,062	181,025	11,485	153	472,725

Source: FAA Terminal Area Forecasts 2007. Fiscal Year Data

¹ Forecast Data**Airspace**

The following is presented to better help the public understand the complexities of Air Traffic Control. Local airspace surrounding Detroit Metropolitan Wayne County Airport is designated as Class B airspace. **Figure A4**, entitled **GENERALIZED CLASS B AIRSPACE ILLUSTRATION**, is shown on the following page. The exact configuration of each Class B airspace area is tailored to the individual airport. However, Class B airspace usually consists of a 20 Nautical Mile (NM) radius circle surrounding an airport; the floor and ceiling of the airspace is unique to each airport. There is a 20 to 30 NM ring around an airport that requires all aircraft to have a two-way transponder. Air traffic in the vicinity of the Airport is monitored using the regional ASR-9 radar unit (Airport Surveillance Radar).

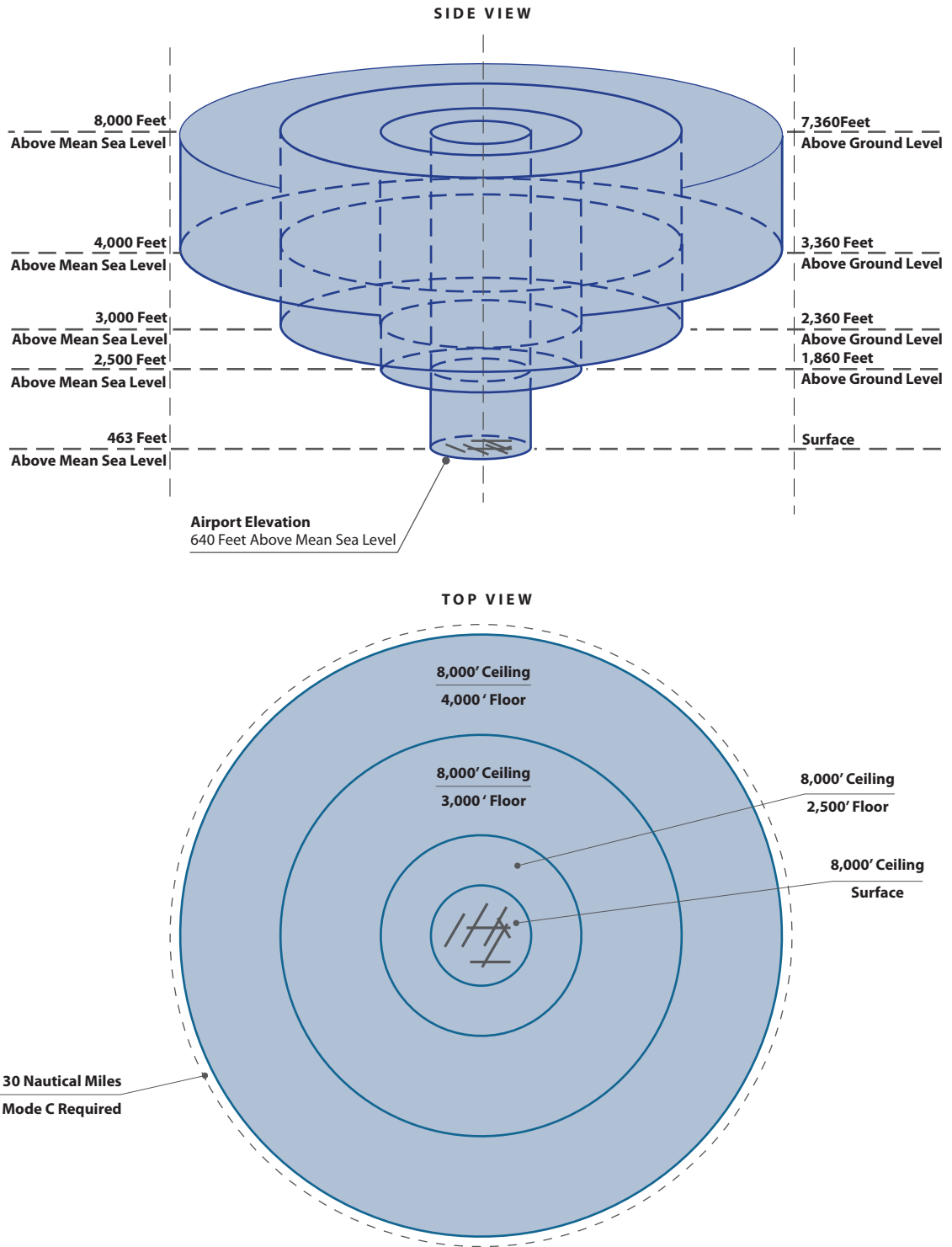


Figure A4 **Generalized Class B Airspace Illustration**

Each person operating an aircraft must establish two-way radio communications with the ATCT facility providing air traffic services prior to entering Class B airspace and, thereafter, must maintain those communications within the airspace. Aircraft entering Class B airspace must also have clearance to enter the airspace. Around Detroit Metropolitan Wayne County Airport, the Class B airspace, within the inner 5 NM radius circle, extends from the surface (the ground elevation at Detroit Metro Airport is 646 feet above mean sea level (AMSL) to an elevation of 8,000 feet AMSL. Airspace within the 10 NM radius circle, extends from varying floor elevations (2,500, 3,000, and 4,000 feet AMSL) to the same 8,000-foot AMSL altitude cap as the inner circle.

International boundaries, military airports, military operations areas, restricted areas, temporary flight restrictions, and prohibited areas can also impact airspace use in the vicinity of a civil airport.

All aircraft flights are governed by either Visual Flight Rules (VFR) or Instrument Flight Rules (IFR). Definitions are contained in FAR Part 91 and summarized below. The basic difference between VFR and IFR rules is that the pilot maintains spatial orientation of an aircraft by reference to the earth's surface for VFR and by reference to aircraft instruments for IFR. Under IFR rules, a pilot can operate in poor visibility conditions within controlled airspace. Flights under VFR rules require good visibility and maintenance of specified distances from clouds.

IFR Operations

Air carrier and many turbojet general aviation and military aircraft operating to or from the Airport under IFR, are reassigned coded flight routes and procedures referred to as Standard Instrument Departure (SIDs) procedures and Standard Arrival Routes (STARs). Navigation of IFR aircraft within the Detroit TRACON airspace is generally provided by radar vectors (routes) to achieve efficient sequencing, spacing, and separation between aircraft. Therefore, actual aircraft flight tracks, particularly close to the Airport, will not conform exactly to the SIDs and STARs depicted.

In general, however, IFR arrival aircraft are cleared to the Airport by the Cleveland ARTCC via these STARs while descending from en-route altitudes. These aircraft arrivals are "handed off" via radar from the ARTCC to the Detroit TRACON at various "gates" or fixes. In other words, there are established arrival routes that aircraft utilize and pilots are in contact with a sequence of controllers as they approach the Airport.

The TRACON assumes responsibility for guiding arriving aircraft to their final approach course at the destination airport and for separating them from each other. Lower performance aircraft, and some commuter/air-taxi aircraft, operate at lower altitudes below or clear of the jet aircraft routes. These lower performance aircraft are "laced" into arrival routes close to the Airport to minimize the effects of speed differentials.

When arriving aircraft are in the vicinity of their destination airport the TRACON gives descent instructions until they are approximately 3,000 feet above the destination airport and approximately seven nautical miles (NM) from the runway threshold on the final approach. TRACON then clears the aircraft for the final approach and instructs the pilot to contact the destination airport's tower.

Similarly, departing IFR aircraft are guided and separated from other aircraft by the Detroit TRACON through its delegated airspace. Shortly after departure, when the aircraft is airborne, the tower clears the aircraft to contact the TRACON for departure control. The TRACON then directs departing aircraft toward the departure fixes. Again, low performance aircraft are turned immediately after take-off to separate them from the jet departure stream and to keep them at lower altitudes. As soon as departing aircraft either pass the departure fix or climb out of the TRACON airspace, they are transferred to ARTCC for en-route control.

Unless visual (VFR) separation is in effect, TRACON provides all IFR aircraft with a radar separation of at least three nautical miles (NM) longitudinally, or 1,000 feet of vertically within their terminal airspace. Additional longitudinal separation to avoid wake turbulence is provided for various combinations of aircraft sizes. The minimum longitudinal separation in terminal airspace is listed in Table A2.

Table A2
AIRCRAFT LONGITUDINAL SEPARATIONS
Detroit Metropolitan Wayne County Airport FAR Part 150 Noise Compatibility Study Update

Lead Aircraft Classification (NM)	Trailing Aircraft Classification	Separation
Heavy	Heavy	4
Heavy	Large	5
Large	Small	4
Heavy	Small	6
B-757	Small	5
B-757	Large/Heavy	4

Source: FAA Handbook 7110.65L, "Air Traffic Control" with changes.

For the purpose of wake turbulence separation minimums, the FAA classifies aircraft as Heavy, Large, or Small as follows:

- **Heavy:** Aircraft capable of take-off weights of 250,000 pounds or more whether or not they are operating at this weight during a particular phase of flight (Examples: B-747, B-777, DC-10). [Exception: the B-757 is handled as a Heavy aircraft for separation purposes].
- **Large:** Aircraft of more than 41,000 pounds, maximum certified take-off weight, up to 250,000 pounds (Examples: B-737, MD-80, Dash-8, Large Business jets).
- **Small:** Aircraft of 41,000 pounds or less maximum certified take-off weight (twin and single engine piston/turboprops, Small Business Jets).

Within the Detroit Class B airspace, the Detroit TRACON provides all VFR aircraft a radar separation of one and one-half nautical mile (NM) longitudinally, or 500 feet of vertical separation, from all IFR/VFR aircraft more than 19,000 pounds and all turbojets.

Navigation and Communication Aids

Detroit Metropolitan Wayne County Airport, like all U.S. airports, functions within the local, regional, and national system of airports and airspace. The following illustration, **Figure A5, AIRSPACE/NAVAIDS SUMMARY**, and narrative provide a brief description of Detroit Metropolitan Wayne County Airport's role as an element within these systems. Please refer to http://www.faa.gov/library/manuals/aviation/instrument_flying_handbook/ for a more detailed explanation of the following discussion.

Air Traffic Service Areas

The FAA is responsible for the safe and efficient use of the national air space. This airspace is divided into three specific types: en-route, terminal, and tower. When an aircraft departs an airport, air traffic controllers working in an airport traffic control tower handle its movement. When the aircraft is approximately one to five miles away from the Airport, the aircraft is handed off to controllers working the Terminal Radar Approach Control Facility (TRACON) located at Detroit Metropolitan Wayne County Airport. These controllers are responsible for the airspace extending out 40 nautical miles from the Airport in all directions. The aircraft then enters the third type of airspace and becomes the responsibility of en-route controllers working in one of twenty-two domestic Air Route Traffic Control Centers (ARTCC). The en-route controllers retain control until the aircraft nears its intended destination. The air-traffic control process is then reversed for landings. Detroit Metropolitan Wayne County Airport is contained within the Cleveland ARTCC jurisdiction, which has an airspace size of 70,000 square miles.



Figure A5 Airspace/NAVAIDS Summary

Approximate Scale = 1" = 7 Nautical Miles

Source: Detroit Sectional Aeronautical Chart, 63rd Edition, October 2001.



Detroit Metropolitan Wayne County Airport has a 24-hour, continuously operating Airport Traffic Control Tower (ATCT) that has a designated Class B airspace surface area. Aircraft that operate within Class B airspace must be in contact at all times with the tower controllers, especially to receive approval for take-offs and landings. Aircraft operating in Class B airspace must have clearance to enter the airspace.

Navigational Aids

A variety of navigational facilities are currently available to pilots around Detroit Metropolitan Wayne County Airport, whether located at the Airport or located elsewhere in the region, and are available to en-route air traffic as well. Additionally, there are a number of navigational aids (NAVAIDS) that allow a variety of instrument approaches to the Airport.

The NAVAIDS available for use by pilots in the vicinity of the Airport are Non-Directional Radio Beacon (NDB) facilities, VHF Omnidirectional Range/Distance Measuring Equipment (VOR/DME), and VHF Omnidirectional Range/Tactical Air Navigation (VORTAC) facilities. NDBs are general purpose low- or medium-frequency radio beacons that aircraft equipped with a loop antenna can home in on or determine its bearing relative to the sending facility. A VOR/DME system is a Very High Frequency Omnidirectional Range Station with Distance Measuring Equipment transmitting very high frequency signals, 360 degrees in azimuth (the angular position along the horizon, measured clockwise from the north) oriented from magnetic north. This DME equipment is used to measure, in nautical miles (NM), the slant range distance of an aircraft from the navigation aid. A VORTAC is a navigational aid providing VOR azimuth, TACAN azimuth, and TACAN distance measuring equipment at a single site.

TACAN's are en route navigation stations using the ultra-high-frequency (UHF) portion of the radio spectrum and were previously used exclusively by the military. However, within the last thirty-years, most VHF and UHF airway stations have been combined to form a single nationwide airway system shared by all users of the national airspace system. Thus, VOR and TACAN facilities co-located and operating simultaneously are referred to as VORTAC stations.

Airport and regional navigational and landing aids available for Detroit Metropolitan Wayne County Airport include an Instrument Landing System, with Localizer and Glide Slope, for Runways 22L/4R, and Runway 4L/22R; Runway 21L/3R is equipped with an ILS, and Runway 21R/3L is equipped with a PAPI visual slope indicator. Runways 9L/27R are equipped with an ILS approach on Runway 27R; Runways 27L/9R are equipped with an ILS on Runway 27L. In addition, the VHF Omnidirectional Range/Distance Measuring Equipment (VOR/DME) is located on the airfield.

Additional navigational aids within the vicinity of Detroit Metropolitan Wayne County Airport include the Detroit VOR-DME (113.40 DXO) located on the field, The Carleton VORTAC (115.70 CRL) located 11 NM south of the Airport, the Salem VORTAC (114.30 SVM) located 16 NM north of the Airport, the Windsor VOR-DME (113.80 CYQG) located 23 NM east of the Airport, and the Pontiac VORTAC (111.00 HRK) located 30 NM north of the Airport. NDB facilities located within proximity of the Airport include: Grosse Ile (419 RYS) located eleven (11) NM southeast of the Airport, Berz (215 UIZ) located 32 NM northeast of the Airport, Howell (243 OZW) located northwest of the Airport and Adrian (278 ADG) located 38 NM southwest of the Airport.

Current Noise Management Program

The existing noise management program at Detroit Metropolitan Wayne County Airport combines elements of the existing approved Part 150 Noise Compatibility Plan with air traffic control requirements to ensure the safe and expeditious handling of air traffic. While safety is paramount to any ATC operation, noise sensitivity to the surrounding communities is also of key importance in airport operations. The following information describes the integration of noise abatement procedures with safe and expeditious air traffic control procedures. The procedures are part of a runway use program and participation by pilots and aircraft operators is voluntary.

The FAA has a primary function to determine under what conditions flight operations may be conducted without causing degradation of safety. Under ideal conditions aircraft takeoffs and landings should be conducted into the wind. Considerations such as delay and capacity problems, runway length, approach aids, noise abatement, and other factors may require aircraft operations to be conducted in a specific manner.

Noise Compatibility Plan

The previous Noise Compatibility Plan was approved by the FAA in 1993. Many of the operational and land use measures approved in the 1993 study have been completed or are continuing to be implemented. The previously approved Noise Compatibility Plan has allowed the Airport to obtain federal discretionary funding for noise related projects, such as property acquisitions, residential sound insulation, school sound insulation, and purchase assurance. Several Recommendations in the previous Plan have been implemented and the fleet mix has changed. Thus the Plan needed updating.

Operational actions approved in the previous Noise Compatibility Plan which have been implemented or are underway include the following noise abatement procedures:

- Preferential runway use
- Fanning of departure flight tracks
- Ground run-up procedures
- Study an extension of Runway 3L and a Ground Run-up Enclosure
- Construction of noise barriers
- Establishment of a Noise Office

Land use actions approved in the previous Noise Compatibility Plan which have been implemented or are underway include:

- School sound insulation program
- Residential sound insulation program
- Residential acquisition and relocation program
- Residential purchase assurance program
- Encourage local jurisdictions to implement compatible land use controls

Portions of the above elements are further described in the sections below.

Procedures

The FAA Airport Traffic Control Tower (ATCT) at Detroit Metropolitan Wayne County Airport determines runway use based on achieving safe aircraft operations in compliance with FAA regulations. Weather, wind direction and speed, visibility, and cloud cover, schedule load, and noise abatement procedures are all considered when the FAA determines which procedures will be operated at any given time at the Airport. As conditions change, such as weather, the ATCT responds by adjusting operating procedures to ensure safe and efficient operation.

Through the previously approved Noise Compatibility Plan and continued coordination with the ATCT and airline operators, the Wayne County Airport Authority, in concert with the FAA, has developed a preferential runway use program to be implemented by the ATCT when weather conditions permit. Presently, the preferential runway use for the Airport is to concentrate noise over the least densely populated areas south of the Airport. Although aircraft are generally directed into the wind, this procedure calls for southern departures with up to a 7-knot tailwind to maximize the availability of this procedure.

During periods of low operations demand (such as late-night) the ATCT will operate in reverse flow (also called head-to-head or contra flow) by having departures to the south as well as arrivals from the south. This procedure only applies to nighttime operations

and conditions when aircraft operations are very low and is primarily utilized between the hours of midnight and 5:59 a.m.

In addition to noise abatement runway use procedures, the ATCT direct the departing aircraft in a “fanning” procedure to disperse the noise to reduce impacts on noise sensitive areas. Preferential noise abatement flight tracks have been designated for aircraft departures that disperse or “fan” traffic over noise sensitive land uses.

Noise Generated During Aircraft Engine Maintenance and Ground Run-Ups

The routine requirement of running aircraft engines to almost full power during ground maintenance procedures can produce an unwanted amount of noise. To mitigate the effects of noise generated by these engine run-ups, Detroit Metropolitan Wayne County Airport has developed ground run-up procedures to limit the amount of aircraft noise in noise sensitive areas. The ground- run-up procedures at the Airport identify specific locations on the airfield where run-ups can be conducted and the position/orientation of the aircraft.

Sound Insulation and Program

Through the previous Part 150 Study approved by the FAA in 1993, the Wayne County Airport Authority has initiated a residential sound insulation program. The goal of the program is to preserve and improve neighborhoods surrounding Detroit Metropolitan Wayne County Airport by making the interior environment of homes more compatible with exterior aircraft noise. Residential construction modifications to homes within the previous federally-approved noise contours established in 1993 include replacement of existing windows and doors with acoustical windows and doors, attic insulation if required, and air conditioning if required.

To date, insulation modifications have been completed for over 2,200 eligible homes, with additional homes currently programmed to receive treatment. The sound insulation program is voluntary with the goal of reducing the level of aircraft-related noise within the interior of the homes. The FAA has set a goal for Wayne County residents of reducing noise levels inside the home to below 45 decibels and to achieving an overall reduction of at least five decibels after installation of sound insulation treatments. The Program is free; there are no out-of-pocket expenses for eligible participants. A field inspector works on behalf of each home owner to ensure all work is satisfactory to the owner.

Residential Property Acquisition and Purchase Assurance

In addition to residential sound insulation, previous Part 150 Study approved by the FAA in 1993 included a program for the purchase of noise impacted residential properties within the 75 DNL noise contour. Additionally, the previous Part 150 Study included provisions for the purchase assurance of homes within the 70-75 DNL noise contour. Purchase assurance guarantees that if homeowners within the 70-75 DNL noise contour are unable to sell their house for fair market value, they could be paid the difference between the appraised value and the actual selling price. **Note that the definition of the DNL metric is discussed in a following chapter on Noise.**

Noise Complaint Response

DTW's Noise Programs Office operates a Noise Complaint Hotline that is available 24 hours a day to receive public comments. Filing of noise complaints can be done directly via telephone to the Noise Programs Office. This information was used to help site the noise monitors used for this Study.

Noise complaints are evaluated to identify the cause of the noise event and determine if an aircraft is operating outside the noise plan parameters. Noise complaints are not necessarily reflective of the severity of the noise, but can be useful to the airport in identifying problems and issues that are important to the various communities surrounding the airport. Noise complaint information also helped determine noise monitor locations.

The airport staff investigates the source of each noise complaint. If an aircraft is found to be outside the preferred procedures, additional research will be done to determine why, and this information will be forwarded to the airline and/or the FAA as appropriate. In 2003, the Noise Programs Office received 492 complaints. This reflects a continued downward trend in the overall noise complaints received at the airport. The total annual noise complaints since 1999 are presented in **Table A3, TOTAL ANNUAL NOISE COMPLAINTS.**

Aircraft noise complaint information was obtained as part of the baseline data for this FAR Part 150 Study. These complaints, when coupled with the aircraft noise exposure contours and flight track maps, provide one means of an illustration of the locations where individuals are concerned with aircraft noise exposure. In some cases, specific noise concerns are identified which help determine which issues should be included in this FAR Part 150 Study or help identify new issues as they arise. However, because some citizens will not call noise complaint hotlines or submit complaints in writing, the complaint information is not the sole determinate of where and how people are concerned with aircraft noise.

Table A3

TOTAL ANNUAL NOISE COMPLAINTS, 1999-2003

Detroit Metropolitan Wayne County Airport FAR Part 150 Noise Compatibility Study Update

Year	Total Calls
1999	1,146
2000	757
2001	776
2002*	474
2003	492

Source: Detroit Metropolitan Wayne County Airport

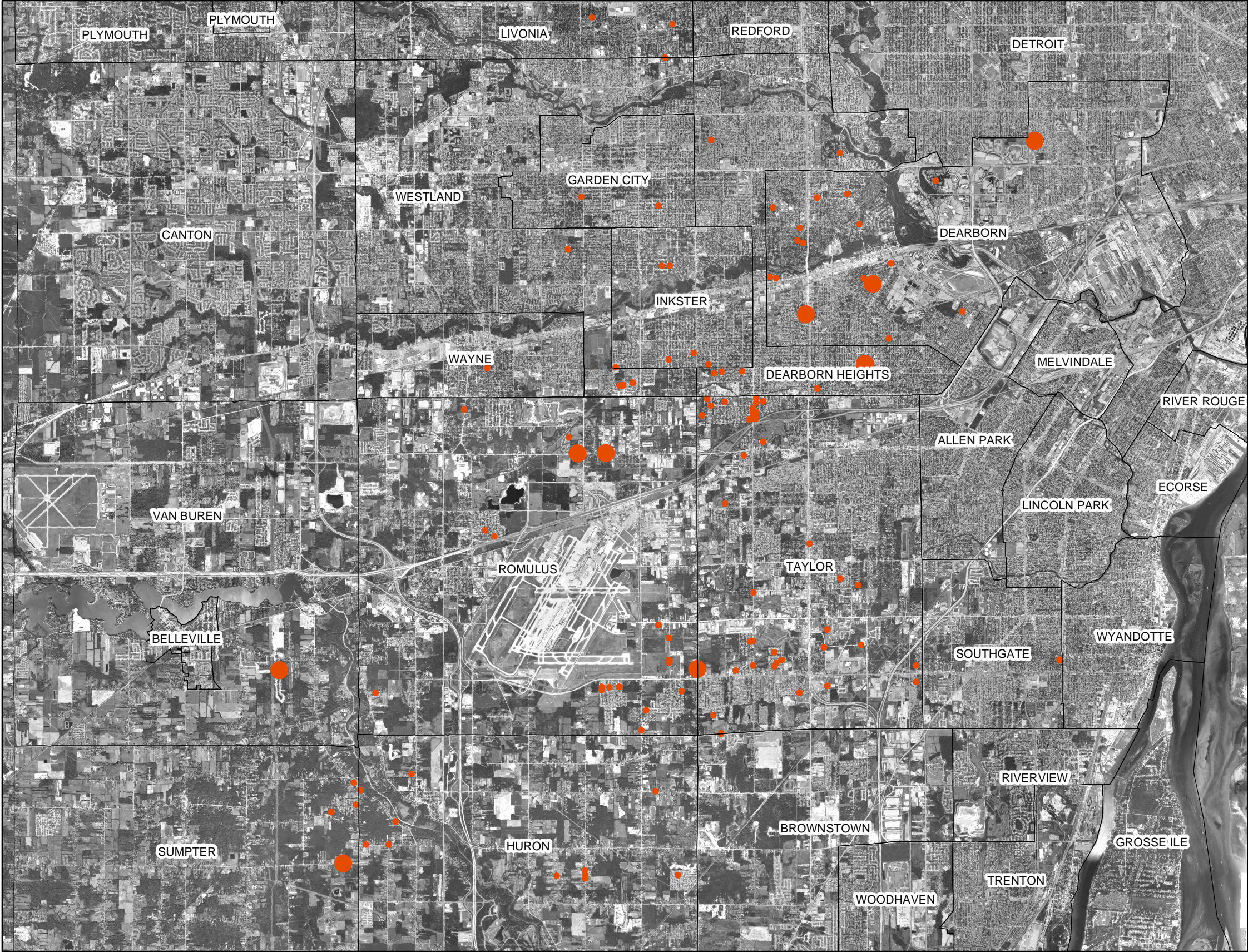
* Yearly total for 2002 is for January - November

The complaint data was then processed in order to map each complaint address, to categorize the complaints, and to correlate the complaint data with flight track data during the time period that flight track data are being analyzed. The report data categorizes the complaints by geographic area, which is depicted in **Figure A6, LOCATION OF NOISE COMPLAINTS.**

This figure shows the location of the complaints received in 2003 on a base map surround the airport. Note that there are some complaints at greater distances that are not shown on this map. Also note that not all callers provided an address, or sufficient information was not received or can not be determined. This map displays only those calls for which the locations could be determined.

The complaint data have been analyzed according to several variables: location, time of day, season, and the day of week for each call. The hotline calls for 2003 are summarized in the following tables and figure.

Figure A6 Location of Noise Complaints



Legend

Number of Complaints

- 1 - 5
- 6 or more



October 2004

Source: Michigan Department of Natural Resources, SEMCOG, Detroit Metropolitan Wayne County Airport files.

Table A4 presents the number of complaints by community. This table shows both the total number of complaints as well as the number of complaints by individual callers. This is useful for illustrating if the calls come from a few people or many different people. As the table below indicates, the majority of complaints received originated from the City of Romulus.

Table A4
TOTAL NOISE COMPLAINTS BY COMMUNITY, 2003
Detroit Metropolitan Wayne County Airport FAR Part 150 Noise Compatibility Study Update

Community	Total Calls	Individual Callers
Amerstberg	2	1
Bellville	17	5
Brownstaun	1	1
Dearborn	122	28
Dearborn Heights	8	3
Garden City	2	2
Huron	14	5
Inkster	5	5
Livonia	7	3
New Boston	3	2
Pickney	27	1
Romulus	127	24
Southgate	1	1
Taylor	56	46
Van Buren	39	2
Wayne	1	1
Westland	9	7
Unknown	51	0
Total	492	137

Source: Detroit Metropolitan Wayne County Airport

Table A5 presents the number of complaints by hour of the day. The highest number of complaints is associated with events between 9 p.m. – 10 p.m. (63 complaints); the second, third, and fourth highest number of complaints is associated with events between 7:00 and 8:00 p.m., between 12:00 and 1:00 p.m. and between 9:00 and 10:00 a.m. (39, 34 and 31 complaints, respectively).

Table A5

TOTAL NOISE COMPLAINTS PER HOUR, 2003*Detroit Metropolitan Wayne County Airport FAR Part 150 Noise Compatibility Study Update*

Hour of Day	Total Calls	Percent of Total
12 am	4	1%
1 am	5	1%
2 am	1	0%
3 am	1	0%
4 am	5	1%
5 am	14	3%
6 am	26	5%
7 am	28	6%
8 am	20	4%
9 am	31	6%
10 am	18	4%
11 am	12	2%
12 pm	34	7%
1 pm	26	5%
2 pm	27	6%
3 pm	21	4%
4 pm	27	6%
5 pm	25	5%
6 pm	15	3%
7 pm	39	8%
8 pm	21	4%
9 pm	63	13%
10 pm	17	4%
11 pm	12	2%
Total	492	100%

Source: Detroit Metropolitan Wayne County Airport

The Noise Programs Office categorizes each noise complaint relative to the source of the disturbance; such as complaints associated with a particular loud aircraft type, an aircraft at a low altitude, or an aircraft engine maintenance run-up. There was not enough significant data to extract the nature of the call for complaints in the year 2003.

Table A6 presents the number of complaints per month during 2003. As would be expected for locations with seasonal climate, data shows that more complaints occur during the summer season (when windows are open) than during the winter season. The month with the most number of complaints was June with 18% of the total complaints.

Table A7 presents the number of complaints per day of the week in 2003. Typically, one might expect more complaints during the weekends when most people are at home, however, that is not the case for DTW. As the table indicates, all of the days are relatively similar, with Monday having the highest number of complaints and Saturday having the lowest number of complaints.

Table A6
TOTAL NOISE COMPLAINTS PER MONTH, 2003
Detroit Metropolitan Wayne County Airport FAR Part 150 Noise Compatibility Study Update

Month	Total Calls	Percent of Total
January	10	2%
February	15	3%
March	57	12%
April	53	11%
May	42	9%
June	87	18%
July	38	8%
August	41	8%
September	56	11%
October	38	7%
November	34	7%
December	21	4%
Total	492	100%

Source: Detroit Metropolitan Wayne County Airport

Table A7

TOTAL NOISE COMPLAINTS PER DAY OF THE WEEK, 2003

Detroit Metropolitan Wayne County Airport FAR Part 150 Noise Compatibility Study Update

Weekday	Total Calls	Percent of Total
Sunday	63	13%
Monday	79	16%
Tuesday	67	14%
Wednesday	77	16%
Thursday	77	16%
Friday	75	15%
Saturday	54	10%
Total	492	100%

Source: Detroit Metropolitan Wayne County Airport

The data was also analyzed relative to how often individual people contact the Airport concerning noise. These results are presented in Table A8. The data show that of the total of 176 individuals that contacted the airport, 131 people contacted the Airport only once (or anonymously), while there was one person who complained 82 times during calendar year 2003. Analysis indicates that 74% of individuals who submitted complaints in 2003, called only once (or called anonymously). 51% of the total complaints originated from the same eight individuals.

Table A8

NOISE COMPLAINTS PER INDIVIDUAL CALLER, 2003*Detroit Metropolitan Wayne County Airport FAR Part 150 Noise Compatibility Study Update*

Complaints Per Caller	Number of Callers	Total Number of Complaints	Percent of All Callers	Percent of All Complaints
1	131	131	73%	27%
2	20	40	10%	8%
3	10	30	5%	6%
4	2	8	1%	2%
5	1	5	1%	1%
6	3	18	1%	4%
8	1	8	1%	2%
10	1	10	1%	2%
11	1	11	1%	2%
12	1	12	1%	2%
14	1	14	1%	3%
27	1	27	1%	5%
36	1	36	1%	7%
60	1	60	1%	12%
82	1	82	1%	17%
Total	176	492	100%	100%

Source: Detroit Metropolitan Wayne County Airport

Airport Environs

Detroit Metropolitan Wayne County Airport is the primary air transportation hub of southeast Michigan. The Airport resides on approximately 6,700 acres of land within Wayne County and is located entirely within the City of Romulus, approximately 10 miles southwest of downtown Detroit. Municipalities in the vicinity of the Airport include the City of Allen Park, City of Belleville, City of Dearborn, City of Dearborn Heights, City of Garden City, City of Inkster, City of Livonia, City of Romulus, City of Taylor, City of Wayne, City of Westland, Huron Township, Sumpter Township, and Van Buren Township.

Existing Land Use

A significant amount of residential development is located within the study area, as are other noise-sensitive land uses, such as educational, religious, medical, and public facilities. The study area also encompasses parks and recreational areas, agricultural,

open space, and vacant lands, as well as commercial and industrial development. The Airport resides on approximately 6,700 acres of land within Wayne County and is located entirely within the City of Romulus, which borders the airport on all sides. The following section summarizes land uses in the immediate vicinity of Detroit Metropolitan Wayne County Airport:

- North: The City of Wayne, City of Westland, City of Inkster, Garden City, Dearborn and Dearborn Heights are located north of the Airport. Existing land use north of Detroit Metropolitan Wayne County Airport is primarily residential with intermittent commercial and industrial uses occurring adjacent to major roadways and highways. Immediately adjacent to the north border of the Airport is Interstate 94, a major east/west artery in and out of the City of Detroit and the primary access to the Airport. Further north of the Airport are the City of Livonia, Redford Township, and the western portion of the City of Detroit. Land uses in these areas are primarily residential uses. This north area also includes religious, educational, and medical facilities, as well as cemeteries.
- South: Huron Township is directly south of the Airport, Sumpter Township is southwest of the Airport, and Brownstown Township is southeast of the Airport. Immediately south of Detroit Metropolitan Wayne County Airport, existing land use is primarily open and agricultural uses with residential developments interspersed. The community of New Boston is located southeast of the Airport in Huron Township and is primarily residential with light commercial and industrial. Further south there is a low density of residential and other noise sensitive uses. Facilities south of the Airport include religious, educational, open space, park land, and cemeteries.
- East: The City of Taylor is located directly east/northeast of the Airport with residential, commercial and industrial uses throughout the City. The City of Romulus is adjacent the Airport to the east with residential and commercial uses. Further east of the Airport lies the City of Allen Park, City of Lincoln Park, and City of Southgate, which are comprised of residential, industrial, commercial, parks and open land uses. These areas include religious, educational, and medical facilities, as well as cemeteries.
- West: The City of Romulus is also west of and adjacent to the Airport, with commercial and industrial uses closest to the Airport. Van Buren Township lies directly west of the Airport, which includes the community of Belleville. Van Buren Township is generally comprised of residential developments interspersed with agricultural and open land. Willow Run Airport, which is also operated by the Wayne County Airport Authority, is located within Van Buren Township. Interstate 275, a north/south roadway, borders the Airport's western property and also provides access to the Airport via Eureka Road.

In summary, properties immediately adjacent to the Airport are comprised of compatible land uses; however, residential uses are near the Airport, particularly to the north and east of the south crosswind runway. Generally, there is a higher concentration of residents to the north and lower residential concentrations south of the Airport. Furthermore, areas to the east are generally more densely populated than areas to the west. **Figure A7, EXISTING LAND USE**, depicts the existing generalized land uses for areas near the Airport. An estimate of population, residential units, and noise sensitive facilities exposed to aircraft noise of 65 DNL and higher are presented in the land use analysis section of a subsequent working paper.

Future Land Use

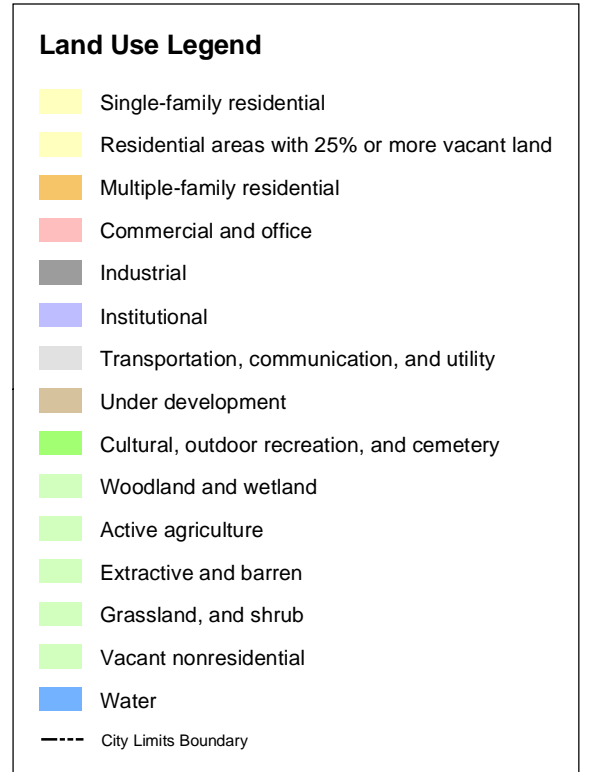
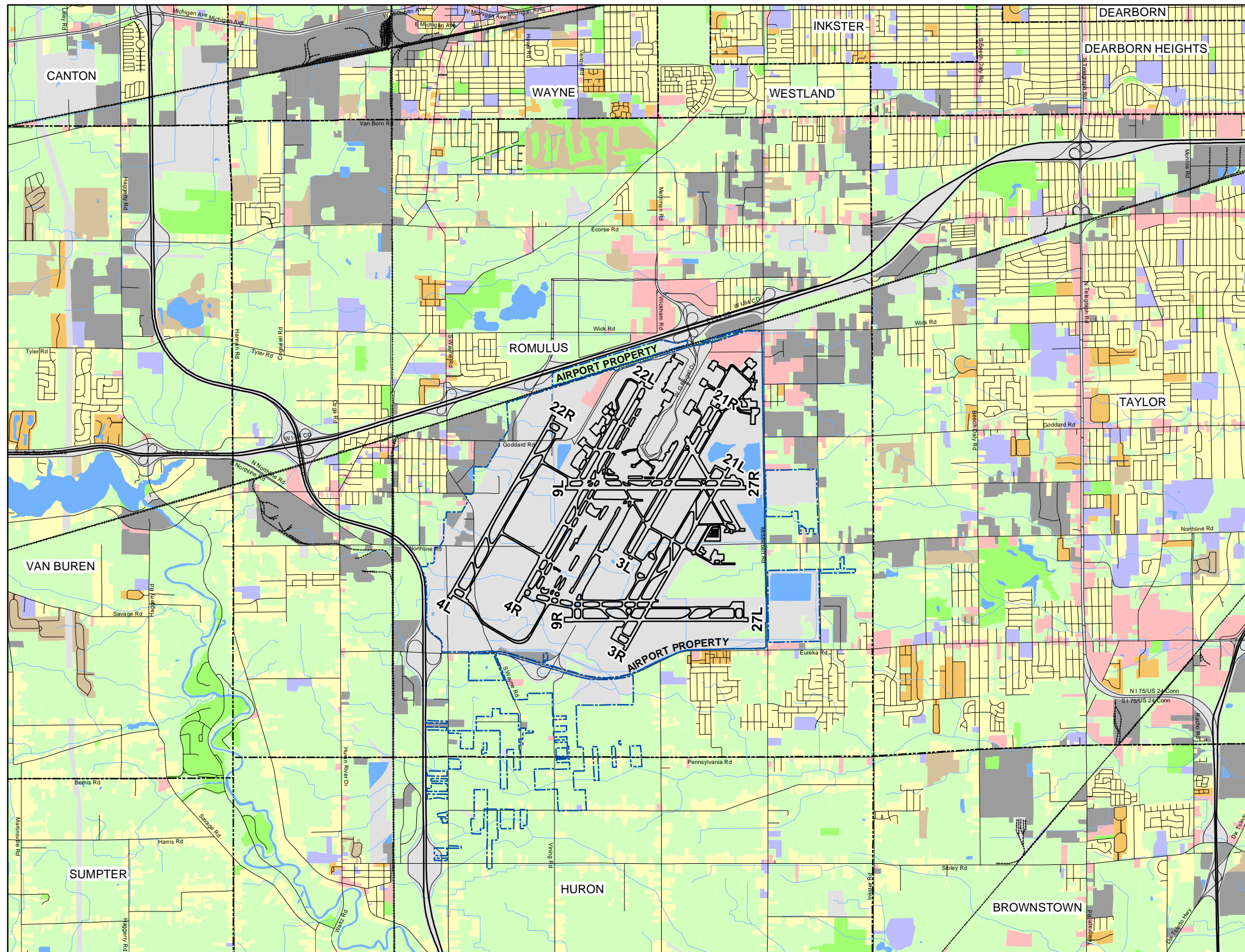
The Southeast Michigan Council of Governments (SEMCOG), formed in 1968 is the regional planning agency for Southeast Michigan. SEMCOG plans in areas that cross jurisdictional boundaries in the Southeast Michigan region that encompasses Livingston, Macomb, Monroe, Oakland, St. Clair, Washtenaw, and Wayne counties. SEMCOG assists local governments in planning for common needs and in recognizing regional opportunities as well as facilitates cooperation among local governments, educational institutions, and state and federal agencies for mutual benefit.

SEMCOG was created to provide the basic information and planning services necessary to solve problems which transcend the corporate boundaries and fiscal capabilities of the local units of government comprising the southeast Michigan region. As part of this mission, SEMCOG has developed a 2020 Land Use plan for Wayne County. This plan provides a generalized land use plan for Wayne County.

The generalized future land use plan indicates that the land uses north of the Airport will consist primarily of high density urban uses and the areas east and west of the Airport are shown as medium density urban uses. South of the Airport is shown as a primary corridor for non residential uses; however, there are a few isolated areas of high density urban uses. **Figure A8, FUTURE LAND USE**, depicts the generalized land uses planned for areas near the Airport.

Many of the jurisdictions within the vicinity of Detroit Metropolitan Wayne County Airport have adopted land use plans described within comprehensive plans developed, or currently being developed, by each of the jurisdictions. The land use plans for the communities that have developed and approved comprehensive plans are outlined below. Many of these communities also have adopted traditional zoning ordinances and overlay zones which divide a jurisdiction into districts and prescribe certain requirements for allowable uses to control the types of land uses on specific parcels; however, none of the jurisdictions have specific zoning or land use codes pertaining to airport-related activities and aircraft noise.

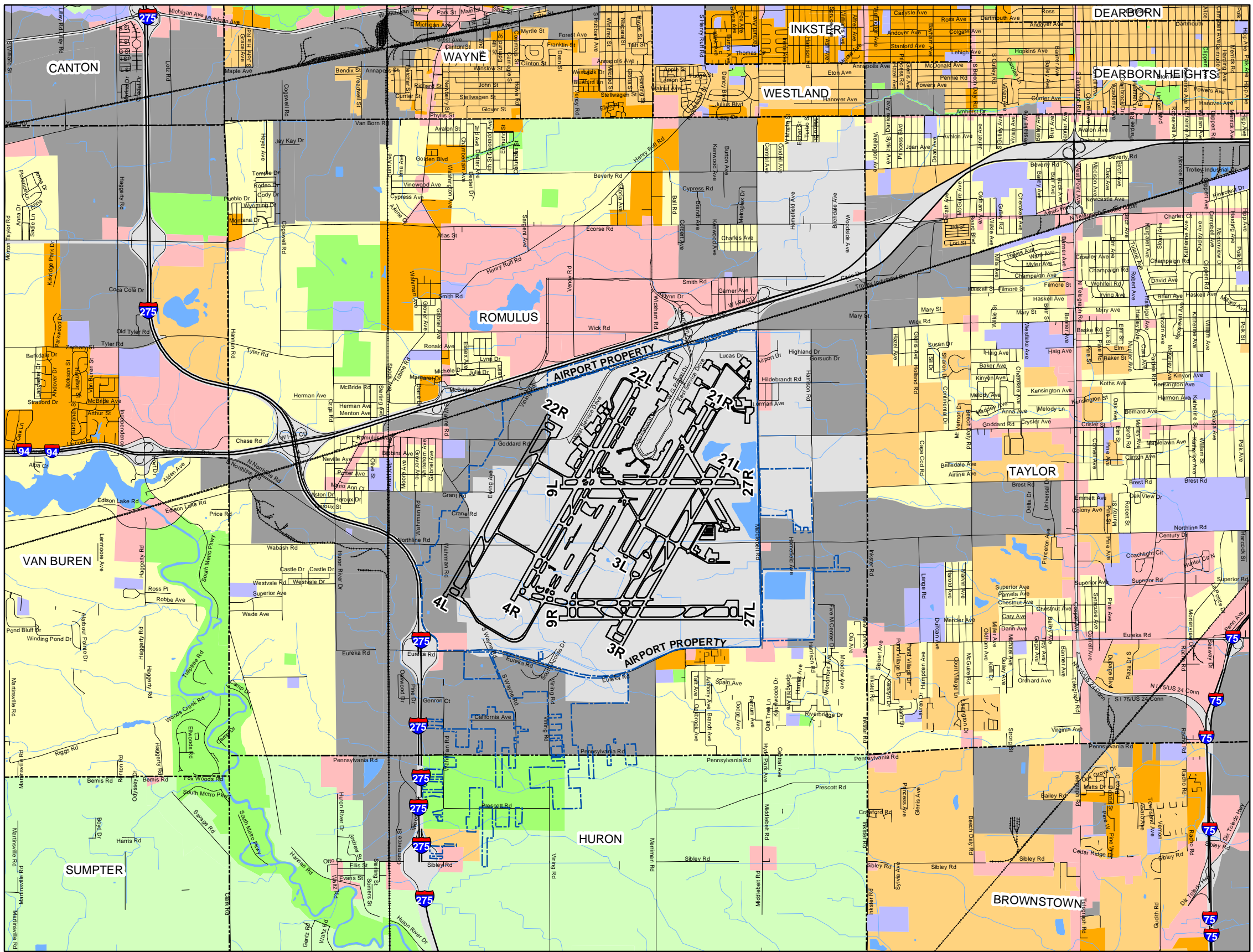
Figure A7 Existing Generalized Land Use



October 2004

Source: Michigan Department of Natural Resources, SEMCOG

Figure A8 Future Generalized Land Use



Land Use Legend

- Low Density Residential
- Medium Density Residential
- High Density Residential
- Commercial
- Commercial/Mixed Use
- Office
- Industrial
- Institutional/Public/Quasi Public
- Planned Unit Development/Other Use
- Transportation/Communication/Utility
- Open Space/Conservation
- Agricultural/Rural Residential
- Water
- City Limits Boundary



October 2004



Source: Michigan Department of Natural Resources, SEMCOG

Airport Zoning Act (Act 23 of 1950)

The State of Michigan Airport Zoning Act was adopted to empower and direct the Michigan Aeronautics Commission to adopt airport approach plans for publicly owned airports within the state; to empower the Michigan Aeronautics Commission, municipalities, and other political subdivisions to promulgate, adopt, establish, administer, and enforce airport zoning regulations limiting the height of structures and objects of natural growth, and otherwise regulating the use of property in the vicinity of publicly owned airports, and to acquire, by purchase, grant, condemnation, or otherwise, air rights and other interests in land. The Airport Zoning Act provides for the establishment of zoning commissions, administrative agencies, and boards of appeals to administer the provisions of the act, and to provide for their organization and procedure and appeals. The act provides for penalties and remedies for violations of the act or ordinances or regulations made under the authority granted through the act. The Airport Zoning Act also provides for reciprocity with adjoining states maintaining and operating airports and to repeal any inconsistent act or parts of acts.

The Airport Zoning Act was developed to provide a mechanism for jurisdictions to control the land use and zoning within and around airports to reduce hazards to aircraft, persons, and property. The Act provides a mechanism with options as to which jurisdictions may adopt regulations pertaining to aviation related zoning as well as define the role of the Michigan Aeronautics Commission in the process. The Act allows airport sponsors to form joint boards with surrounding jurisdictions to regulate both the heights of objects within certain identified areas around an airport and also the use of land to avoid noise sensitive land uses.

Tall Structures Act

The Michigan Tall Structures Act provided a mechanism for the Michigan Aeronautics Commission to control the heights of objects around airport. The Act requires that a permit be obtained for certain structures defined in the Act or for structures that exceed certain height requirements. The permit may require the installation of obstruction lights on a specific structure, or other applicable markings.

Michigan Jurisdictions

Jurisdictions in the State of Michigan, including counties, townships, and cities, have authority, through multiple state acts, to develop and implement plans, policies, and programs for development activities, land uses, and zoning. However, counties, townships, and cities are in most instances not required to develop or update such plans. Many of the cities have developed planning programs and documents; however, many not been update in recent time (past 20 years) and few of the jurisdictions near the

airport have developed specific planning, land use, or zoning guidelines specific to aviation or aviation noise. The following paragraphs describe each of the cities in the vicinity of Detroit Metropolitan Wayne County Airport.

City of Romulus

The Detroit Metropolitan Wayne County Airport is located entirely in the City of Romulus. The City of Romulus is 36 square miles in size with a population of approximately 23,000 people. In 2000, there were a total of 8,943 housing units within the city limits. Although portions of the community are still rural, Romulus is under development pressure influenced by the presence of the Airport, combined with good access to freeways, major roads, and railroad facilities.

Several major mixed-use developments such as Metro World Centre and Metro Airport Center, including corporate offices, R&D, retail and residential uses are being planned and developed in close proximity to the Airport. An Interstate 94 interchange at Vining Road was completed two years ago to provide access to the Metro Center area. Most of the balance of commercial development is of the local type. Industrial development is clustered around the Airport along Middle Belt, Merriman, and Goddard Roads. Interstate 275 has influenced industrial development south and west of the Airport.

Existing residential development is in the form of small tract development and scattered single family residences. A large hotel/commercial area has developed north of Interstate 94 along Merriman Road which is adjacent to the Metro Center development area.

The City of Romulus has a City Master Plan which was adopted in 1989. An update to the city's master plan is currently underway. The adopted City Master Plan recognized the influence of the Detroit Metropolitan Wayne County Airport and identified how the city plans to accommodate and adapt to the changing characteristics of the Airport and its immediate surroundings. The City of Romulus has adopted zoning ordinances which were made effective in June 2002 with revisions periodically updated. The zoning ordinances and associated 20 zoning districts have been enacted for the entire city. The City of Romulus has specifically identified an Airport District; which is primarily comprised of airport property; although, portions of airport property are zoned Light Industrial and General Industrial. The Airport District is designated to permit those uses, activities, facilities, and structures necessary for the safe and efficient operation of aircraft and for providing the services and facilities required to accommodate Airport patrons and employees. The zoning code outlines uses within the Airport district and details area, height, and placement requirements for all structures near the Airport. The zoning code also specifies that all structures permitted within the Airport District, within 700 feet of the district boundary, or within 700 feet of a major or secondary thorough-

fare traversing the Airport District a site plan must be submitted to the Planning Commission for review.

City of Allen Park

The City of Allen Park is 7.4 square miles in size with a population of approximately 29,000 people. In 2000, there were a total of 12,254 housing units within the city limits. Located south of the Cities of Dearborn and Detroit, Allen Park is comprised mainly of middle income residential dwellings with commercial development along the major thoroughfares of Allen Road, Southfield (M-39), and Ecorse Road. Industrial plant and warehouse uses have developed in the northern part of the city between the Southfield and Interstate 94 Freeway and Norfolk & Western Railroad which parallels I-94. Another freeway, Interstate 75, crosses the southeast corner of Allen Park, and is paralleled by Conrail. This access provides the city with surface transportation linkage to the region and the nation.

The City of Allen Park Zoning Code does not contain any ordinances or overlays pertaining to the Airport or its operations.

City of Belleville

The City of Belleville is 1.2 square miles in size with a population of approximately 4,000 people. In 2000, there were a total of 1,926 housing units within the city limits. The City of Belleville is nearly fully developed and does not have any planned land use changes. The City of Belleville does not have any ordinances or overlays pertaining to the Airport or its operations.

City of Dearborn

The City of Dearborn is 24 square miles in size with a population of approximately 98,000 people. In 2000, there were a total of 38,981 housing units within the city limits. The City of Dearborn has a mixture of residential neighborhoods, shopping districts and, commercial and industrial developments. Ford Motor Company's World Headquarters is located in the city as well as the Fairlane Development by Ford Motor Land Development Corporation. Tourist attractions in the City of Dearborn include Greenfield Village, The Henry Ford Museum, and Henry Ford Estate/Fairlane Mansion.

The City of Dearborn has a zoning ordinance and city master plan; however, there are no provisions related to the Airport or its operation.

City of Dearborn Heights

The City of Dearborn Heights is 12 square miles in size with a population of approximately 58,000 people. In 2000, there were a total of 23,913 housing units within the city limits. Dearborn Heights is located in the central part of Wayne County on the periphery of heavily populated areas of Detroit and Dearborn. Dearborn Heights is primarily residential with commercial and light industrial uses along major thoroughfares.

The City of Dearborn Heights has a zoning ordinance and city master plan; however, there are no provisions related to the Airport or its operation.

Garden City

Garden City is 5.9 square miles in size with a population of approximately 30,000 people. In 2000, there were a total of 11,791 housing units within the city limits. Garden City is largely developed, predominately with single-family residential homes. Three new subdivisions are currently under construction. New home construction and existing home renovations are at their highest levels in thirty years. The community is transcended by State Route M-153. Retail businesses are located along the M-153 corridor making it the major business district for the city. Downtown Garden City is located at the intersection of M-153 and Middlebelt Road, which is the busiest intersection in Wayne County. A 60 acre industrial park is located in the Northwest section of the City, consisting of small, medium, and large businesses.

Garden City has a zoning ordinance and city master plan; however, there are no provisions related to the Airport or its operation.

Huron Township

Huron Township is 36 square miles in size with a population of approximately 14,000 people. In 2000, there were a total of 4,888 housing units within township limits. Huron Township is characterized by large lot residential development and three small residential settlements, Willow, Waltz and New Boston are the principal local commercial centers. The Huron Clinton Metropolitan Authority owns and operates three recreation facilities on about 3,500 acres in the township. Industrial development is concentrated around the Sibley Road and South Huron Drive interchanges of I-275.

Huron Township has a zoning ordinance and master plan; however, there are no provisions related to the Airport or its operation.

City of Inkster

The City of Inkster is 6.3 square miles in size with a population of approximately 30,000 people. In 2000, there were a total of 12,013 housing units within the city limits. The city is primarily a residential community with some industrial and commercial development that is concentrated along Michigan Avenue (US-12), and Middlebelt and Inkster Roads.

The City of Inkster has a zoning ordinance and master plan; however, there are no provisions related to the Airport or its operation.

City of Livonia

The City of Livonia is 36 square miles in size with a population of approximately 100,500 people. In 2000, there were a total of 38,658 housing units within the city limits. The City of Livonia is comprised of primarily residential uses with several regional shopping centers, strip business development on nearly all north-south, east-west mile roads, and an industrial corridor combining major railroad and highway access. The city has acquired over 1800 acres of park land and open space. New development is taking place down the Interstate 275 Freeway corridor spilling over from southern Oakland County. The Interstate 96 Freeway and C&O Railroad form the spine of Livonia's industrial corridor running east and west.

The City of Livonia has a zoning ordinance and City Master Plan; however, there are no provisions related to the Airport or its operation.

Sumpter Township

Sumpter Township is 37 square miles in size with a population of approximately 12,000 people. In 2000, there were a total of 4,563 housing units within township limits. Sumpter Township is the most sparsely settled municipality in Wayne County. Although there is considerable business in the township, most of the residents earn their primary income from employment outside the community. The major agriculture outputs are sod, soybeans, corn, and small fruits. Livestock, primarily horses, are raised in the area. There is only a small amount of industry, and only small commercial centers. The Crosswinds Marsh Preserve is located in the Township.

Sumpter Township has a zoning ordinance and City Master Plan; however, there are no provisions related to the Airport or its operation.

City of Taylor

The City of Taylor is 24 square miles in size with a population of approximately 66,000 people. In 2000, there were a total of 25,905 housing units within the city limits. The City of Taylor is a growing industrial and residential community. Interstate 94 Freeway, an east-west route, and Interstate 75, a north-south route, provide access to the region, while Telegraph Road (US-24) runs north-south bisecting the City. Five major county roads cross the community east-west and three major railroads, Conrail, G.T.& W, and Norfolk Southern provide rail service. Residential development is located throughout the City, while industry has tended to locate along the rail corridors and the east-west major roads. Commercial development is generally located along the major roads and a major regional shopping center is located in the City's southeast corner.

The City of Taylor Code of Ordinances does include height restrictions for developments within the City, including a regulation that states that all building heights shall be subject to review and approval in relation to flight patterns at Detroit Metropolitan Wayne County Airport. Additionally, the regulations state that the City or Taylor reserves the right to submit development plans to the Airport for their review, comments, and approval.

The City of Taylor has enacted zoning ordinances and City Master Plan to guide their development. Neither documents airport-specific uses; however, the areas potentially affected by noise are generally planned to remain park/open space, industrial, transportation, and commercial uses.

Van Buren Township

Van Buren Township is 36 square miles in size with a population of approximately 23,500 people. In 2000, there were a total of 10,417 housing units within township limits. Interstate 94 traverses East and West through the center of the Township. Interstate 275 cuts through the Northeast quarter of the Township and Michigan Avenue. US-12 crosses the Northwest corner. Ecorse Road connects Willow Run Airport to Haggerty Road. The Haggerty Road corridor is the general area of most of the Township's industrial growth. Rail service from Penn Central (Conrail) dissects over two miles of industrial zoned land in the Northwest region of the township. A large Township park on the west side of the Township and the Lower Huron Metro Park along the Southeast border provide hundreds of acres of open recreation space.

Van Buren Township has a zoning ordinance; however, there are no provisions related to the Airport or its operation.

City of Wayne

The City of Wayne is 6 square miles in size with a population of approximately 19,000 people. In 2000, there were a total of 7,651 housing units within the city limits. The City of Wayne is located in the central part of Wayne County and is the second largest manufacturing site for Ford Motor Co. in the nation. Michigan Avenue is the main thoroughfare for the City where several commercial and industrial businesses are situated including the Michigan Truck Plant, Wayne Stamping and Assembly Plant and the Ford Paint Plant. Residential developments in the community include single-family homes and modern apartments. The City shares its public school system with the City of Westland.

The City of Wayne has a planning and zoning ordinances in place; however, there are no provisions related to the Airport or its operation.

City of Westland

The City of Westland is 20 square miles in size with a population of approximately 86,500 people. In 2000, there were a total of 38,077 housing units within the city limits. Industrial growth is occurring in the western part of the community adjacent to Ford Road (M-153) and the CSX Transportation System. The City has six industrial parks as well as a major regional shopping mall located at Warren and Wayne Roads in the heart of Westland's commercial district. Retail, restaurant, and office uses are located along Joy Road, Ford Road and other main roads. The residential development in the City is a blend of single family homes, apartments, and condominiums. The City has over 1500 acres of parks, two golf courses, nature trails, and the county-owned Edward Hines Parkway, as well as other recreational uses.

The City of Westland has a planning and zoning ordinances in place; however, there are no provisions related to the Airport or its operation.