



**MKE Aerotropolis Development Plan**  
*A Shared Vision for the Communities Around the Airport*



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**SEWRPC MEMORANDUM REPORT  
NUMBER 224**

**MKE AEROTROPOLIS DEVELOPMENT PLAN  
A SHARED VISION FOR THE COMMUNITIES AROUND THE AIRPORT**



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# EXECUTIVE SUMMARY

The MKE Aerotropolis Development Plan represents a major milestone in the development of an aerotropolis around Milwaukee's General Mitchell International Airport. It establishes a shared vision and coordinated effort to capitalize on the Airport in order to stimulate economic investment, promote job growth, and enhance the quality of life in the nine Aerotropolis Milwaukee communities. The plan is designed to be used as a reference tool for local governments and agencies to aid in decision making relative to future land use changes and strategic investments.

## Reaching a Major Milestone

Aerotropolis Milwaukee was initiated in 2009 when The Gateway to Milwaukee formed the Milwaukee Gateway Aerotropolis Corporation (MGAC). The public and private partners that make up MGAC have worked to strengthen and grow Aerotropolis Milwaukee ever since. In 2013, a multi-jurisdictional partnership was formed, demonstrating continued support for Aerotropolis Milwaukee and a desire to engage in cooperative planning and economic development activities to benefit the Aerotropolis Milwaukee region as a whole. As the latest step in the partnership's efforts, MGAC and The Gateway to Milwaukee partnered with the Southeastern Wisconsin Regional Planning Commission (SEWRPC) to prepare the MKE Aerotropolis Development Plan.

## Continuing the Commitment to Aerotropolis Milwaukee

The plan recognizes the challenges related to achieving Aerotropolis Milwaukee and the challenges each community faces as they continually work to improve life within their boundaries. The plan identifies where future airport-oriented growth and economic development should occur and suggests modest changes to each community's comprehensive plan. By endorsing the plan and incorporating the plan's recommendations into their comprehensive plans, the partner communities will reaffirm their commitment and assure a common understanding of the shared vision for developing Aerotropolis Milwaukee.

## **Targeting Areas for Future Airport-Oriented Growth**

The plan begins with an introduction to Aerotropolis Milwaukee and documents existing conditions within the Aerotropolis Milwaukee Planning Area. It then identifies the many contributing areas that support the overall aerotropolis concept, focusing on six “Aerotropolis Growth Areas” that present opportunities for making a substantial impact on achieving the vision for the Aerotropolis. The six Growth Areas were identified based on their proximity to the Airport, their ability and likelihood to accommodate aerotropolis-supporting land uses, and the amount of available vacant or underutilized land. Within each Growth Area, the plan provides land use recommendations, identifies catalytic areas that will drive advancement of the Growth Area, and suggests modest local comprehensive plan changes.

## **Providing Multimodal Transportation Connections**

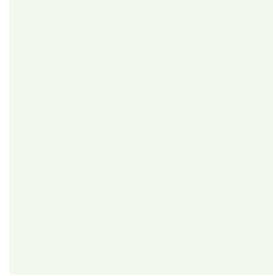
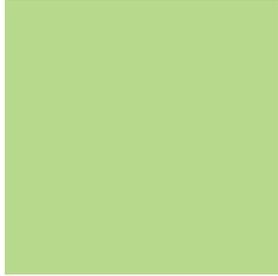
The plan also identifies infrastructure and service improvements to achieve high-quality, multimodal transportation system to serve the plan’s Growth Areas. The plan’s transportation recommendations are designed to maximize connectivity between aerotropolis-supporting land uses. This involves high-quality streets and highways, a greatly improved and expanded transit system, infrastructure improvements to quickly move freight to and from the Aerotropolis, and a well-connected bicycle and pedestrian network.

## **Working Together to Achieve the Vision**

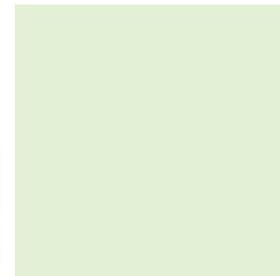
MGAC celebrates this milestone in the Aerotropolis Milwaukee effort, and hopes that the MKE Aerotropolis Development Plan provides a valuable guide for developing the areas surrounding the Airport, maximizing the area’s considerable economic growth potential. The plan provides momentum for this important initiative, which has had strong support from all of its public and private partners. MGAC looks forward to working with each of its partners to implement the plan’s recommendations and achieve the vision for Aerotropolis Milwaukee.

# CHAPTER 1

## Introduction



In 2015, The Gateway to Milwaukee and Milwaukee Gateway Aerotropolis Corporation (MGAC) partnered with the Southeastern Wisconsin Regional Planning Commission (SEWRPC) to prepare the MKE Aerotropolis Development Plan for Aerotropolis Milwaukee. The plan establishes a shared vision and coordinated effort to capitalize on General Mitchell International Airport (MKE) in order to stimulate economic investment, promote job growth, and enhance the quality of life in surrounding communities. The plan is designed to be used as a reference tool for local governments and agencies to aid in decision making relative to future land use changes and strategic investments.



## THE AEROTROPOLIS CONCEPT

The aerotropolis concept developed by Dr. John D. Kasarda, Director of the Center for Air Commerce at the University of North Carolina's Kenan-Flagler Business School, was the premise for the Aerotropolis Milwaukee initiative. An aerotropolis is a defined region of economic significance that centers on a major airport and incorporates coordinated multimodal freight and passenger transportation. The concept acknowledges that airports have become drivers for economic growth and urban development. Concentrated land use and transportation planning efforts to further support airport services can improve a region's ability to attract aviation-oriented businesses, from cargo-oriented and time-sensitive manufacturing and distribution facilities to convention centers, hotels, and retail and entertainment businesses dependent on passenger travel.<sup>1</sup>

It is essential for an aerotropolis to maintain connectivity between complementary uses as speed, agility, and convenience are among the primary considerations of aviation-oriented businesses in choosing potential development locations. Transportation elements that particularly impact the connectivity of an aerotropolis include the following:

- Streets and highways
- Intermodal freight hubs
- Public transit
- Bicycle and pedestrian facilities

<sup>1</sup> Dr. John Kasarda and the FAA Modernization and Reform Act of 2012. Pub. L. 112-95. 14 February 2012.

Figure 1.1, a schematic diagram of a conceptual aerotropolis developed by Dr. Kasarda, illustrates the connectivity between key features that may be incorporated into an aerotropolis. These key features, referred to as aerotropolis-supporting land uses throughout this plan, are detailed in Appendix A and categorized below.

### Land uses that increase or support passenger travel:

- Hotel and entertainment districts
- Convention centers and exhibition halls
- Retail
- Mixed-use commercial/residential
- Research/technology parks
- Business parks
- Sports complexes

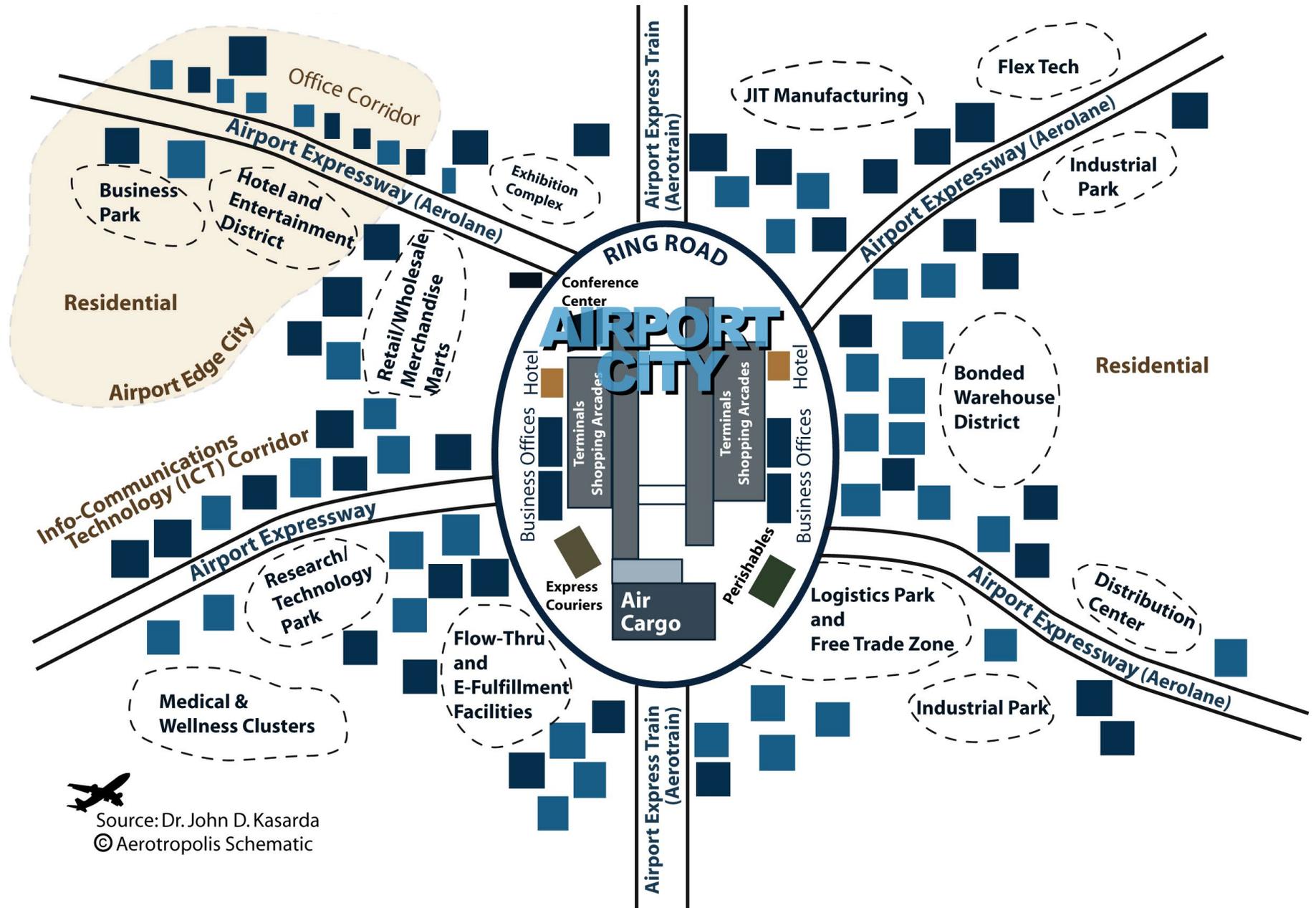
### Land uses that produce goods or facilitate freight movement:

- Distribution centers and e-fulfillment facilities
- Warehousing districts
- Industrial/business parks and just-in-time manufacturing
- Logistics parks

Dr. Kasarda also notes that an airport's immediate surroundings establish the initial and final impressions of the metropolitan area in the minds of air passengers upon their arrival to and departure from an aerotropolis. Instead of considering the airport as a place of origin or final destination, the airport and its immediate surroundings are best regarded as a critical transition point in the journey of people or goods. In this manner, Dr. Kasarda places aesthetic improvements alongside operational and functional considerations in developing an aerotropolis.



Figure 1.1  
Aerotropolis Schematic



Source: Dr. John D. Kasarda  
© Aerotropolis Schematic

## LAUNCHING AEROTROPOLIS MILWAUKEE

The effort to establish Aerotropolis Milwaukee is being led by The Gateway to Milwaukee and the non-profit organization, Milwaukee Gateway Aerotropolis Corporation (MGAC). The Gateway to Milwaukee was formed through the merging of the Airport Gateway Business Association (AGBA) and the Airport Gateway Business Improvement District #40 (AGBID). Through its collaboration and leadership within MGAC, The Gateway to Milwaukee brings together industry and community leaders, area businesses, and government officials towards a common goal of physical and economic development within the AGBID, as well as the larger Airport Gateway region through urban planning and strategic investments. The AGBID boundary covers a portion of the overall land area within Aerotropolis Milwaukee's boundary, including portions of the Cities of Cudahy, Milwaukee, Oak Creek, and St. Francis.

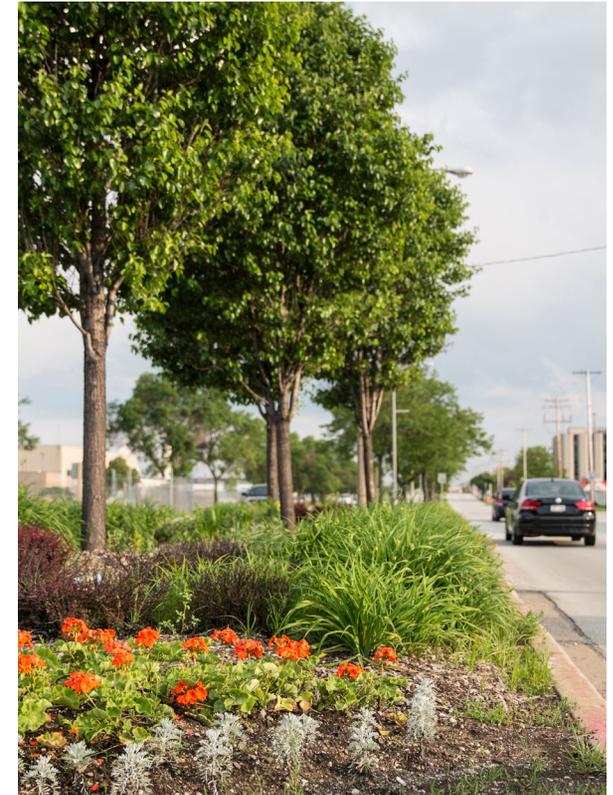
As a natural extension of The Gateway to Milwaukee's duties, Gateway formed and manages MGAC. MGAC is a public-private partnership that focuses on creating strategies and influencing government decision-making to strengthen and grow Aerotropolis Milwaukee.

The initial Aerotropolis Milwaukee concept began to take shape in 2009, when The Gateway to Milwaukee and MGAC asked Dr. Kasarda to develop a strategic plan for an aerotropolis centered on MKE. The resulting report, *Aerotropolis Milwaukee: Strategic Guidelines and Development Actions (2011)*, provided a three-prong approach to establishing a successful aerotropolis in Milwaukee.



### MGAC MEMBERS

City of Cudahy  
City of Franklin  
City of Greenfield  
City of Milwaukee  
City of Oak Creek  
City of South Milwaukee  
City of St. Francis  
Village of Greendale  
Village of Hales Corners  
Milwaukee County  
General Mitchell International Airport  
Port of Milwaukee  
Southeastern Wisconsin Regional Planning Commission  
Wisconsin Department of Transportation  
Wisconsin Economic Development Corporation  
Wisconsin Housing and Economic Development Authority  
Cobalt Partners  
Crystal Limousine & Coach  
GLR Management  
HNTB  
VJS Construction Service



## KASARDA'S THREE-PRONG APPROACH TO ESTABLISHING A SUCCESSFUL AEROTROPOLIS

### **Develop a regional marketing plan**

To take the Aerotropolis concept from a broad idea to a detailed blueprint of the future Aerotropolis Milwaukee, Dr. Kasarda encouraged The Gateway to Milwaukee and MGAC to complete the following five steps:

1. Complete a visioning process for the intended Aerotropolis that includes taking an honest look at the strengths, weaknesses, opportunities, and threats of the area surrounding MKE while considering its existing and projected relationship with the regional, national, and global economy.
2. Develop a framework for regional decision-making that will provide the foundation for creating regional competitiveness through public investment.
3. Create a consortium to guide the visioning and implementation of Aerotropolis Milwaukee. The consortium should consist of representatives from MKE and the airlines that serve MKE; community leaders; local business and land owners, especially those who support and facilitate freight movement and passenger services; real estate specialists and land developers; and officials representing local and state governments and agencies.
4. Perform a target industry analysis to identify industry groups best suited for the Aerotropolis Milwaukee air logistics hub.<sup>2</sup>
5. Develop a marketing strategy to attract consumers of air cargo services by developing a list of key services and infrastructure necessary to support targeted industries.<sup>3</sup>



### **Create a development plan**

Work with local and State governments to identify and address barriers to development. Barriers may include incompatible zoning of parcels, expeditiousness of the permitting process, and lack of “shovel-ready” sites. Shovel-ready sites are sites that have had all of the planning, zoning, survey, environmental studies and analyses, utility service, and title work completed prior to the intended developer taking ownership of the site.

### **Create a funding and economic development incentive toolbox**

Work with local and State governments and agencies to create a toolbox identifying funding and incentives designed to promote economic development, business expansion, and job creation within the Aerotropolis. Incentives and funding sources may include the use of tax incremental financing, revolving loan programs, and Federal, State, or local grants.

<sup>2</sup> A cursory industry analysis for air logistics hubs, not specific to any aerotropolis, was performed by the University of North Carolina's Frank Hawkins Kenan Institute of Private Enterprise. The analysis identified 11 industries that most commonly utilize air express and air cargo facilities, which can be found in Table B.1 of Appendix B.

<sup>3</sup> Supportive services and infrastructure needed to support the industries identified in step 4 can be found in Table B.2 of Appendix B.

## Aerotropolis Milwaukee Vision Statement

“Aerotropolis Milwaukee is a vibrant and diverse transportation and commercial hub, a globally recognized economic engine that attracts business and people to the Milwaukee region.”



The Gateway to Milwaukee and MGAC initiated work on various aspects of the three-prong approach as advised by Dr. Kasarda’s report, starting with the creation of a multi-jurisdictional partnership in 2013 to demonstrate continued support for Aerotropolis Milwaukee and a desire to engage in cooperative planning and economic development activities to benefit the Aerotropolis Milwaukee region as a whole. A planning committee was then formed to shape an initial vision for Aerotropolis Milwaukee and oversee market research and planning efforts, including the MKE Aerotropolis Development

Plan. The Aerotropolis Planning Committee consists of representatives from The Gateway to Milwaukee, MGAC, partner communities, Milwaukee County, MKE, SEWRPC, airport-related business owners, local and state agencies, and the real estate industry.

Another achievement spurred by Dr. Kasarda’s recommendations was the completion of a study to identify and research the market niche and brand that defines the Airport area. In 2014, Dieringer Research Group (DRG), contracted by MGAC, conducted an online survey directed towards visitors from specific key regions that had stayed in a Milwaukee area hotel within the previous two years. The survey revealed the following information:

- Respondents indicated a preference to stay at hotels in Downtown Milwaukee.
- Respondents’ preferences for Downtown Milwaukee hotels over Airport area hotels can be attributed primarily to location, including the amenities within specific locations and the convenience of accessing desirable locations.
- Aside from competitive rates and complimentary hotel perks, respondents cited an interest in being close to their intended destination as a major consideration in selecting a hotel.
- There was a perception among respondents that unless their travels involve flying in or out of MKE, there is little need to choose a hotel in the Airport area.
- Having an early morning flight out of MKE was the primary reason that respondents chose to stay in an Airport area hotel.

- Investments in public transportation and aesthetic amenities were the most common suggestions among survey respondents who advocated for potential improvements to the Milwaukee area.

Several significant takeaways from these results can be incorporated into plans for developing Aerotropolis Milwaukee:

- Efforts to increase hospitality-oriented business within the Airport area should be focused on serving air travelers as they are more likely to consider staying in a hotel within the Airport area.
- Improved access to desirable amenities similar to those provided by hotels in Downtown Milwaukee could help increase visitors’ interest in staying in Airport area hotels.
- It is important to develop the Airport area in an aesthetically pleasing manner.

The Gateway to Milwaukee has also worked with members of their consortium, including Transform Milwaukee and the Milwaukee 7 Regional Economic Development Advisory Council (M7), to incorporate aerotropolis-supporting recommendations into their planning efforts. Transform Milwaukee’s *Strategic Action Plan*<sup>4</sup> identifies Aerotropolis Milwaukee as one of Milwaukee’s five major industrial cores and presents an array of recommendations for the Aerotropolis:

<sup>4</sup> Transform Milwaukee. Strategic Action Plan: 2015. April 30, 2015. <http://transformmilwaukee.com/transforming-milwaukee/strategic-action-plan/>

- Obtain tangible commitments to the aerotropolis planning process from all participating local governments that intersect with Aerotropolis Milwaukee.
- Establish Aerotropolis Milwaukee as a higher-density, mixed-use, well-connected aerotropolis district centered on innovation and entrepreneurship-enabling facilities that build from existing high-traffic, mixed-use areas.
- Facilitate the creation of one or more overlay districts for Aerotropolis Milwaukee, focusing on clusters and sub-areas of activity, and coordinate the adoption and inclusion of the overlay district(s) into each community's comprehensive plan by offering recommendations for applicable comprehensive plan changes.
- Consider creating a multi-jurisdictional tax incremental financing (TIF) district to provide a source of funds for future Aerotropolis-related redevelopment efforts.
- Promote critical redevelopment projects within Aerotropolis Milwaukee.
- Capitalize on major industrial and manufacturing opportunities along the eastern and southern edges of MKE by following through with projects that improve the readiness of the site through improvements to infrastructure such as roadways and utilities.
- Create a development corporation to focus investments within specific properties that can serve as catalytic projects.
- Market Aerotropolis Milwaukee to a broad range of business sectors that can benefit from the location advantages.
- Utilize the momentum created from manufacturing and warehousing

development along I-94/41 in Kenosha County to attract new businesses and industries to Aerotropolis Milwaukee.

- Focus on boosting Airport passenger levels and increase the quality of Airport services, including the number and frequency of direct service routes to a variety of business destinations.

M7 has incorporated Aerotropolis-related recommendations into two of their most recent planning documents: *Framework for Economic Growth*<sup>5</sup> and *A Comprehensive Economic Development Strategy for Southeastern Wisconsin: 2015*.<sup>6</sup>

- Capitalize on rapidly growing industry clusters, such as food and beverage manufacturing (FaB), water technology, tourism, and business headquarters.
- Increase airport services and hospitality/entertainment services to support headquarters clusters.



<sup>5</sup> Milwaukee 7. Framework for Economic Growth, January 2014. [http://mke7.com/~media/Documents/MKE7FrameworkforEconGrowthExecSummary04\\_14.ashx](http://mke7.com/~media/Documents/MKE7FrameworkforEconGrowthExecSummary04_14.ashx)

<sup>6</sup> Milwaukee 7, Southeast Wisconsin Regional Economic Partnership, and SEWRPC. Comprehensive Economic Development Strategy for Southeastern Wisconsin: 2015-2020. <http://www.sewrpc.org/SEWRPCFiles/EconDev/CEDSfinalreport.pdf>

## A PLAN FOR THE FUTURE: MKE AEROTROPOLIS DEVELOPMENT PLAN

The Gateway to Milwaukee and MGAC partnered with SEWRPC to prepare the MKE Aerotropolis Development Plan. This plan was developed to address the need for a development plan, the second step in the outlined approach discussed in Dr. Kasarda's report. The MKE Aerotropolis Development Plan was developed through a collaborative planning process that included the following leadership and stakeholder meetings:

- One-on-one exploratory meetings with community elected officials and/or staff
- Two Aerotropolis Planning Committee workshops
- Draft plan review meeting with the Aerotropolis Planning Committee
- Draft plan review meeting and adoption with the MGAC Board of Directors

### Planning Study Area

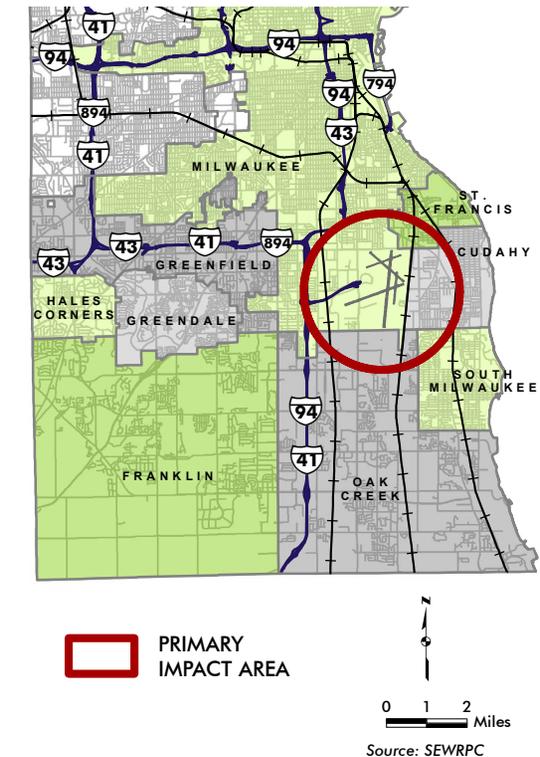
**Regional Setting.** The core of Aerotropolis Milwaukee is General Mitchell International Airport (MKE), located in Southeastern Wisconsin. Geographically, Aerotropolis Milwaukee is located in a relatively good position with regard to opportunities for continued growth and development. Some of the most important industrial areas and heaviest population concentrations in the Midwest are within 100 miles of MKE. As shown in Map 1.1, MKE is located approximately 10 miles south of Downtown Milwaukee and 85 miles north of Downtown Chicago.

**Map 1.1**  
Location and Service Area



**Planning Area.** The Aerotropolis Milwaukee Planning Area is located in Milwaukee County and consists of about 160 square miles within nine communities (including the Villages of Greendale and Hales Corners and the Cities of Cudahy, Greenfield, Franklin, Milwaukee, Oak Creek, South Milwaukee, and St. Francis). The plan identifies about 12 square miles around MKE as the Primary Impact Area for Aerotropolis Milwaukee. This Primary Impact Area has the greatest potential to experience aerotropolis-related development given its proximity to MKE. Map 1.2 illustrates the location of the Aerotropolis Planning Area and Primary Aerotropolis Impact Area.

**Map 1.2**  
Aerotropolis Milwaukee Planning Area



## Key Challenges

There are four key challenges that are addressed by the MKE Aerotropolis Development Plan in an attempt to achieve a shared vision for Aerotropolis Milwaukee.

- 1. Dr. Kasarda’s vision for an “Aerotropolis” is somewhat conceptual.** A tangible plan is needed to identify what can be achieved in Milwaukee. The plan studies existing land use and transportation conditions, identifies opportunities to increase the concentration of aerotropolis-supporting land uses, and was developed in coordination with partnering communities.
- 2. Much of the land around MKE is already developed.** However, there are significant redevelopment opportunities and areas that are still undeveloped within the Aerotropolis Milwaukee Planning Area. The plan identifies redevelopment areas and available vacant land that have the potential to greatly influence the success of the Aerotropolis and provides recommendations for the best use of those lands within the overall Aerotropolis Milwaukee vision.
- 3. Every affected community already has its own plans and projects within its boundaries.** The plan can help coordinate their individual efforts around a shared goal of achieving airport-oriented economic development. It provides recommendations that participating communities can incorporate into their comprehensive plans.

- 4. Height and other restrictions on development near the Airport need to be identified and considered when planning for growth.** Recommendations made in the plan consider restrictions identified within the Aerotropolis Planning Area. This includes building height restrictions that impact development around the Airport due to existing and proposed runways found in the Airport Master Plan and areas of environmentally significant land that should be avoided when pursuing future development.

## MKE Aerotropolis Development Plan Objectives

The following list of MKE Aerotropolis Development Plan objectives was formulated through SEWRPC’s MKE Aerotropolis Development Plan workshops and Aerotropolis Planning Committee work:

- Using the aerotropolis concept and a study of national aerotropolis examples as a guide, bring communities within the planning area together to create a realistic and shared vision for Aerotropolis Milwaukee.
- Identify land use types that support Aerotropolis Milwaukee and promote a variety of airport-related development.
- Identify clusters of existing development within a short drive of MKE that contribute to the overall vitality of the Aerotropolis.
- Identify existing clusters of land near MKE with particularly high potential for future growth that should be targeted for increasing land uses that further the Aerotropolis.
- Identify projects that may serve as catalysts to development within areas targeted for future growth.

- Recommend appropriate land use changes to bolster economic growth and intensify aerotropolis-supporting development within identified Aerotropolis growth areas.
- Recommend enhancements to infrastructure (i.e., roads, transit, and rail) to serve and support Aerotropolis Milwaukee by improving connections and strategically increasing capacity and services.
- Create strategies to address barriers to development in Aerotropolis growth areas.
- Encourage local governments and business owners within Aerotropolis growth areas to consider establishing partnerships and funding mechanisms to create, implement, and sustain recommendations set forth in the MKE Aerotropolis Development Plan.

## PUTTING THE PLAN IN ACTION

The recommendations and overall vision for Aerotropolis Milwaukee, presented in Chapters 3 and 4, describe the desired growth the MKE Aerotropolis Development Plan seeks to achieve. Achieving the Aerotropolis Milwaukee vision will require the MGAC partners to implement these recommendations through land use regulations, public investment and cooperation, and the formation of partnerships with adjacent municipalities and local agencies. This section presents coordinated actions so that MGAC and its partners can easily identify the steps needed to grow the Aerotropolis.

### Endorsement of the Plan

MGAC has received continuing support of the Aerotropolis concept from its partners. In the spirit of cooperation and collaboration, MGAC asks its partner communities to continue their commitment to pursuing a shared vision for Aerotropolis Milwaukee by formally endorsing the MKE Aerotropolis Development Plan via resolution. As appropriate, communities will be asked to consider incorporating plan recommendations into their comprehensive plans as they are updated. Milwaukee County and applicable agencies participating in MGAC will also be asked to endorse the plan to show continued support for the Aerotropolis Milwaukee initiative.

The process for considering plan endorsement will be initiated by Gateway and SEWRPC staff and will be tailored to address the interests of each partner. Staff will contact each partner to request an opportunity to present the plan and its recommendations to their respective elected officials or staff. Staff will also provide a sample resolution that each community can consider adopting to indicate endorsement of the plan and

continued support for the Aerotropolis Milwaukee initiative. This endorsement is important to help assure a common understanding among the partner communities.

### Implementation Process

To fully realize the vision for Aerotropolis Milwaukee, the land use and transportation recommendations identified in Chapters 3 and 4 will need to be put into action. Integrating the plan recommendations into comprehensive plans and applicable programs will serve as a milestone in the implementation process, providing the groundwork to seek funding, establish partnerships, and create a timeline to complete projects at the local and county level. For participating communities, integration of the plan recommendations will mostly involve modest changes to their comprehensive plans.

The plan recognizes that partner communities have statutory responsibilities related to preparing, updating, and implementing their comprehensive plans. These responsibilities are set forth in Section 66.1001 of the *Wisconsin Statutes*, which was enacted by the Wisconsin State Legislature in 1999 and expanded the scope and significance of comprehensive planning in the State. The legislation, sometimes referred to as the State's "Smart Growth" law, provides a framework for the development, adoption, implementation, and amendment of comprehensive plans by regional planning commissions and by county, city, village, and town units of government. The law does not require the adoption of county and local comprehensive plans. However, Section 66.1001(3) of the *Statutes* requires that zoning, subdivision, and official mapping ordinances enacted or amended on or after January 1, 2010, be consistent with the comprehensive plan adopted by the unit of government enacting or amending such ordinances.

Establishing the responsible parties for the administration, monitoring, and evaluation of the MKE Aerotropolis Development Plan implementation process is key to ensuring continual progress in the growth of the Aerotropolis. Administration of the plan implementation process will be led by MGAC and facilitated through the assistance of The Gateway to Milwaukee and SEWRPC staff. Staff will work side-by-side with elected officials and staff from each partner to review plan recommendations and provide assistance as they consider plan endorsement. Continual monitoring and evaluation of the implementation process will be conducted by MGAC and Gateway staff. Monitoring and evaluation efforts will be dependent on cooperation between partners, which should work together with MGAC to regularly monitor progress on plan implementation.

Implementation of the plan recommendations, including integrating recommendations into relevant documents and programs, identifying funding sources, and pursuing individual projects, should be executed by the applicable partner.

## **Funding and Economic Development Incentive Toolbox**

As discussed in a previous section entitled *Kasarda's Three-Prong Approach to Establishing a Successful Aerotropolis*, MGAC has worked on various aspects of the approach suggested in Dr. Kasarda's report. The remaining step in that approach, *Create a funding and economic development incentive toolbox*, has yet to be completed, but may be a useful tool for partners as they pursue implementation of the plan. The toolbox should document incentives and funding sources available to promote economic development, business expansion, and job creation within the Aerotropolis. Incentives and funding sources may include the use of tax incremental financing, revolving loan programs, and Federal, State, or local grants. The development of this toolbox should be led by MGAC and include participation from each of its partners.

## **Continuing the Commitment to the Aerotropolis Milwaukee Vision**

The MKE Aerotropolis Development Plan encourages participating communities to be mindful of the development they approve in the Aerotropolis Planning Area, and urges communities to pursue the highest and best use in the Aerotropolis growth areas as outlined in the land use recommendations presented in Chapter 3.

The plan recognizes that there is a natural competition between communities for desirable land uses such as hospitality venues or high-value commercial and industrial development. It is important to note that the plan encourages the clustering of compatible land uses in a manner that maximizes the value and efficiency of these uses. Should a community choose to allow an incompatible land use within a growth area, it may jeopardize the value of that area

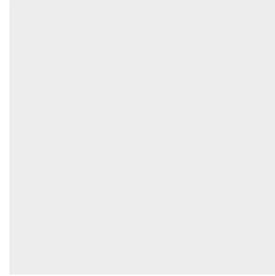
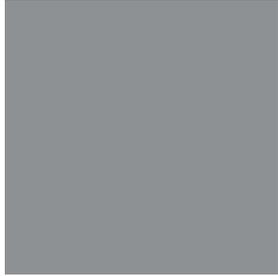
by discouraging future aerotropolis-supporting development from occurring or cause the value of existing desirable land uses to decrease. This choice may also have a negative impact on other growth areas that may be better suited to accommodate that land use.

MGAC asks each community to continue their commitment to pursue the vision for Aerotropolis Milwaukee by uniformly acting on behalf of the best interests for Aerotropolis Milwaukee and all partnering communities.

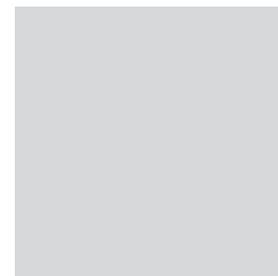
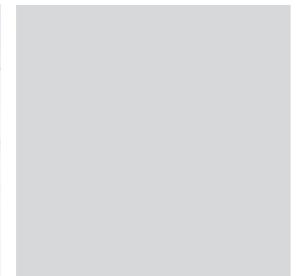


# CHAPTER 2

## Existing Conditions



As the heart of Aerotropolis Milwaukee, General Mitchell International Airport (MKE) is tied to the participating Aerotropolis communities through a shared transportation network and diverse range of land uses. These existing characteristics were studied extensively and compared to other national Aerotropolis examples, providing insight into opportunities and barriers that Aerotropolis Milwaukee may encounter.



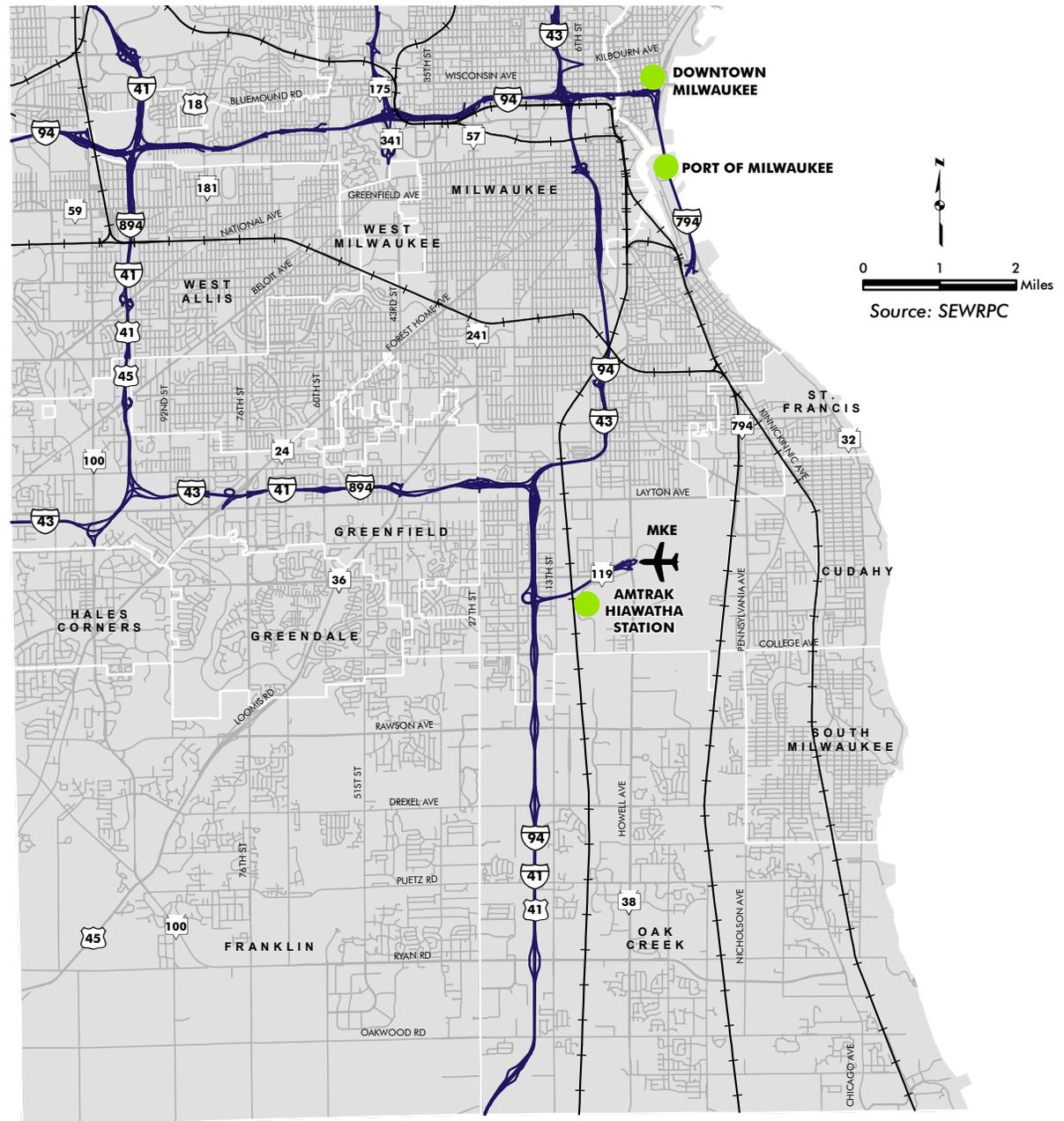
## GENERAL MITCHELL INTERNATIONAL AIRPORT

MKE, owned and operated by Milwaukee County since 1926, is a civil-military airport located approximately 10 miles south of Downtown Milwaukee and 6 miles south of the Port of Milwaukee. The Airport is served by nearby Interstates 94 and 41 (I-94/41) via the Airport Spur (WIS 119), and is adjacent to WIS 794, as shown on Map 2.1.

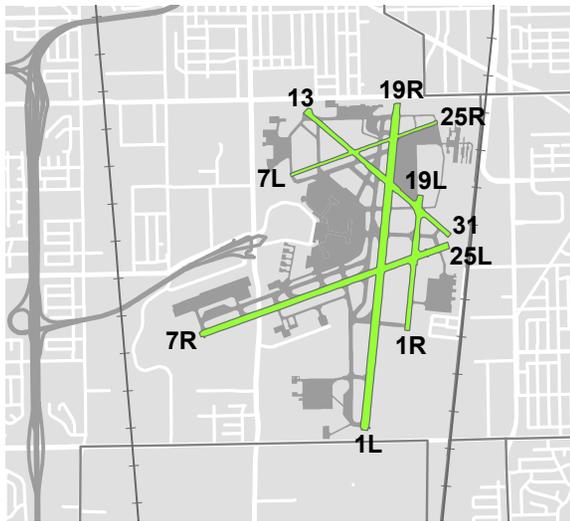
MKE is accessible via two bus routes, operated by the Milwaukee County Transit System (MCTS); Amtrak passenger rail service via the Hiawatha line between Downtown Milwaukee, Sturtevant, and Chicago; and via several private coach bus, taxi, and shuttle providers.

The Airport covers 2,180 acres of land and includes five runways (Map 2.2 shows the current runway configuration) and several passenger, cargo, and military-oriented facilities. Commercial passenger facilities include one terminal with three concourses. Private aviation and maintenance facilities are scattered along the property boundaries. Cargo facilities are located southwest of the passenger terminal, along the north side of Runway 7R/25L. The Wisconsin Air National Guard 128th Air Refueling Wing is located along the eastern boundary of the Airport and utilizes Runway 1R/19L. The Air Force 440th Airlift Wing operated a station along the southwest edge of the property until it was decommissioned in 2007. The property still maintains access to MKE's runways, but has been repurposed into the MKE Regional Business Park.

**Map 2.1**  
**Access To MKE**

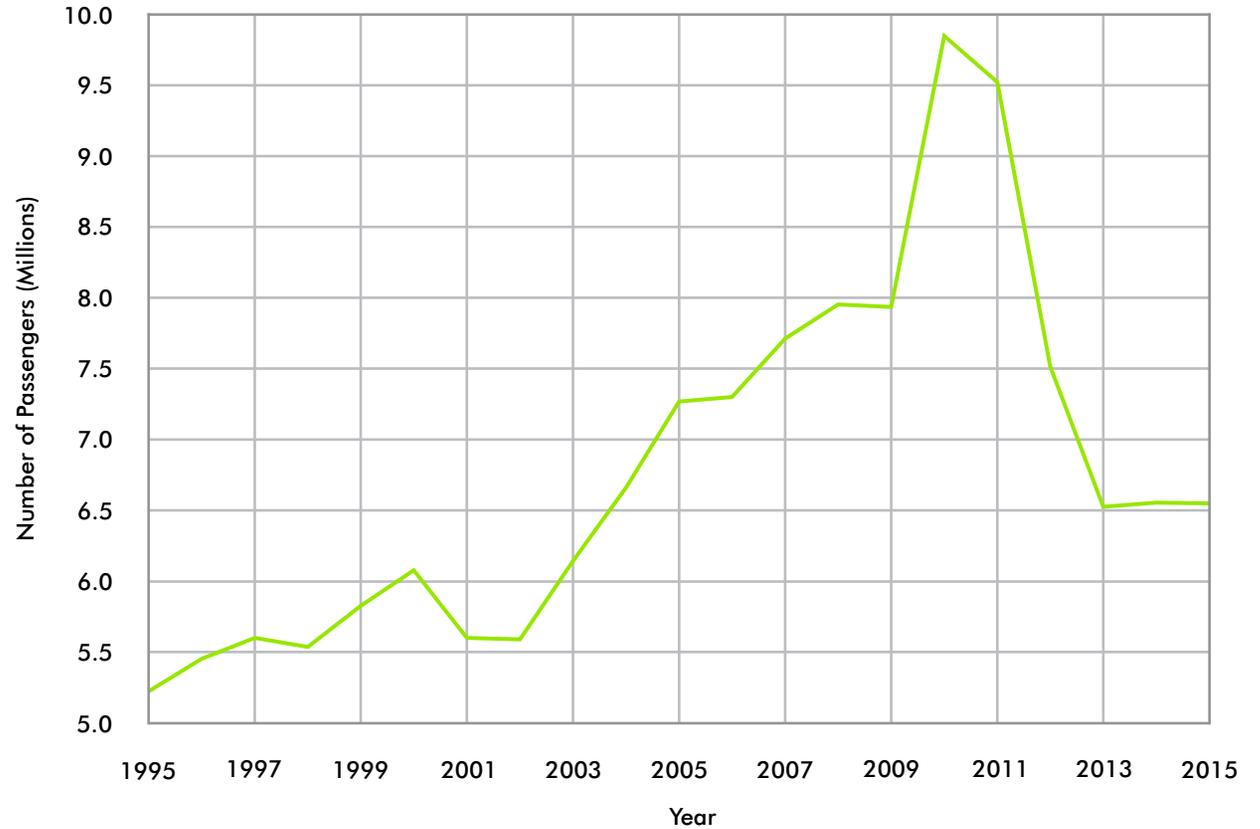


**Map 2.2**  
**MKE Runway Configuration**



Source: SEWRPC

**Figure 2.1**  
**MKE Total Passenger Activity Trend**



Source: General Mitchell International Airport

### Commercial Passenger Service

MKE is the primary provider of commercial passenger air service for the Milwaukee metropolitan area. It offers nonstop flights to 38 domestic and four international destinations, with an additional 160 domestic and international destinations reachable with just one connection. Carriers that serve MKE include Air Canada, Alaska, American Airlines, Delta, Frontier, OneJet, Southwest, United, and Volaris.

In 2015, MKE served 6.5 million total enplaning and deplaning passengers and ranked 50th in the nation in terms of enplanements.<sup>7</sup> Figure 2.1 shows the total passenger activity trend between 1995 and 2015, which peaked in 2010. The decline since 2010, including a 33 percent decline in direct passengers and an 88 percent

decline in connecting passengers, coincided with an airline consolidation period that included the merging of Midwest Airlines and Frontier Airlines as well as the merging of AirTran and Southwest Airlines. In 2014 and 2015, the MKE passenger volume stabilized, in part due to Alaska Airlines beginning to serve MKE with flights to its Seattle hub and Delta adding new flights to Boston. Passenger volumes may experience future increases with MKE's continuous work to attract new carriers and flights, including the addition

<sup>7</sup> FAA Passenger Boardings, Rank Order, and Percent Change from 2014. [http://www.faa.gov/airports/planning\\_capacity/passenger\\_allcargo\\_stats/passenger/media/cy15-commercial-service-enplanements.pdf](http://www.faa.gov/airports/planning_capacity/passenger_allcargo_stats/passenger/media/cy15-commercial-service-enplanements.pdf)

of a new carrier, Volaris, which will provide direct service to Guadalajara two times a week beginning in March of 2017.

### Freight Service

MKE is the 38th busiest qualifying cargo airport in the United States.<sup>8</sup> As shown in Figure 2.2, 147 million pounds of freight cargo passed through MKE in 2015, a 2 percent increase from 2014. Most of the freight that travels through MKE is transportation equipment, machinery, miscellaneous manufacturing products, and electrical equipment.<sup>9</sup>

### Growing General Mitchell International Airport

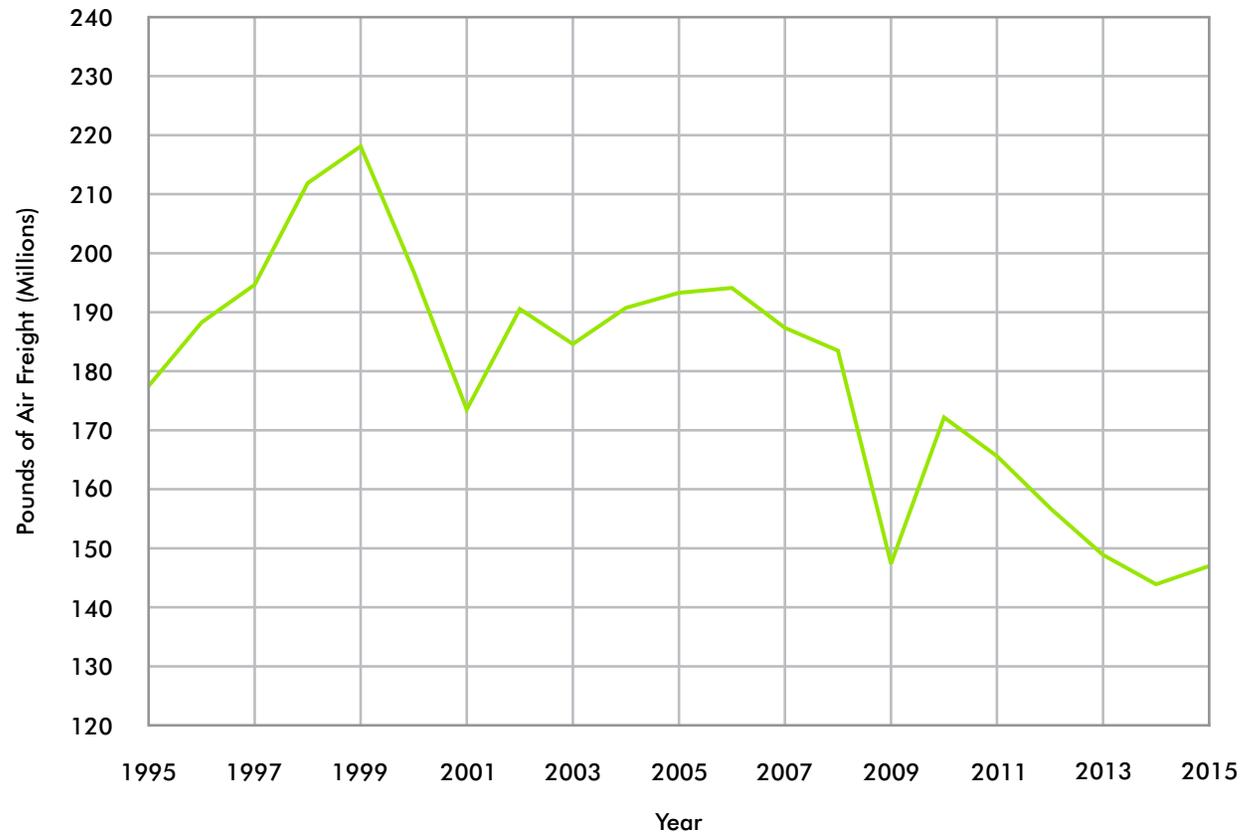
MKE has been working to increase passenger volumes to meet required thresholds that support adding destinations and increasing flight frequencies. Efforts to attract new passengers are exemplified in two of MKE’s marketing campaigns: “Choose MKE - Fly Local, Go Global” and “Fly smart. Fly MKE.” The campaigns are oriented to encourage residents of southeastern Wisconsin and northeastern Illinois to travel out of General Mitchell International Airport instead of choosing to fly out of O’Hare or Midway International Airports. The campaigns present MKE as an affordable and expedient alternative considering the expenses and inconveniences associated with choosing Chicago’s busy airports, including transportation costs from tolls, fuel usage, and parking fees; fares; driving time and traffic; and potential flight delays.

A recent survey completed by Probe Research Services suggests that the marketing campaigns

<sup>8</sup> FAA Cargo Data. *Qualifying Cargo Airports, Rank Order, and Percent Change from 2014*. [http://www.faa.gov/airports/planning\\_capacity/passenger\\_allcargo\\_stats/passenger/media/cy15-cargo-airports.pdf](http://www.faa.gov/airports/planning_capacity/passenger_allcargo_stats/passenger/media/cy15-cargo-airports.pdf)

<sup>9</sup> According to 2013 Transearch Data by IHS.

**Figure 2.2**  
**MKE Air Freight Activity Trend**



Source: General Mitchell International Airport

have begun to influence residents of northern Illinois to consider MKE as their first airport of choice.<sup>10</sup> There has been a 17 percent increase in the number of northern Illinois respondents that have chosen to fly out of MKE at least once in the last 12 months between 2008 and

<sup>10</sup> Mitchell Airport attracting more passengers from northern Illinois. *Milwaukee Journal Sentinel*, December 26, 2015. <http://www.jsonline.com/business/mitchell-airport-attracting-more-passengers-from-northern-illinois-b99639744z1-363552421.html>

2015. Recognition of Milwaukee’s airport code, MKE, among residents surveyed in northern Illinois increased from 18 percent to 75 percent.

MKE is also working alongside local governments, agencies, and organizations to promote airport-related development in southeastern Wisconsin by working to attract national and international businesses that are likely to utilize airport services. Attracting and growing airport-related

businesses in the Airport area are a symbiotic means of increasing the number of MKE users and the frequency of Airport use. The development of the Amazon fulfillment center, adjacent to I-94 in Kenosha and approximately 25 miles south of MKE, serves as an example: it officially opened in 2015 and is cited as one of several factors that prompted Alaska Airlines to commence non-stop commercial passenger service from Milwaukee to Seattle, home of Amazon's headquarters.

Coordination among Airport area communities is key in order to ensure that plans for airport-related development spanning multiple communities are complementary. Ultimately, development in Aerotropolis Milwaukee should improve air travel opportunities and position southeastern Wisconsin to have a larger role in the global economy.

## **The Future of MKE and the Airport's Impact on Surrounding Lands**

### **The Airport Master Plan**

The 1993 *Master Plan for Milwaukee County's General Mitchell International Airport* was created to facilitate improvements to the Airport to meet forecast aviation trends and capacity demands. Recommended improvements included the realignment and extension of Runway 7L/25R (completed), the extension of 7R/25L, the extension of 1R/19L, and the decommissioning of Runway 13/31. The plan also recommended a new runway, known as Alternative C-1, to be placed parallel and 3,540 feet south of the existing 7R/25L runway.<sup>11</sup> In 2009, a subsequent update to the Master Plan was done, validating several of the initial recommendations, including the proposed runway and decommissioning of Runway 13/31.

<sup>11</sup> Due to standard runway naming practices, the existing 7R/25L would be renamed 7C/25C, allowing the proposed runway to become 7R/25L.

The inclusion of the proposed Runway C-1 in the Airport Master Plan has resulted in Federal Aviation Administration (FAA) development restrictions on approximately 394 acres of land, presenting uncertainty to impacted municipalities and potential developers that may otherwise want to locate in the affected areas. The impacted areas are labeled as ultimate land acquisition and shown in yellow in Figure 2.3.

During development of the MKE Aerotropolis Development Plan, Airport staff were consulted as to whether the Airport Master Plan would be updated and the likelihood of Runway C-1 being removed. They indicated an intent to update the Airport Master Plan beginning in 2017, noting that the process could take a few years to complete. As part of the update, the need for Runway C-1 would be thoroughly evaluated. Airport staff noted that the initial aircraft operation forecasts that led to Runway C-1's inclusion in the Airport Master Plan were appropriate at the time, but that there have been local and national changes that would likely reduce forecast travel and aircraft operation levels. They recognized these reduced levels may indicate that Runway C-1 could be removed from the Airport Master Plan, but that detailed analyses during the Airport Master Plan update need to be completed before any determination is made. Forecasts used in determining the need for the runway in 2009 are shown along with the actual operation data in Figure 2.4.

Similar to the proposed runway, the decommissioning of Runway 13/31 will also be re-evaluated during the Airport Master Plan update. Should Airport staff and the FAA choose to move forward with the decommissioning of the runway, approximately 24 acres of land could be available for future development east of the intersection of Layton and Howell Avenues.

Respecting the process that needs to be completed prior to determining if Runway C-1 and Runway 13/31 should be removed from the Airport Master Plan, the MKE Aerotropolis Development Plan does not make any recommendation as to the removal of the runways nor should the MKE Aerotropolis Development Plan be used as a justification for the removal of either runway. However, given the possibility that the runways will be removed, the Aerotropolis Plan cannot ignore the substantial effect this action would have on the economic development potential of surrounding lands. With this in mind, the plan recommendations are based on an anticipation that Runway C-1 and Runway 13/31 will eventually be removed from the Airport Master Plan.

### **FAA Development Height Restrictions**

The FAA has established standards and requirements for the safe, efficient use, and preservation of navigable airspace. These standards include building height restrictions that impact potential development surrounding the Airport. *14 CFR* (Code for Federal Regulations) *part 77.9*<sup>12</sup> states that a notice must be filed with the FAA if requested by the FAA or when anyone proposes any of the following types of construction or alteration:

- Any construction or alteration exceeding 200 feet above ground level.
- Any construction or alteration that exceeds an imaginary surface extending outward and upward at any of the following slopes:
  - 100 to 1 for a horizontal distance of 20,000 ft. from the nearest point of the nearest runway of each airport described in *14 CFR 77.9(d)* with its longest runway more than 3,200 ft. in actual length, excluding heliports.

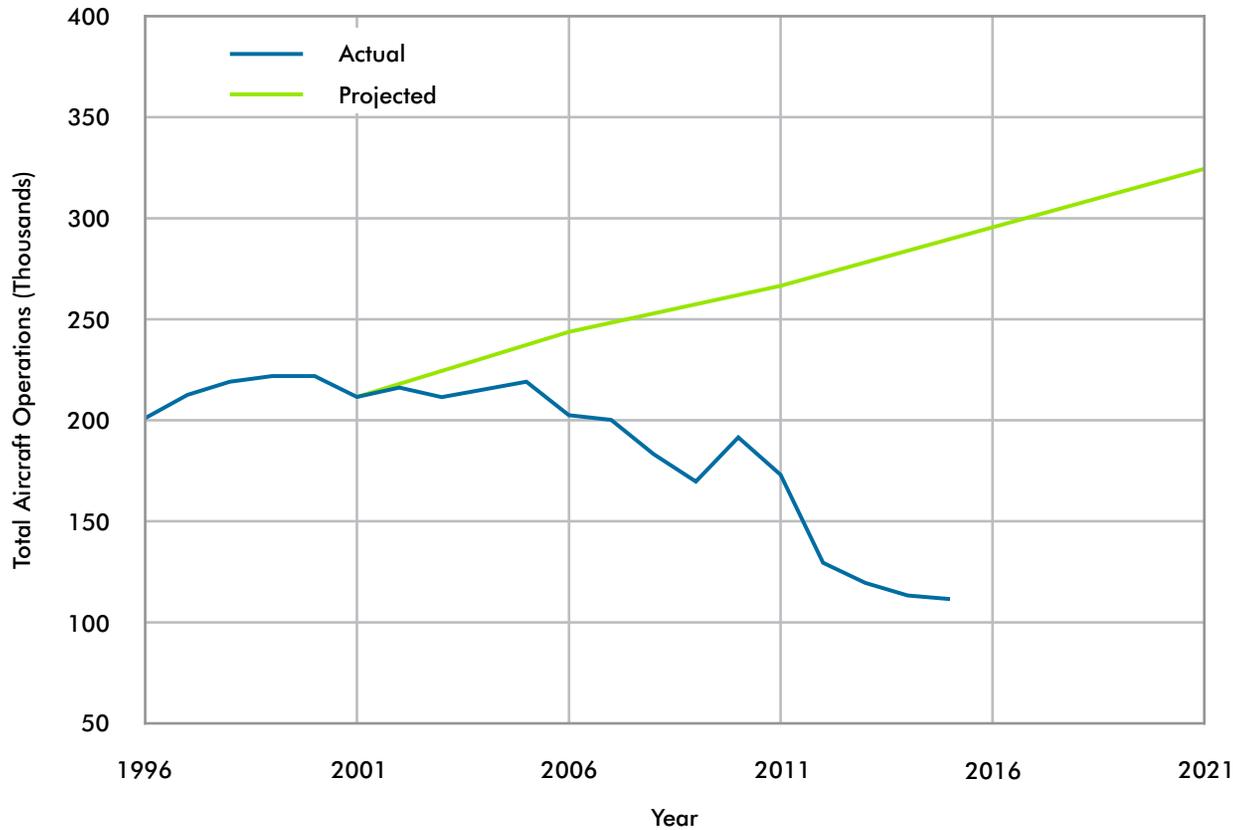
<sup>12</sup> <https://oiaa.faa.gov/oiaa/external/portal.jsp>

**Figure 2.3**  
**2009 Airport Master Plan Proposed Capital Improvement Projects**



Source: General Mitchell International Airport

**Figure 2.4**  
**MKE Total Aircraft Operations: Comparison of Actual to 2009 Airport Master Plan Forecast**



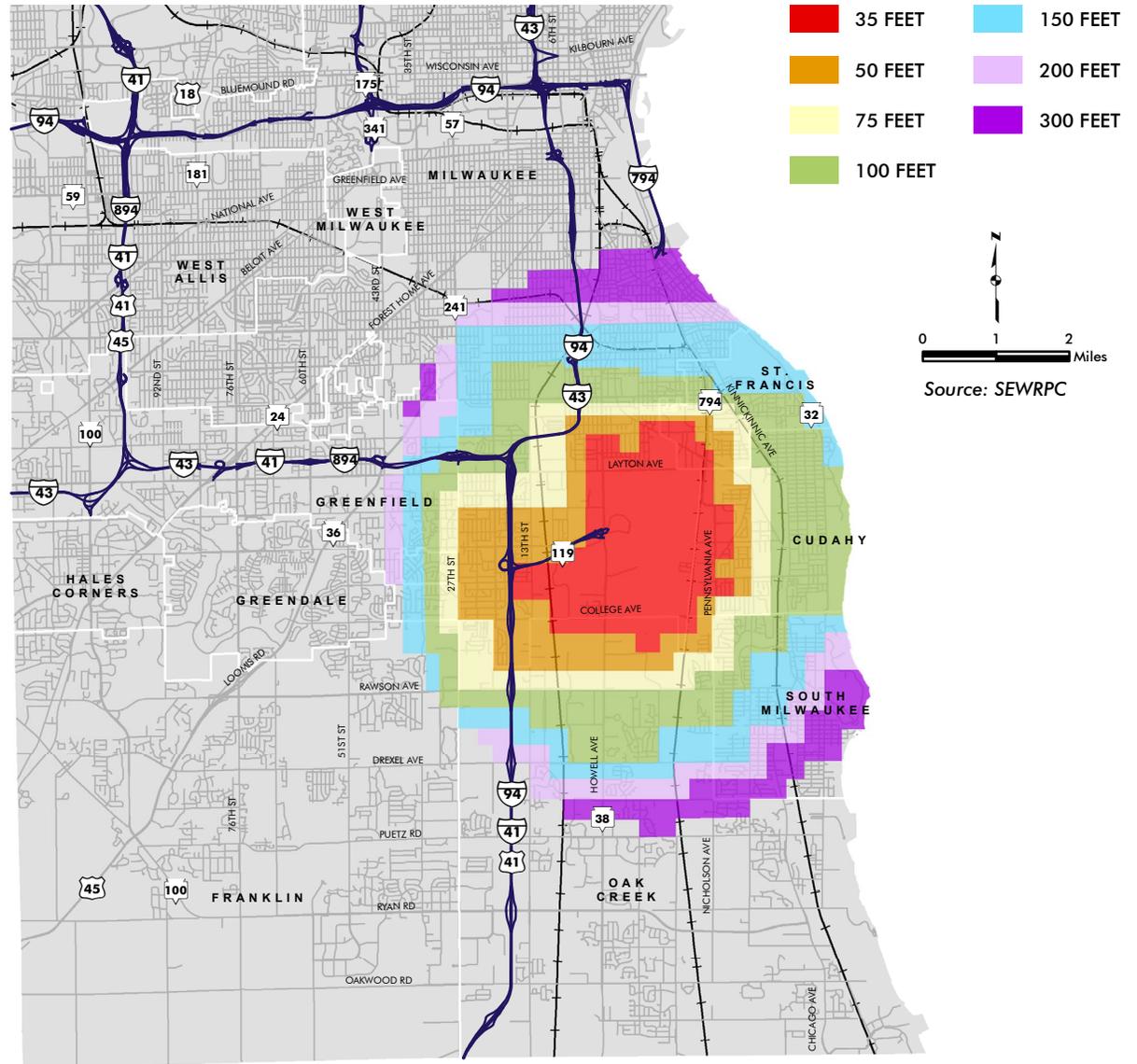
Source: General Mitchell International Airport

- 50 to 1 for a horizontal distance of 10,000 ft. from the nearest point of the nearest runway of each airport described in 14 CFR 77.9(d) with its longest runway no more than 3,200 ft. in actual length, excluding heliports.
- 25 to 1 for a horizontal distance of 5,000 ft. from the nearest point of the nearest landing and takeoff area of each heliport described in 14 CFR 77.9(d).
- Any highway, railroad or other traverse way for mobile objects, of a height which, if adjusted upward as defined in 14 CFR 77.9(c) would exceed a standard of 14 CFR 77.9 (a) or (b).
- Any construction or alteration located on an airport described in 14 CFR 77.9(d).

**Map 2.3**  
**MKE Development Height Restrictions\***

Milwaukee County's Ordinance 84.00 reflects the standards and requirements set forth by the FAA. In 1999, Milwaukee County developed a companion map to the ordinance to illustrate general building height restrictions and act as a first screening for proposed development around the Airport (a simplified version of the original County ordinance map is shown on Map 2.3). This map was created by taking the median elevation of a quarter section and does not provide parcel-level accuracy. To achieve parcel-level accurate height restrictions, developers must go through a sometimes lengthy process requiring the submittal of their development proposal to the FAA, with the assistance of MKE to shepherd the process, for review and acceptance.

The process to identify these height restrictions has been viewed as a barrier to development in the Airport area. At the request of the MGAC Board of Directors, SEWRPC staff are working with Airport and Milwaukee County Economic Development staff to create a tool to more accurately identify parcel-specific development height restrictions. This tool will help developers to rapidly identify whether a proposed development is likely to violate FAA height restrictions, although developers will continue to be required to submit all development proposals within the aforementioned restricted areas to MKE and the FAA.



\*The MKE Development Height Restriction Map was created in 1999 to provide an initial estimate of FAA height restrictions around the Airport. Parcel-level accuracy for height restrictions can be obtained through a process involving MKE and the FAA.

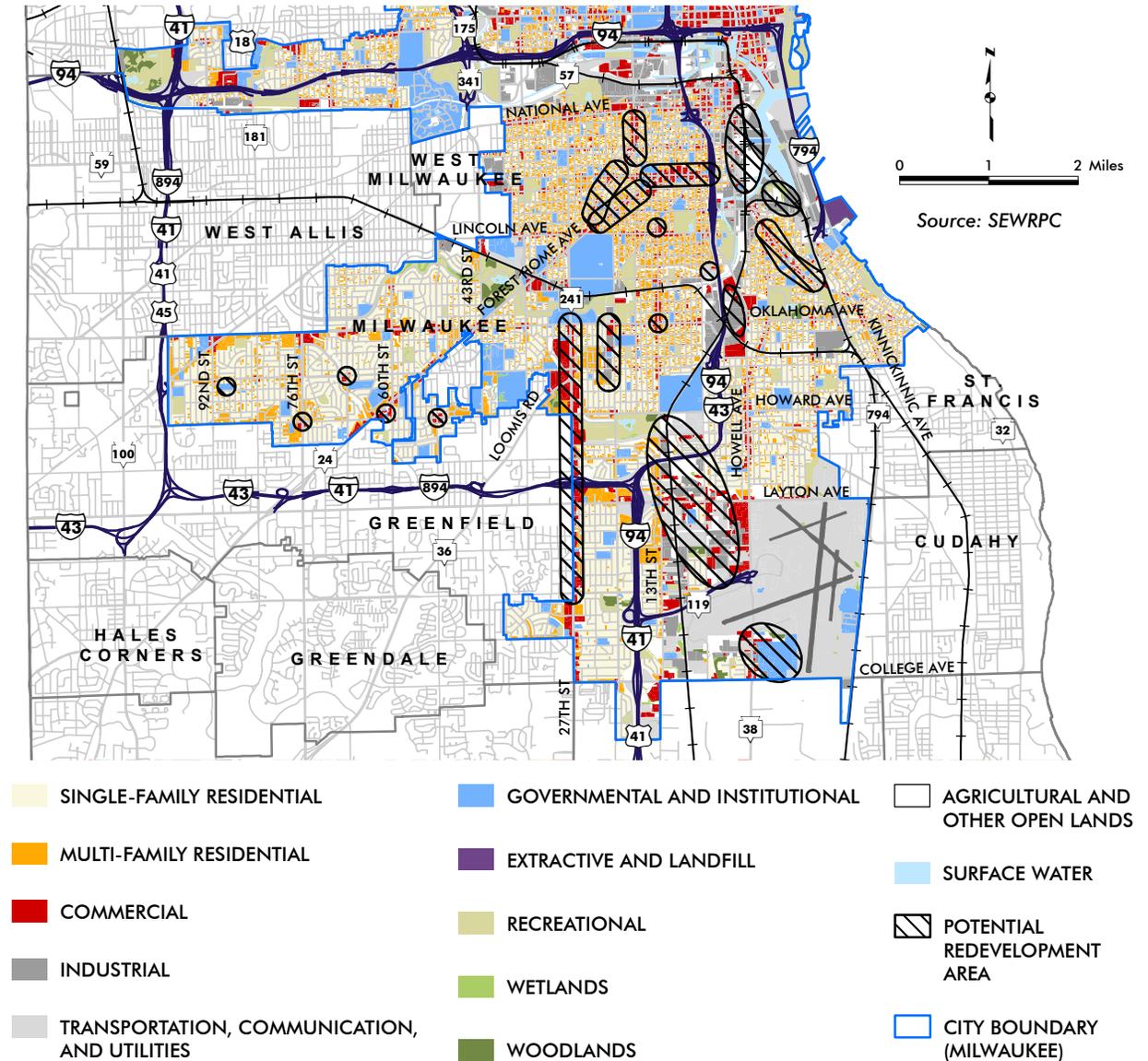
## EXISTING LAND USE AND NATURAL LIMITATIONS TO DEVELOPMENT

The Aerotropolis Milwaukee Planning Area is a diverse setting, ranging from rural and suburban-style development in the communities south of College Avenue to more dense urbanized development closer to Milwaukee's city center. Each area has a unique mix of vacant and underutilized land that may serve as future aerotropolis-oriented development opportunities. The following community profiles provide an overview of existing land uses and natural limitations to development within each of the nine communities that are located in the Aerotropolis Milwaukee Planning Area.

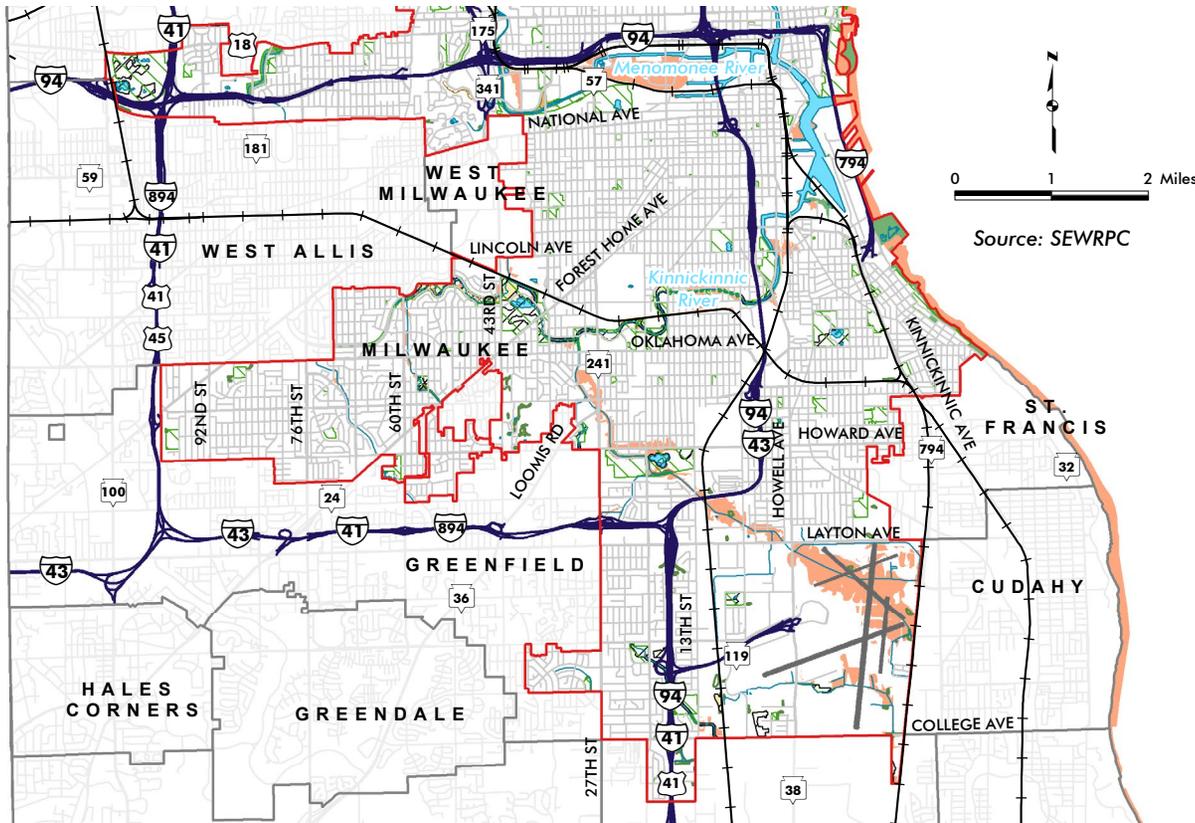
### City of Milwaukee

The City of Milwaukee is home to MKE and provides several prominent entry points into the Aerotropolis Primary Impact Area. Land uses found around the Airport include moderately-dense commercial and industrial uses that are mostly devoted to goods and services that serve passenger travel or the movement and creation of goods. Redevelopment opportunities that may support the Aerotropolis are scattered throughout the Primary Impact Area, but are mainly found along Layton and Howell Avenues. Map 2.4 contains existing generalized land use and redevelopment opportunities for portions of the City of Milwaukee within the Aerotropolis Planning Area.

**Map 2.4**  
Existing Generalized Land Use and Redevelopment Opportunities in the Portions of the City of Milwaukee Within the Aerotropolis Planning Area



**Map 2.5**  
**Natural Limitations to Building Site Development in the Portions of the**  
**City of Milwaukee Within the Aerotropolis Planning Area: 2010\***



Natural limitations to building site development found in the Aerotropolis Planning Area within the City of Milwaukee, as shown on Map 2.5, consist mostly of floodplains, waterways, and environmental corridors. The Wilson Park Creek, which connects to the Kinnickinnic River and travels south to the intersection of Howell and Layton Avenues, and its associated floodplains limit development south of the Plainfield Curve (I-94/43).

- PRIMARY ENVIRONMENTAL CORRIDOR (PEC)\*
- NATURAL AREAS AND CRITICAL SPECIES HABITAT
- SECONDARY ENVIRONMENTAL CORRIDOR (SEC) OR ISOLATED NATURAL RESOURCE AREA (INRA)\*
- FLOODPLAINS OUTSIDE PEC, SEC, AND INRA
- WETLANDS OUTSIDE PEC, SEC, AND INRA
- CITY BOUNDARY (MILWAUKEE)
- SURFACE WATER
- FLOODPLAINS, RIPARIAN BUFFERS, WETLANDS, OR STEEP SLOPES WITHIN SEC OR INRA
- PUBLIC PARK OR OPEN SPACE SITE

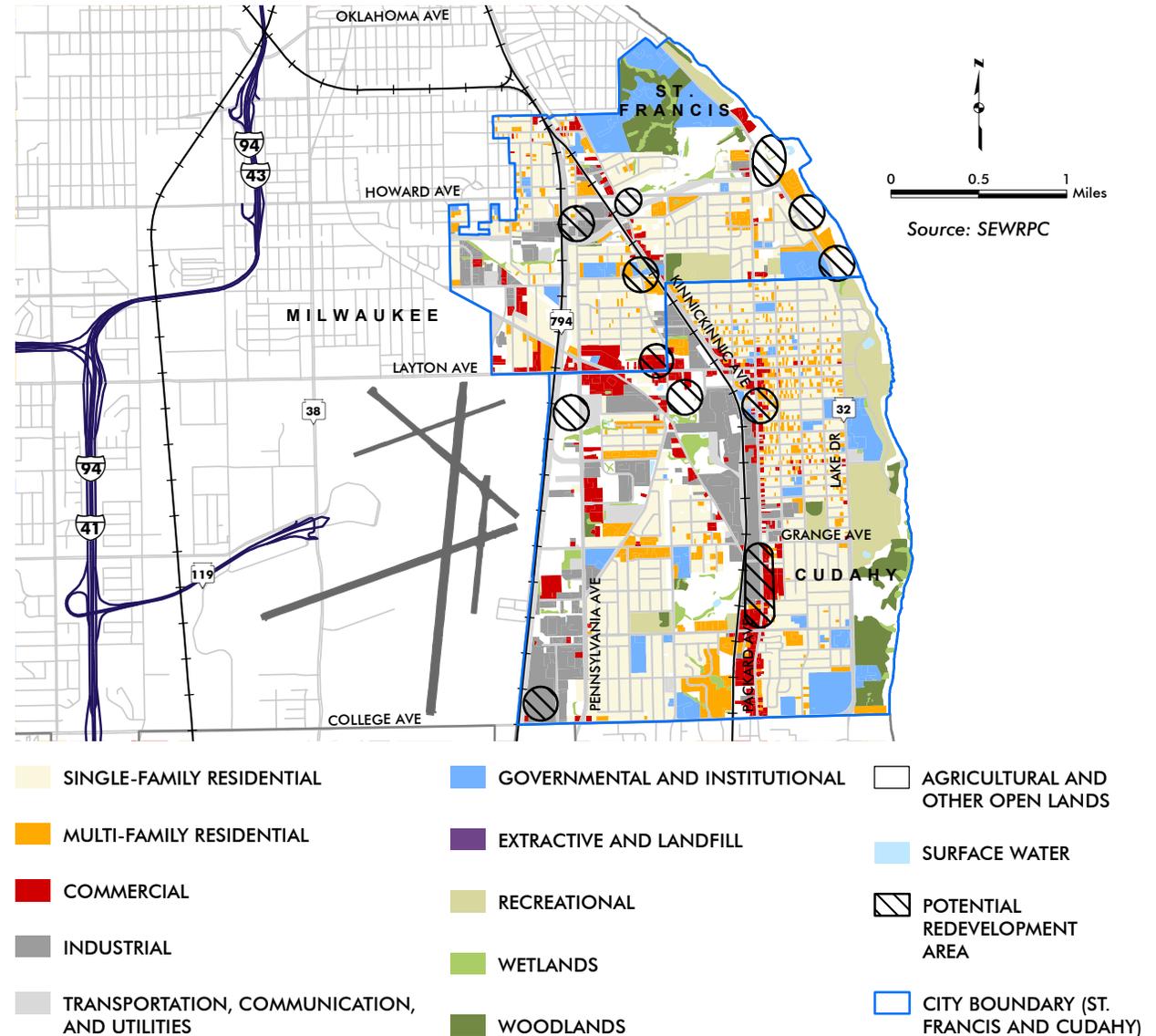
\*Natural limitations to building site development include areas designated as primary and secondary environmental corridors and isolated natural resource areas. They encompass concentrations of natural resource and resource-related features and were delineated by the Regional Planning Commission as part of its continuing regional planning program. Definitions and details related to natural limitations to building site development can be found in Appendix A.

### Cities of St. Francis and Cudahy

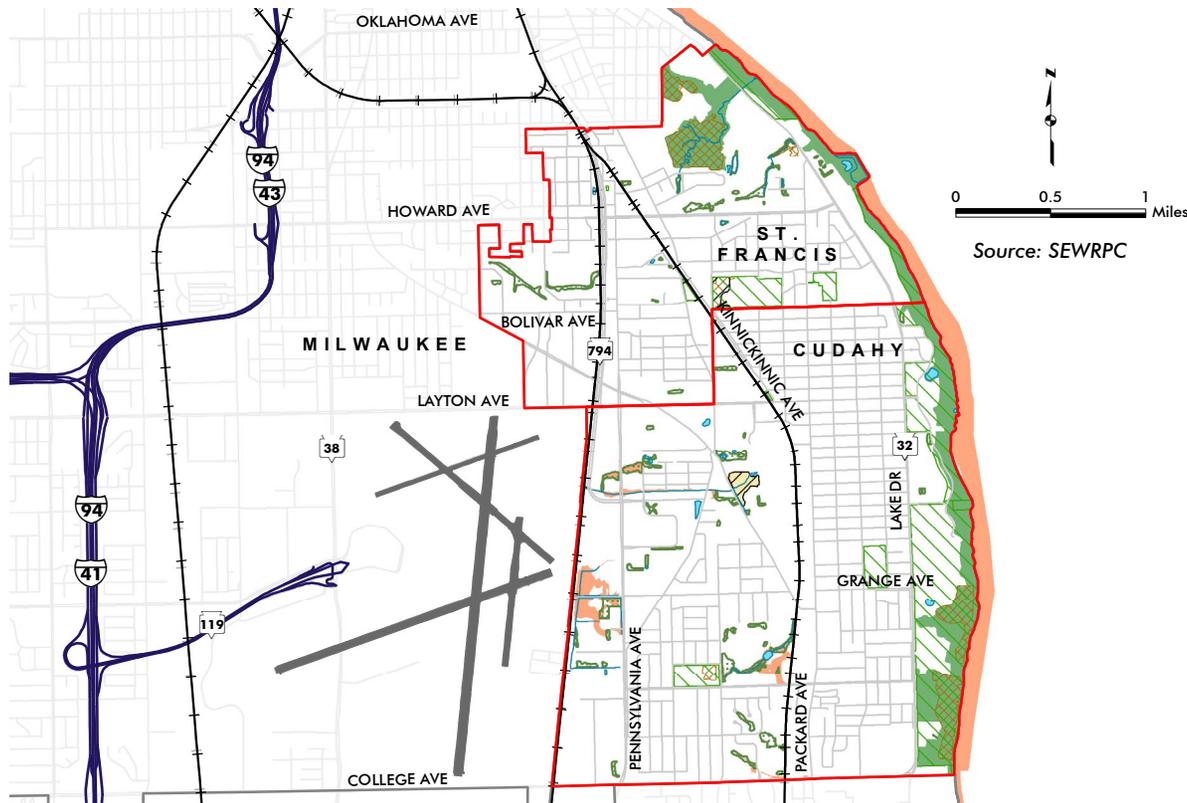
The Cities of St. Francis and Cudahy are situated between the north and east boundaries of MKE and the western shore of Lake Michigan. The Cities' position relative to the Lake Parkway (WIS 794) and the Airport makes these communities a desirable location for industrial uses that rely on MKE and the Port of Milwaukee. The City of St. Francis offers a growing food and beverage manufacturing area west of the Lake Parkway and an industrial corridor along Nicholson Avenue. Layton Avenue, which serves as the boundary between St. Francis and Cudahy, is a corridor of neighborhood retail. The City of Cudahy includes two business/industrial parks along Pennsylvania Avenue (Mitchell International Business Park and Mitchell Industrial Park) and an industrial corridor along Packard Avenue.

New development opportunities that are positioned to serve the Aerotropolis exist near the St. Francis food and beverage manufacturing area and within Cudahy's Mitchell International Business Park. Redevelopment opportunities are scattered throughout both communities, but are mainly found within St. Francis's food and beverage manufacturing area, the Layton Avenue commercial corridor, and within Cudahy's industrial areas located along Pennsylvania Avenue. Existing land uses and redevelopment opportunities are shown on Map 2.6.

**Map 2.6**  
**Existing Generalized Land Use and Redevelopment**  
**Opportunities in the Cities of St. Francis and Cudahy**



**Map 2.7**  
**Natural Limitations to Building Site Development in the Cities of St. Francis and Cudahy: 2010**



- |   |  |   |  |
|---|--|---|--|
|  | PRIMARY ENVIRONMENTAL CORRIDOR (PEC)*  |  | NATURAL AREAS AND CRITICAL SPECIES HABITAT |
|  | SECONDARY ENVIRONMENTAL CORRIDOR (SEC) OR ISOLATED NATURAL RESOURCE AREA (INRA)* |  | FLOODPLAINS OUTSIDE PEC, SEC, AND INRA     |
|  | WETLANDS OUTSIDE PEC, SEC, AND INRA  |  | CITY BOUNDARY (ST. FRANCIS AND CUDAHY)     |
|  | SURFACE WATER  |   |  |
|  | FLOODPLAINS, RIPARIAN BUFFERS, WETLANDS, OR STEEP SLOPES WITHIN SEC OR INRA      |   |  |
|  | PUBLIC PARK OR OPEN SPACE SITE   |   |  |

\*Natural limitations to building site development include areas designated as primary and secondary environmental corridors and isolated natural resource areas. They encompass concentrations of natural resource and resource-related features and were delineated by the Regional Planning Commission as part of its continuing regional planning program. Definitions and details related to natural limitations to building site development can be found in Appendix A.

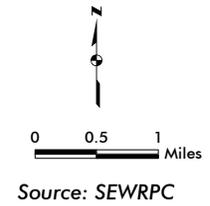
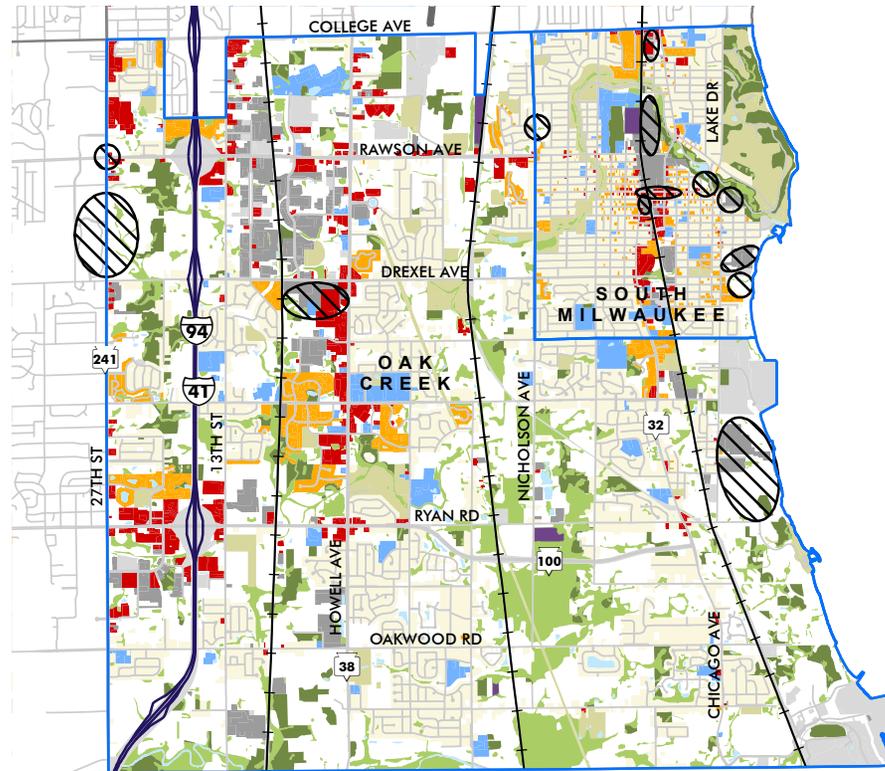
Natural limitations to building site development in St. Francis and Cudahy, illustrated on Map 2.7, include areas identified as primary environmental corridor located along the Lake Michigan shoreline and areas west of Lake Drive in the northeast portion of the City of St. Francis. Within the Aerotropolis Primary Impact Area, wetlands located north of Bolivar Avenue have minimal overlap with the food and beverage manufacturing area. Wetlands located between MKE and Pennsylvania Avenue, along with FAA development height restrictions due to the proximity to nearby airport runways, limit development along the western side of Pennsylvania Avenue.

**Map 2.8**  
**Existing Generalized Land Use and Redevelopment Opportunities**  
**in the Cities of Oak Creek and South Milwaukee**

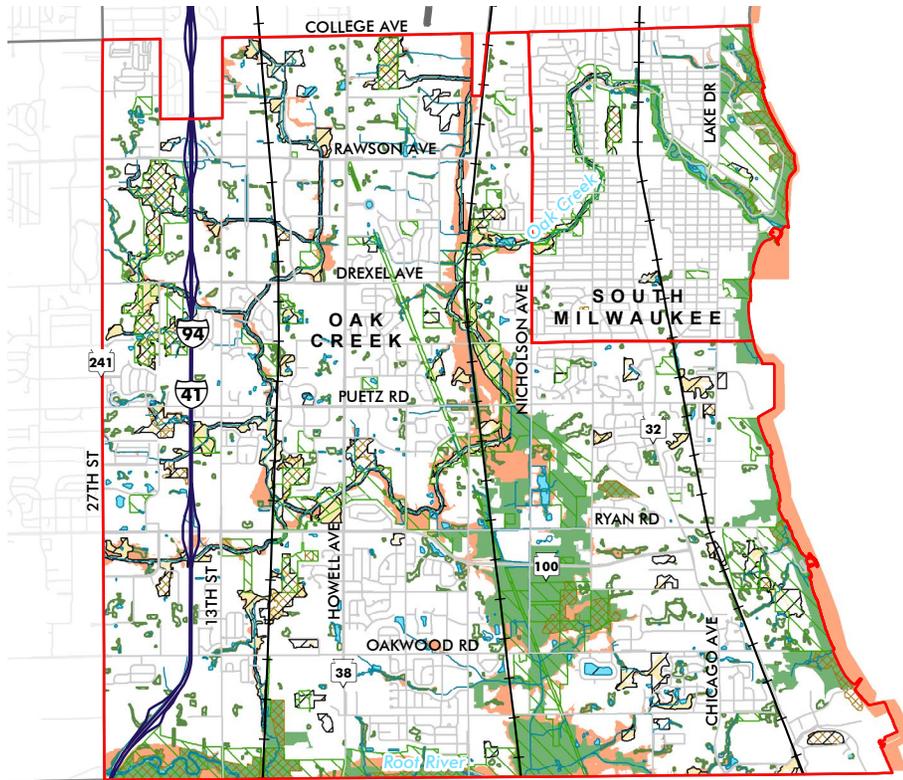
**Cities of Oak Creek and South Milwaukee**

The Cities of Oak Creek and South Milwaukee are located south and southeast of MKE. Oak Creek serves as the southern gateway into Milwaukee County. Located adjacent to the I-94/41 corridor, Oak Creek’s superior access to Downtown Milwaukee, MKE, and Chicago has supported the growth of several business/industrial parks, a small hospitality district along College Avenue, and a growing commercial center along Drexel Avenue. Business/industrial parks found within Oak Creek include the Northbranch Industrial Park, Oak Crossing Business Park, and OakView Business Park. Home to notable industries such as Caterpillar Global Mining, South Milwaukee contains an industrial core supported by a traditional downtown commercial district.

Due to the relatively rural and suburban nature of Oak Creek, there are ample development opportunities throughout the City, but vacant lands located near MKE and along the I-94/41 corridor will have the greatest impact on the Aerotropolis. South Milwaukee contains a limited amount of vacant parcels that may not be appropriate for aerotropolis-supporting land uses; however, redevelopment opportunities are available in the downtown commercial district, away from commonly traveled routes used by air passengers, but well positioned to serve Aerotropolis-area workers. Existing land use and redevelopment opportunities for the Cities of Oak Creek and South Milwaukee are shown on Map 2.8.



**Map 2.9**  
**Natural Limitations to Building Site Development in the**  
**Cities of Oak Creek and South Milwaukee: 2010**



0 0.5 1 Miles  
 Source: SEWRPC

The Oak Creek and Root River have a profound impact on potential development within South Milwaukee and Oak Creek. Natural limitations to building site development associated with the two waterways include floodplains, critical species habitat, and miles of land identified as primary environmental corridor, as shown on Map 2.9.

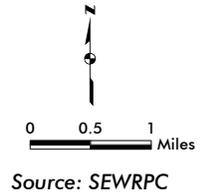
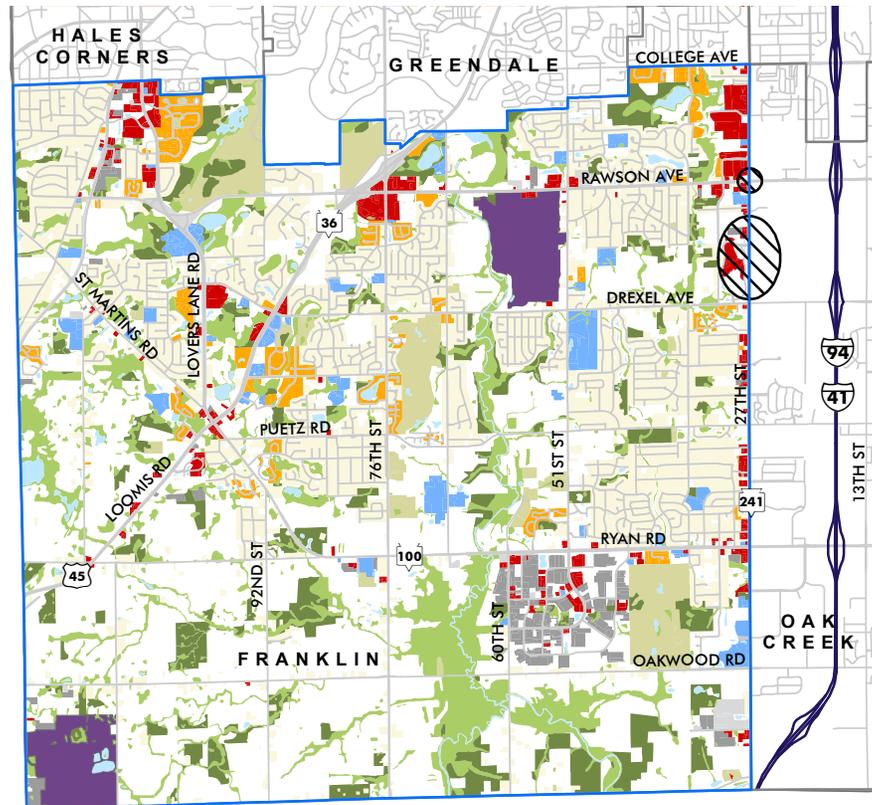
- |   |  |   |   |
|---|--|---|---|
|  | PRIMARY ENVIRONMENTAL CORRIDOR (PEC)*  |  | NATURAL AREAS AND CRITICAL SPECIES HABITAT    |
|  | SECONDARY ENVIRONMENTAL CORRIDOR (SEC) OR ISOLATED NATURAL RESOURCE AREA (INRA)* |  | FLOODPLAINS OUTSIDE PEC, SEC, AND INRA        |
|  | WETLANDS OUTSIDE PEC, SEC, AND INRA  |  | CITY BOUNDARY (OAK CREEK AND SOUTH MILWAUKEE) |
|  | SURFACE WATER  |   |   |
|  | FLOODPLAINS, RIPARIAN BUFFERS, WETLANDS, OR STEEP SLOPES WITHIN SEC OR INRA      |   |   |
|  | PUBLIC PARK OR OPEN SPACE SITE   |   |   |

\*Natural limitations to building site development include areas designated as primary and secondary environmental corridors and isolated natural resource areas. They encompass concentrations of natural resource and resource-related features and were delineated by the Regional Planning Commission as part of its continuing regional planning program. Definitions and details related to natural limitations to building site development can be found in Appendix A.

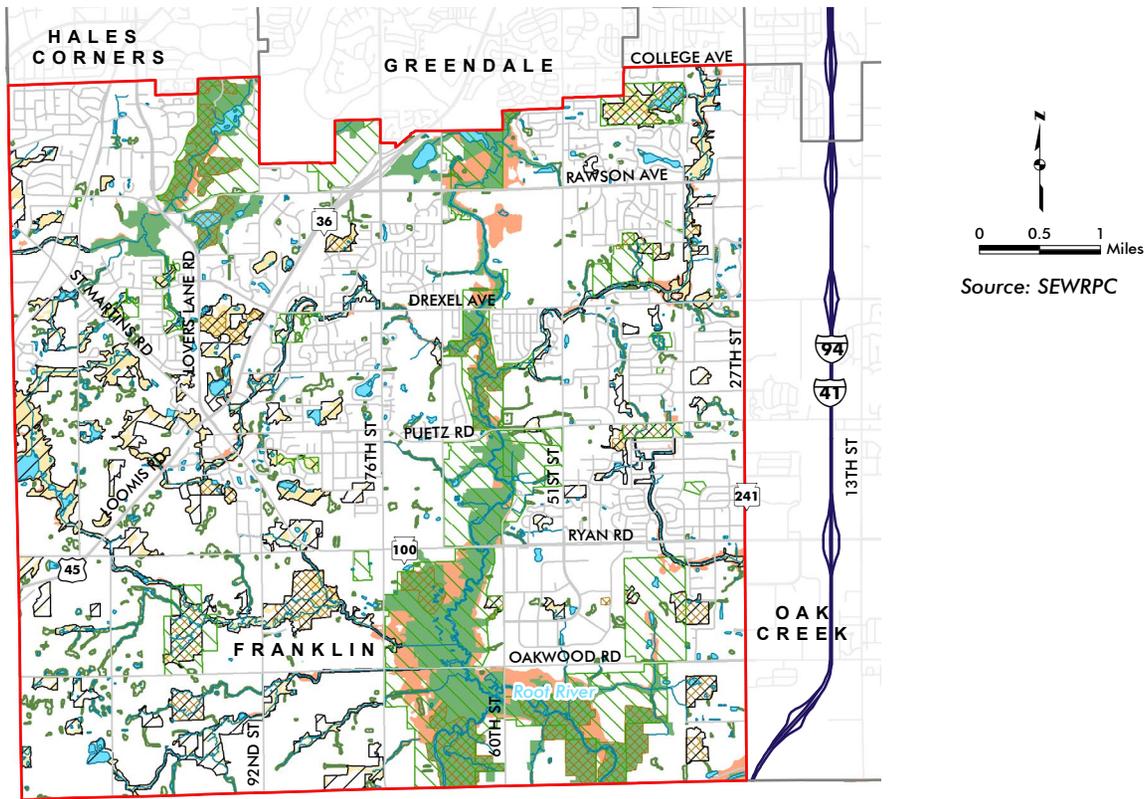
**Map 2.10**  
**Existing Generalized Land Use and Redevelopment Opportunities in the City of Franklin**

**City of Franklin**

Located four miles southwest of MKE, the City of Franklin is a suburban community with an active commercial corridor along 27th Street and a business park along Ryan Road. Franklin's proximity to MKE and I-94/41, along with the City's desirable neighborhoods, has positioned the City to attract many national companies, including financial giant Northwest Mutual. The City has ample amounts of contiguous land available throughout much of the City and a few redevelopment opportunities located along 27th Street. Map 2.10 shows existing land uses and redevelopment opportunities in the City of Franklin.



**Map 2.11**  
**Natural Limitations to Building Site Development in the City of Franklin: 2010\***



Source: SEWRPC

Natural limitations to site development, as shown on Map 2.11, are located along the Root River and its many tributaries. This includes the presence of critical species habitat, floodplains, wetlands, and areas identified as primary environmental corridor.

- |   |  |   |  |
|---|--|---|--|
|  | PRIMARY ENVIRONMENTAL CORRIDOR (PEC)*  |  | NATURAL AREAS AND CRITICAL SPECIES HABITAT |
|  | SECONDARY ENVIRONMENTAL CORRIDOR (SEC) OR ISOLATED NATURAL RESOURCE AREA (INRA)* |  | FLOODPLAINS OUTSIDE PEC, SEC, AND INRA     |
|  | WETLANDS OUTSIDE PEC, SEC, AND INRA  |  | CITY BOUNDARY (FRANKLIN)                   |
|  | SURFACE WATER  |   |  |
|  | FLOODPLAINS, RIPARIAN BUFFERS, WETLANDS, OR STEEP SLOPES WITHIN SEC OR INRA      |   |  |
|  | PUBLIC PARK OR OPEN SPACE SITE   |   |  |

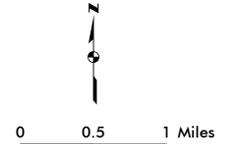
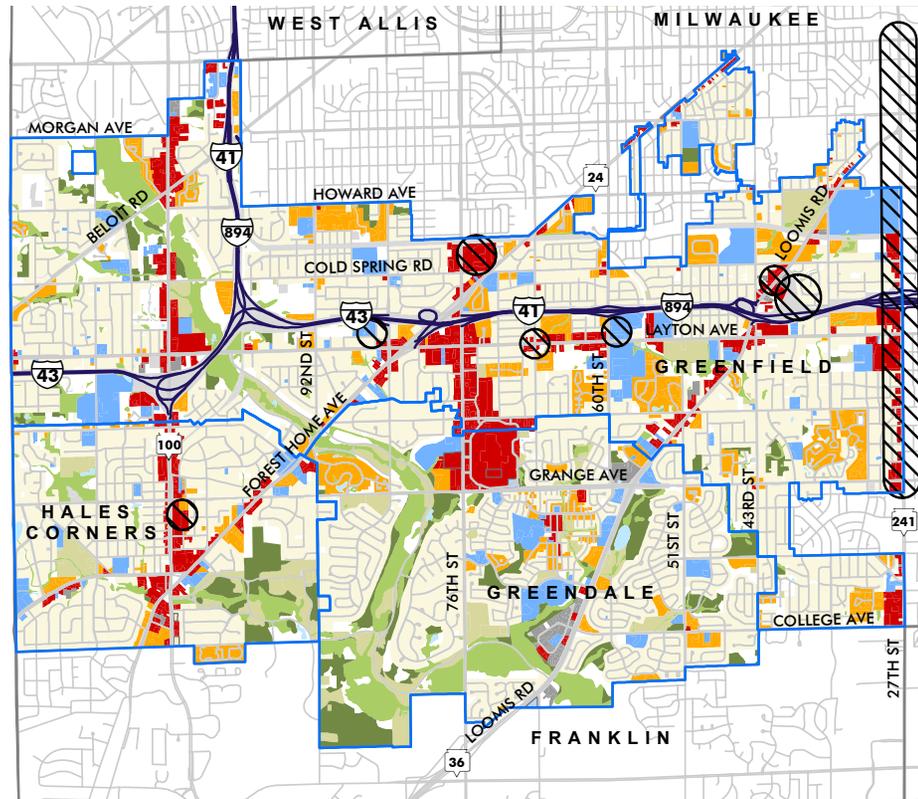
\*Natural limitations to building site development include areas designated as primary and secondary environmental corridors and isolated natural resource areas. They encompass concentrations of natural resource and resource-related features and were delineated by the Regional Planning Commission as part of its continuing regional planning program. Definitions and details related to natural limitations to building site development can be found in Appendix A.

**Map 2.12**  
**Existing Generalized Land Use and Redevelopment Opportunities in the**  
**City of Greenfield and Villages of Greendale and Hales Corners**

**City of Greenfield and Villages of Greendale and Hales Corners**

The City of Greenfield and the Villages of Greendale and Hales Corners are located west of MKE. Developed as bedroom communities, land uses found in these communities are mostly residential or commercial. Commercial corridors exist along WIS 100, 76th Street, Loomis Road, and 27th Street. The largest commercial retail/service cluster is located near Southridge Mall, south of the I-894/43/41 interchange with 76th Street, and includes several big-box stores, shopping plazas, and standalone restaurants. The Village of Greendale has one industrial park, the Greendale Business Park, located at the intersection of College Avenue and Loomis Road. The Village of Hales Corners contains a neighborhood-oriented retail corridor along WIS 100.

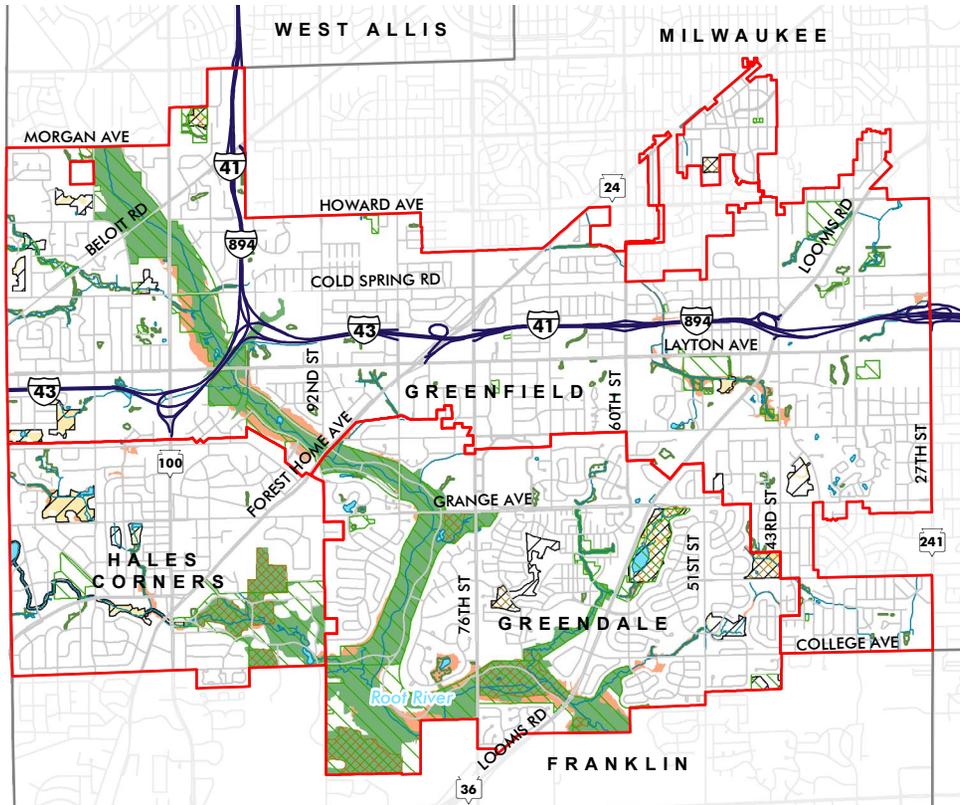
Due to the lack of available land, only redevelopment opportunities exist in these communities. Land identified for potential redevelopment is found along the 27th Street corridor, Layton Avenue, WIS 100, and near the I-894/43/41 interchange with Loomis Road at the former Stadium Freeway Interchange site. Map 2.12 shows existing land uses and redevelopment opportunities for Greenfield, Greendale, and Hales Corners.



Source: SEWRPC



**Map 2.13**  
**Natural Limitations to Building Site Development in the**  
**City of Greenfield and Villages of Greendale and Hales Corners**



0 0.5 1 Miles  
 Source: SEWRPC

Natural limitations to development in Greenfield, Greendale, and Hales Corners, as shown on Map 2.13, are located mostly along the Root River. Limitations include floodplains and areas identified as primary environmental corridor. A small floodplain is also located within and adjacent to Konkel Park west of the intersection of Loomis Road and Layton Avenue.

- |   |  |   |  |
|---|--|---|--|
|  | PRIMARY ENVIRONMENTAL CORRIDOR (PEC)*  |  | NATURAL AREAS AND CRITICAL SPECIES HABITAT                       |
|  | SECONDARY ENVIRONMENTAL CORRIDOR (SEC) OR ISOLATED NATURAL RESOURCE AREA (INRA)* |  | FLOODPLAINS OUTSIDE PEC, SEC, AND INRA                           |
|  | WETLANDS OUTSIDE PEC, SEC, AND INRA  |  | CITY/VILLAGE BOUNDARY (GREENFIELD, GREENDALE, AND HALES CORNERS) |
|  | SURFACE WATER  |   |  |
|  | FLOODPLAINS, RIPARIAN BUFFERS, WETLANDS, OR STEEP SLOPES WITHIN SEC OR INRA      |   |  |
|  | PUBLIC PARK OR OPEN SPACE SITE   |   |  |

\*Natural limitations to building site development include areas designated as primary and secondary environmental corridors and isolated natural resource areas. They encompass concentrations of natural resource and resource-related features and were delineated by the Regional Planning Commission as part of its continuing regional planning program. Definitions and details related to natural limitations to building site development can be found in Appendix A.

## EXISTING TRANSPORTATION SYSTEM

The existing transportation system that supports the movement of people and goods throughout the Aerotropolis Milwaukee Planning Area consist of the following four elements:

- Streets and highways
- Transit
- Freight transportation
- Bicycle and pedestrian

### Streets and Highways

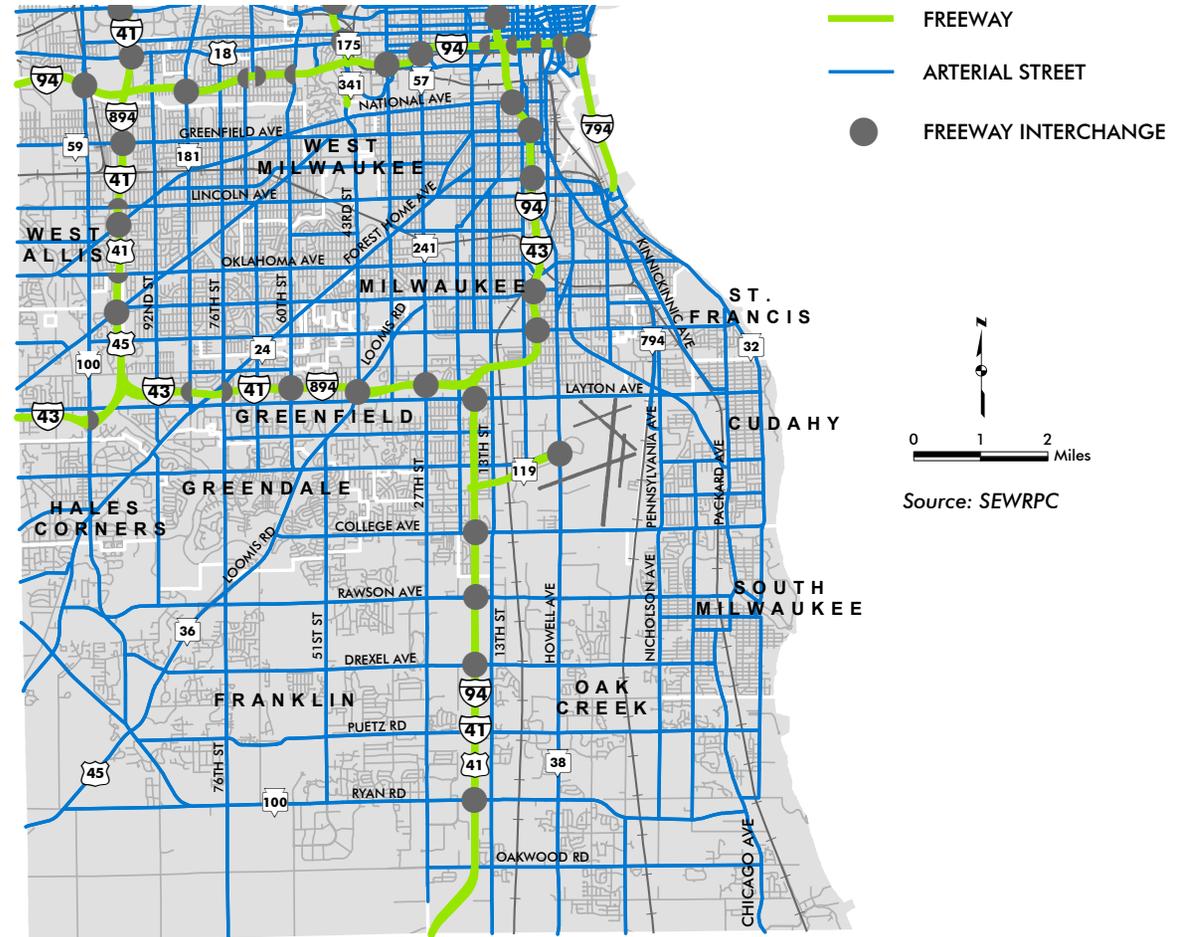
The existing street and highway network, shown on Map 2.14, meets much of the current travel demand throughout the Aerotropolis. The Aerotropolis is served by three interstates, I-94/43, I-94/41, and I-43/41/894. The Airport Spur (WIS 119) extending from I-94/41 provides direct access into MKE. WIS 794, known as the Lake Parkway, provides access from Downtown Milwaukee and the Port of Milwaukee to MKE via Layton Avenue.

Arterials integral to MKE include Layton, Howell, College, and Pennsylvania Avenues. These roadways provide direct access to nearby I-94/41 and the Lake Parkway and serve as a ring road around the Airport.

The I-94 North-South Freeway Project, a 35-mile long project between Howard Avenue and the Wisconsin/Illinois State Line, will provide safety and capacity improvements to miles of interstate roadway traversing through the Aerotropolis. Improvements in the project that directly impact the Aerotropolis include the following:

- Capacity improvements to bring I-94/41 from 6 to 8 lanes (partially completed)

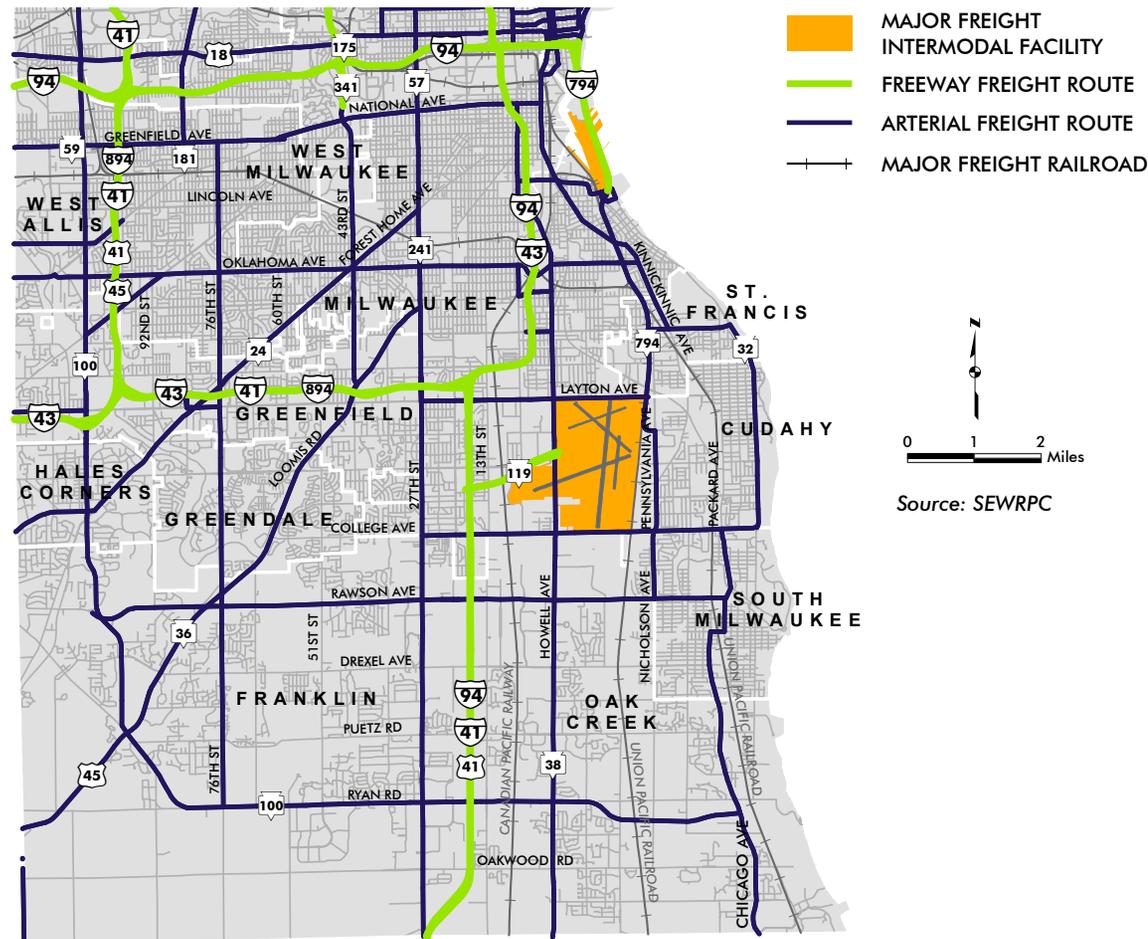
Map 2.14  
Existing Arterial Streets and Highways



- Reconfiguration of the Mitchell Interchange (completed)
- Reconfiguration of interchanges at:
  - Layton Avenue (completed)
  - 27th Street
  - College Avenue (completed)
  - Rawson Avenue (completed)
  - Ryan Road
- New interchanges at:
  - Drexel Avenue (completed)
  - Elm Road



**Map 2.16**  
**Existing Freight Network**



## Freight Transportation

Aerotropolis Milwaukee’s freight network, as shown on Map 2.16, consists of two freight intermodal facilities, two freight railroads, and a portion of the Region’s arterial streets and highways network. An air-truck intermodal facility exists at MKE’s air cargo area and a ship-rail-truck intermodal facility exists at the Port of Milwaukee, which primarily handles bulk materials.

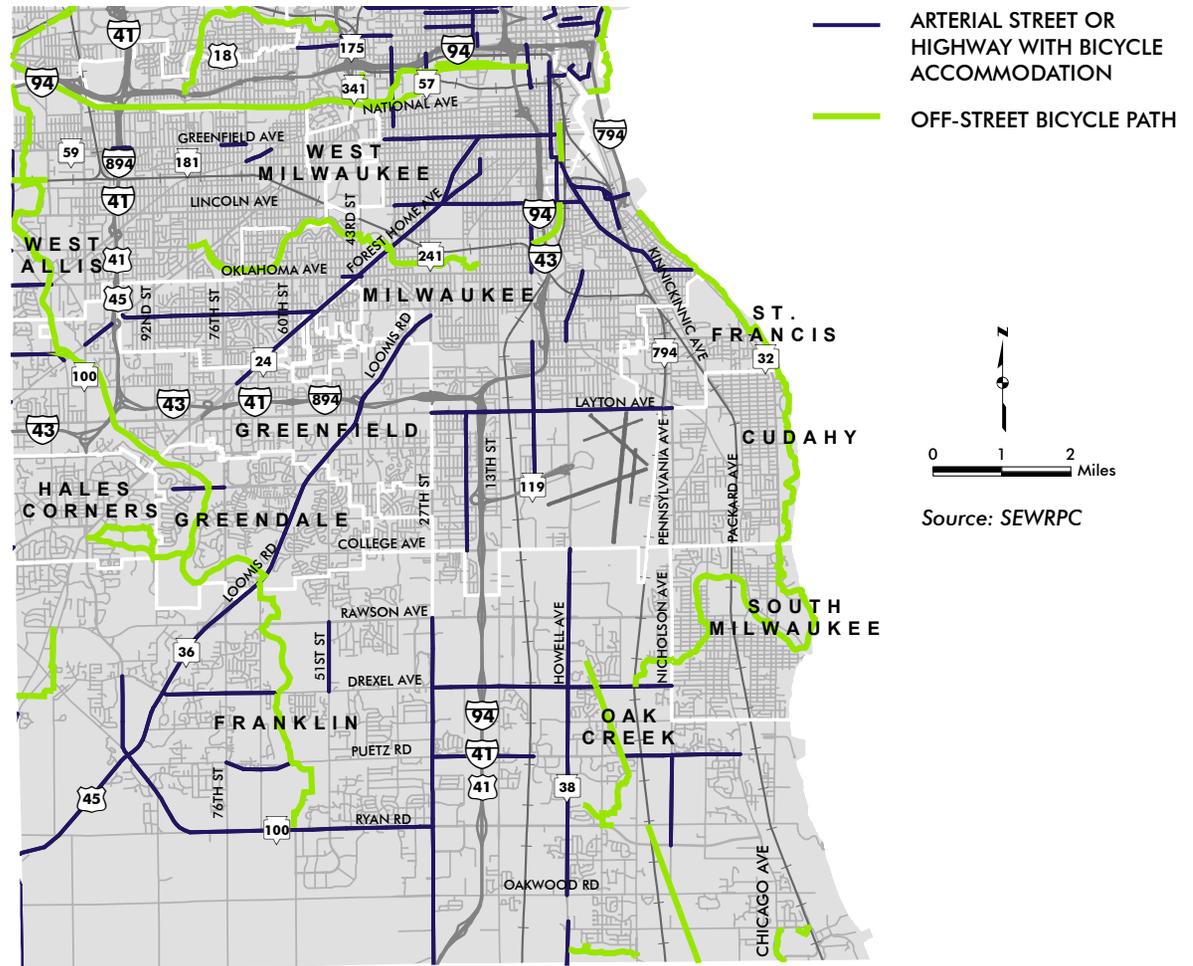
Freight rail service through the Aerotropolis is provided by two rail companies: Canadian Pacific Railway (CP) and Union Pacific Railroad (UP). CP’s main freight rail line (also known as the Soo Line Railroad) operates just west of MKE, provides access to the Port of Milwaukee, and hosts Amtrak’s Hiawatha service. The CP rail line also travels through the Milwaukee Intermodal Station located southeast of the Marquette Interchange. UP operates two rail lines just east of MKE, which converge in St. Francis and provide access to the Port of Milwaukee.

The movement of freight depends in large part on trucks using the regional highway freight network, noted on Map 2.16 as Arterial and Freeway Freight Routes. The network consists of arterial streets and highways in the Region intended to carry a higher percentage of truck traffic. The regional highway freight network is based on the National Highway System as well as the State’s designated routes for long trucks. In addition, unusually large or heavy goods shipped within or through the Region require that specific oversize/overweight (OSOW) truck routes be used. WisDOT is currently working to identify and preserve OSOW truck routes.

### Bicycle and Pedestrian

The availability of bicycle and pedestrian accommodations varies throughout the Aerotropolis. Many of the off-street bicycle paths are part of Milwaukee County's Oak Leaf Trail System and are located near scenic environmental corridors such as the Root River Parkway and the Lake Michigan shoreline. On-street bicycle accommodations (such as bicycle lanes and widened shoulders) and sidewalks are dispersed throughout the Aerotropolis. The existing bicycle network is shown on Map 2.17.

**Map 2.17**  
**Existing Bicycle Network**



## EXISTING PLANS AND DISTRICTS

This section identifies existing plans and districts relevant to the MKE Aerotropolis Development Plan, particularly focusing on the six Aerotropolis Growth Areas presented in Chapter 3.

### Comprehensive Plans

**City of Milwaukee Southeast Side Area Plan (2008).** The Southeast Side Area Plan was adopted as part of the City of Milwaukee’s Comprehensive Plan. The plan subdivides the Southeast Side study area into seven districts, four of which are relevant to the development of the MKE Aerotropolis Development Plan: Airport Neighborhood/Far South Side, Airport Gateway Business Area, Mitchell International, and South of Morgan/Tippecanoe. Recommendations and catalytic projects identified in the Southeast Side Area Plan that impact the Aerotropolis are as follows:

#### Airport Neighborhood/Far South Side:

- Utilize future available land from the I-94 reconstruction as high exposure sites for corporate headquarters, commercial areas, and institutional uses that require a larger site and a higher volume of traffic flow.
- Support efforts made by the Garden District (see *Other Relevant Plans and Districts* later in this chapter).
- Redevelop portions of 27th Street with a unified design strategy.

#### Airport Gateway Business Area:

- Capitalize on the proximity to the Airport, becoming an “airport city” that includes a variety of aviation-linked businesses as well as complementary uses such as hospitality clusters, office and retail complexes,

conference and exhibition centers, logistics and free trade zones, and facilities for processing time-sensitive goods.

- The district would benefit from separating incompatible uses geographically (i.e., industrial should be separated from commercial and residential) to make all the uses more desirable, and to attract new complementary development.
- Catalytic Project: Layton and Howell Town Center – A mixed-use development that will serve as a downtown and destination for the Airport City, incorporating residential and commercial uses in a pedestrian- and transit-friendly environment. The project’s location is proposed for a 44-acre underutilized truck distribution facility and adjoining properties south of Layton Avenue west of Howell Avenue.
- Rezone vacant and underutilized industrial properties along Layton and Howell Avenues to mixed-use commercial and residential to support the Town Center concept.
- Industrial businesses are encouraged to be located in clusters away from the commercial corridors of Layton and Howell Avenues to reduce truck traffic on residential and commercial streets.
- Improve transit service by implementing a high-quality, fixed-guideway route to provide better access from MKE to Downtown Milwaukee.
- Support the commercial center by completing the local street grid, constructing sidewalks, and installing bike paths.
- Consider removing concrete lining along Wilson Creek and tributaries.

- Create an arrival gateway feature for people arriving to Howell Avenue from the Airport.
- Keep parking off the frontage of Layton and Howell Avenues.
- Establish a TIF district to facilitate developments.

#### Mitchell International:

- Catalytic Project: 440th Redevelopment Area – This project would entail following recommendations provided in the 440th Air Reserve Base Redevelopment Plan (see *Other Relevant Plans and Districts* later in this chapter).
- Continue to focus on air travel-related businesses.
- Concentrate light industrial and warehouse uses in this district off main streets and into easily identifiable industrial parks.
- Implement a unified urban design strategy to improve the image of the district, including “green” measures as appropriate.
  - Incorporate landscaping along Layton Avenue to create an attractive route to the Lake Parkway.
- Support an express bus route from the Airport to the Layton and Howell Town Center, Bay View, and Downtown.

#### South of Morgan/Tippecanoe:

- Create a pedestrian/bike trail along Wilson Creek where it crosses Layton Avenue.
- Provide rapid transit on Howell Avenue to bring people to the neighborhood, stopping where it intersects bus routes.
- Add a dog park north of Layton Avenue on Airport lands surrounding the safety area.

- Maintain and improve boulevards on Howell, Howard, and Layton Avenues, which are a key element of the image of this neighborhood.

**City of Oak Creek Comprehensive Plan (2002).** The City of Oak Creek Comprehensive Plan includes a growth concept plan and detailed recommendations. Recommendations relevant to Aerotropolis Milwaukee include the following:

- Attractive entryway features should be established at interstate interchanges and main Employment Center District access points.
  - Develop Rawson Avenue and Ryan Road as primary entryways into Oak Creek utilizing attractive urban design themes as a means to retain and help grow existing businesses.
- Capitalize on Oak Creek’s excellent transportation and Airport access and encourage the establishment of a balanced transportation network with convenient and accessible multimodal transportation options, including expanded transit service and connected bikeways.
  - Consider the need to expand the capacity of Rawson Avenue by widening the roadway from 4 to 6 lanes.
  - Work with Milwaukee County to expand transit service as new development creates the need or opportunity for such improvements.
- Specific development recommendations include the following:
  - Encourage the development of a mixed-use district featuring highway-oriented commercial development (retail, restaurants, and other hospitality-oriented uses) near the Ryan Road

interchange and the future Elm Road interchange.

- Neighborhood-retail development should occur around the intersection of College and Pennsylvania Avenues.
- Support large retail uses along 27th Street with high-quality design standards, avoiding strip centers and standardized “big-box” designs.
- Concentrate business parks near the intersection of Rawson and Howell Avenues.
- Feature light industrial and office uses south of College Avenue and along the Howell Avenue corridor.
- Uses that require intensive trucking activity should be as close to the interstate as possible.
- A high-value technology, business, or office park should be developed along I-94/41 within the District.
- New industrial land uses should be established along the CP rail line, which is recognized as the most significant rail line for existing and future freight rail service within the City, to facilitate continued and expanded freight uses.
- Open space should be integrated into business, industrial, or office parks.
- The City should protect Resource Protection Areas for their use in enhancing the community’s image, providing connections within a City-wide green corridor, and restoring waterways and promoting natural stormwater management.
- Coordinate planning efforts along the 27th Street corridor with the City of Franklin.

**The City of Cudahy Comprehensive Plan (2009).** The City of Cudahy Comprehensive Plan provides recommendations for eight distinct planning areas within the City, three of which are relevant to the development of the MKE Aerotropolis Development Plan: Downtown, Layton/Pennsylvania Gateway District, and South Pennsylvania Corridor. Recommendations identified in the City’s comprehensive plan that impact the Aerotropolis are as follows:

**Downtown:**

- Encourage the development of a multimodal transit center should the Kenosha-Racine-Milwaukee commuter rail line be completed.
- Attract the following uses to the Layton Avenue corridor: office and health care; hospitality; private entertainment, sports, and/or recreation; retail; mid-to-high density multifamily residential.

**Layton/Pennsylvania Gateway District:**

- For areas located along Pennsylvania Avenue, between Layton and Edgerton Avenues:
  - Create a modern shopping and job center.
  - Provide transitions between shopping and neighborhoods.
  - Redevelop underutilized properties.
  - Enhance the City’s northwest Gateway through mixed-use redevelopment and streetscape enhancements.

- Pursue a supportive zoning strategy that would shift existing uses to moderate-to large-scale retail, service, and office buildings with generously landscaped, well-lit sites.
  - » Collaborate with the City of St. Francis for an effective zoning strategy along Layton Avenue.
- For areas located along Pennsylvania Avenue, between Edgerton and Grange Avenues, and the Mitchell International Business Park:
  - Area is envisioned to be used mainly for manufacturing uses, but will allow for on-site sales opportunities, hotel/office space, neighborhood commercial, and community garden with associated roadside stand.
- Recommendations that apply to the entire Layton/Pennsylvania Gateway District include:
  - Remediate and reuse brownfield sites.
  - Actively and strategically utilize TID #1.

**South Pennsylvania Corridor:**

- Capitalize on Cudahy’s location, and its position adjacent to the Airport, to attract industrial, warehousing, distribution, and related development.
- Encourage smaller production-related manufacturing and retail businesses to locate at the intersection of Pennsylvania and College Avenues.

**The City of Franklin Comprehensive Plan (September 2009).** The City of Franklin Comprehensive Plan provides the following recommendations and policies relevant to the planning purposes for Aerotropolis Milwaukee:

- Encourage mixed-use development along the 27th Street corridor with the exception of the Northwest Mutual Campus and areas located north of Rawson Avenue. Office uses should be pursued for areas surrounding the Campus. Commercial-retail uses should continue to be directed towards land north of Rawson Avenue.
- Protect environmental resources.
- Provide park and recreation areas throughout the City, including a city-wide trail system for pedestrians and bicyclists.
- Pursue and achieve business attraction, retention, and expansion.
- Promote high-quality development by establishing an attractive visual character, utilizing the surrounding natural environment and landscaping, incorporating efficient multimodal facilities into the land use pattern, and implementing strategic land management practices that require compatibility with surrounding uses.

**The City of Greenfield Comprehensive Plan (2008).** The City of Greenfield Comprehensive Plan identifies the following recommendations and visions for areas pertinent to Aerotropolis Milwaukee:

- Loomis Road will emerge as a medical corridor, capitalizing on its ideal location for satellite medical offices affiliated with the nearby St. Luke’s Medical Campus.
  - Redevelop the former Stadium Freeway Interchange Site and park-ride site. The vision for this site includes:
    - » Repositioning the park-ride lot closer to the I-894/Loomis Road interchange.
    - » Creating a commuter center that would feature a variety of service and retail businesses to facilitate people’s use of public transit.
    - » Encouraging office uses to be developed throughout the remaining vacant lands and areas fronting the I-43/894 corridor.
  - Encourage development of several higher-density, mixed-use buildings along the west side of Loomis.
- Layton Avenue should be positioned as the City of Greenfield’s “main street” by providing high-quality mixed residential land uses interspersed with commercial, office, and civic developments.
  - Seize infill and redevelopment opportunities surrounding the intersection of Layton Avenue and Loomis Road by encouraging the development of higher intensity mixed-use buildings fronting Layton Avenue and office development along the I-43/894 corridor.

**The City of St. Francis Comprehensive Plan (2016).** The City of St. Francis Comprehensive Plan identifies eight districts, three of which contain uses that relate to the MKE Aerotropolis Development Plan: Airport Gateway, Airport Industrial, and Layton Square. Recommendations for each district include the following:

**Airport Gateway:**

- Maximize future industrial growth by reconfiguring the roadway network along Bolivar and Whitnall Avenues.
- Encourage industrial developments in vacant lots near the intersection of Brust and Whitnall Avenues.
- Redevelop land along Layton Avenue, between Brust and Kansas Avenues, to include retail/office uses.

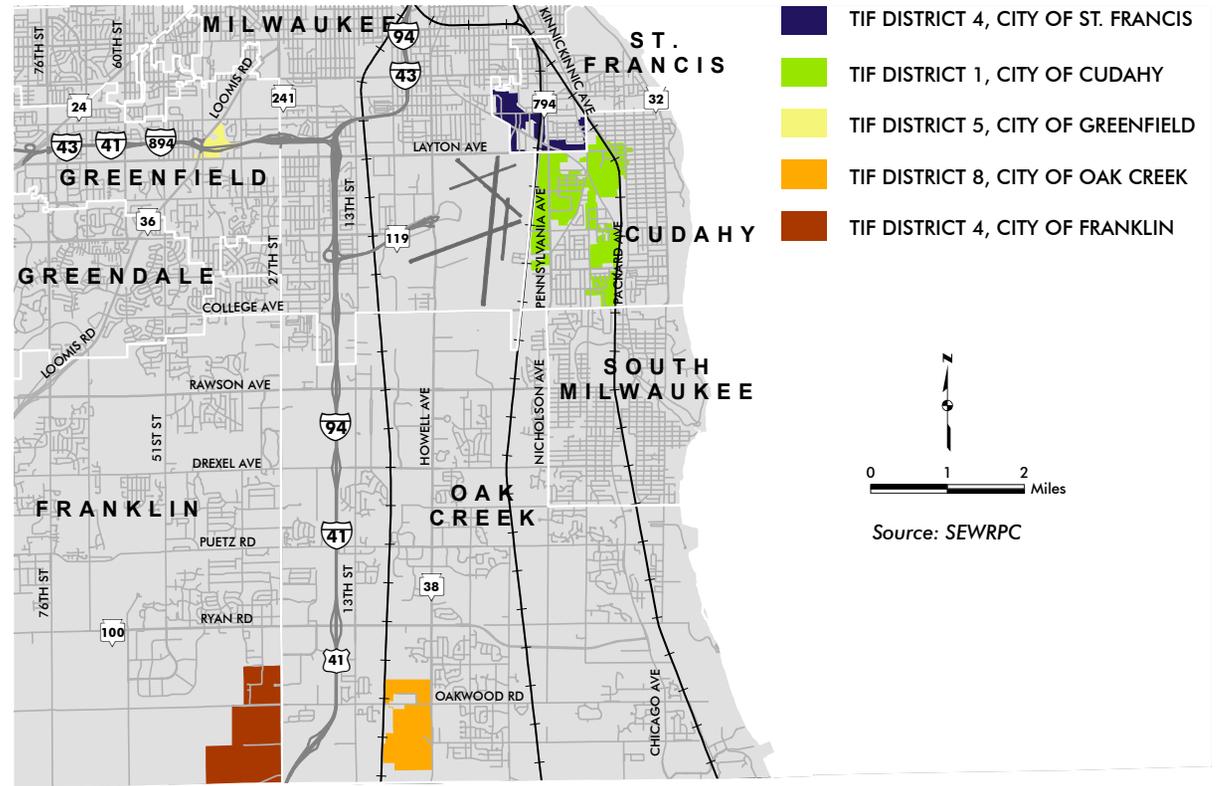
**Airport Industrial:**

- Encourage light manufacturing, business, or office uses. Incentivize uses that will be consistent with the concept of the Aerotropolis.
- Facilitate the expansion of existing industry within the district to retain those industries in St. Francis.
- Minimize impacts of industrial traffic in residential neighborhoods by analyzing trucking routes and funneling truck traffic to specific streets.

**Layton Square:**

- Transform the retail areas of Whitnall Square and the Layton Mart Shopping Center through the following improvements:
  - Increasing the density of commercial retail development adjacent to the roadway.

**Map 2.18  
Existing Tax Incremental Financing Districts**



- Potentially removing Whitnall Avenue between Pennsylvania and Layton Avenues and creating a new east-west roadway linking Pennsylvania and Nicholson Avenues.
- Develop a master plan in concert with the City of Cudahy for future redevelopment in Layton Square.
- Facilitate and incentivize the redevelopment of properties along Layton Avenue for expanded retail and office uses.
- Discourage continued residential uses along Layton Avenue.

**Tax Incremental Financing Districts**

Tax incremental financing (TIF) is a public financing method to subsidize redevelopment of blighted or underutilized areas, infrastructure projects, and other community-improvement projects. TIF districts relevant to Aerotropolis Growth Areas (identified in Chapter 3) are shown on Map 2.18.

## Other Relevant Plans and Districts

**VISION 2050: A Regional Land Use and Transportation System Plan for Southeastern Wisconsin (2016).** VISION 2050, prepared by the Southeastern Wisconsin Regional Planning Commission, recommends a long-range vision for land use and transportation in the seven-county Southeastern Wisconsin Region. The plan makes recommendations to local and State government to shape and guide land use development and transportation improvement, including public transit, arterial streets and highways, and bicycle and pedestrian facilities, to the year 2050.

VISION 2050's land use component provides an overall land use planning framework for the Region that needs to be refined through county and community comprehensive plans. The transportation component recommends a multimodal transportation system designed to meet the long-term needs of the Region, and serves as a basis for the transportation recommendations included in the MKE Aerotropolis Development Plan.

**440th Air Reserve Base Redevelopment Plan (2008).** The 440th Air Reserve Base Redevelopment Plan was developed through a collaboration between the City of Milwaukee, Milwaukee County, and the Milwaukee 440th Local Redevelopment Authority. The plan supports long-term MKE growth and recognizes the need for a future parallel runway as documented in the Airport Master Plan and Master Plan Update. The Base Redevelopment Plan provides the following recommendations for the reuse of the former 440th site:

- Preserve existing buildings and facilities deemed to be sufficient condition for immediate reuse and market facilities for lease and redevelopment.

- Provide site cleanup to remove restrictions of future land uses.
- Make utility upgrades to accommodate desired future land uses.
- Preserve land to allow for the future construction of the proposed runway 7R/25L (i.e., Runway C-1).

**S. 6th Street as the Green Corridor Designation Plan (2011).** The Green Corridor Plan was developed by the City of Milwaukee and includes recommendations for the 6th Street corridor from Howard Avenue south to College Avenue. The Green Corridor was designated to serve as a showcase for green technology and innovation through community involvement and collaboration between the public and private sectors. The goals of the plan include:

- Implement green technology and innovation to improve water and air quality, conserve energy, reduce stormwater runoff, and spur economic growth.
- Educate local businesses and residents about green technology and applications.
- Beautify the Green Corridor with attractive landscaping and green infrastructure.
- Improve Milwaukee's image as a sustainability leader and serve as a model for community sustainability.

**South 27th Street Corridor Plan (2004).** The South 27th Street Corridor Plan provides recommendations for a six-mile stretch of 27th Street, between College Avenue and County Line Road. The plan establishes a shared vision for the corridor to allow for consistent and coordinated development between the Cities of Franklin and Oak Creek. The plan identifies four districts and provides the following recommendations:

- District 1: Regional Retail between College and Rawson Avenues
  - Encourage large and mid-size retail uses serving as commercial anchors for the district.
  - Encourage higher-density residential located behind commercial properties.
- District 2: Mixed-use/Office/Urban Village between Rawson and Drexel Avenues
  - Create quality office developments between 27th Street and the environmental corridor in Franklin.
  - Encourage retail, office, and institutional uses fronting 27th Street.
  - Establish urban village land uses in Oak Creek consisting of smaller-scale retail uses, office, civic, institutional, medium- to higher-density residential, entertainment, and open space uses.
  - Preserve Falk Park.
- District 3: Mixed-use Neighborhood District between Drexel Avenue and Ryan Road
  - Encourage mixed-density residential between Drexel and Puetz, with possible limited commercial uses fronting 27th Street.

- District 4: Mixed-use Office/Conservation between Ryan Road and County Line Road
  - Development should reflect this area’s role as a major gateway.
  - The following uses are encouraged within this area: business parks with supporting and complementary uses; mixed-density residential set behind commercial uses and away from the corridor; medical facilities; and destination retail, hospitality, and restaurant uses.
  - Open space should be preserved around environmental corridors.

**WIS 241 (South 27th Street) Access Management Plan (2005).** The Access Management Plan, created for WisDOT, was developed to address growth and development pressures, traffic and safety issues, and provide a long-term vision for the 27th Street corridor between College Avenue and County Line Road. Some of the recommendations provided in the plan include the following:

- Consolidate, relocate, or remove existing private driveways for more efficient use of the roadway.
- Coordinate with the City of Oak Creek and the City of Franklin to avoid developing T-type intersections in favor of four-leg intersections to reduce the potential for closely spaced signalized intersections and the need to accommodate offset left-turn bays.
- Future locations for traffic signals are identified, including a signal at the intersection of West Elm Road and Oakwood Road.

**Franklin First: Strategies to Bring Balance to Franklin’s Tax Base (2000).** The City of Franklin’s Economic Development Strategic Plan, often referred to as the Ticknor Report, suggests that Franklin can support a successful business park, in part due to the availability of contiguous large parcels with convenient access to a robust transportation system. Recognizing the rapid consumption of available land within the nearby Franklin Business Park, the report recommends the development of a 400-acre business park southwest of the intersection of Oakwood Road and 27th Street, which the report refers to as the County Line Industrial Planning District.

**Milwaukee County Trails Network Plan (2007).** The Trails Network Plan, created by the Milwaukee County Department of Parks, Recreation, and Culture, proposes several new trails for Milwaukee County. Proposed projects that impact Aerotropolis Milwaukee include:

- An extension of the Oak Leaf Trail along the Root River starting on Howell Avenue, near the County Line in Oak Creek, and extending towards Ryan Road in Franklin.
- An extension of the Oak Leaf Trail from Puetz Road through Bender Park and terminating at the County Line.

**The Garden District.** The Garden District covers the 13th Aldermanic District in the City of Milwaukee. The District, operated by the Garden District Neighborhood Association (GDNA), is focused on preserving, extending, and supporting gardening and beautifications to enhance the quality of life and curb appeal district-wide. Projects completed by the GDNA include the installation of bioswales along the 6th Street Green Corridor and the creation of an active community garden. The GDNA also encourages active participation by residents and businesses by hosting an annual landscaping design competition.

**The Airport Gateway Business Improvement District #40 (Adopted in 2006).** The Airport Gateway Business Improvement District (BID) area is bounded by 13th Street, Howard Avenue (between 13th Street and Howell Avenue), Layton Avenue (between Howell Avenue and the Milwaukee/Cudahy line), College Avenue, and the Milwaukee/Cudahy line. The Gateway BID was created with the following goals:

- Enhance the community image through safety and beautification.
- Market the gateway area as the primary welcoming, hospitality, and transportation hub of greater Milwaukee.
- Promote mutually beneficial opportunities among the District’s businesses.
- Grow the commercial business and property values.

## AEROTROPOLIS PEER STUDY

In preparing the Aerotropolis MKE Development Plan, a peer study of aerotropoli within the United States was conducted, examining each aerotropolis' airport statistics, surrounding land use patterns, transportation features, and method of establishing the aerotropolis. Table 2.1 provides an overview of the physical characteristics of peer aerotropoli. Appendix C provides more details on this analysis. Identified peer characteristics were compared to the existing conditions of Aerotropolis Milwaukee, providing guidance and insight on appropriate recommendations that will help guide the growth and success of Aerotropolis Milwaukee.

Well-established Aerotropoli share several common characteristics including the following:

- Often located in the central portion of the U.S.
- Airport serves as a major commercial airline hub or cargo hub.
- Efficient transportation network including rapid access to multiple interstates and access to rail lines or a nearby intermodal facility.

The geography of an aerotropolis is an important factor in determining its success, especially when the aerotropolis' focus is on air cargo movement. Locations for cargo hubs, such as Memphis and Indianapolis, are chosen due to their proximity to the median or mean center of the U.S. population, which allows for rapid transport of packages to all areas of the country. As of 2010, the median center of the U.S. population is located in southwest Indiana and the mean center of the U.S. population is located in southcentral Missouri.

**Table 2.1  
Aerotropolis Peer Comparison**

	Hartsfield-Jackson International Airport Atlanta, GA	Dallas-Fort Worth International Airport Dallas, TX	Denver International Airport Denver, CO	Indianapolis International Airport Indianapolis, IN	Memphis International Airport Memphis, TN	Kansas City International Airport Kansas City, MO	Minneapolis-St. Paul International Airport Minneapolis, MN	General Mitchell International Airport Milwaukee, WI
US Census Division	East North Central	South Atlantic	West South Central	Mountain	East North Central	East South Central	West North Central	West North Central
2014 Passenger Volume (Millions)	6.5	96.2	63.5	53.5	7.4	3.6	10.2	35.1
2014 Freight-Only Cargo (Pounds)	1,430	12,254	13,600	4,870	24,251	101,413	1,878	4,088
Passenger Airline Hub		Yes	Yes	Yes				Yes
Air Cargo Hub					Yes	Yes		
Amount of Vacant Land within a 5-mile Radius	Limited	Limited	Limited	Significant	Significant	Limited	Significant	Limited
Access to Nearby Railway	Yes	Yes	Yes		Yes	Yes		
Number of Interstates Nearby	3	3	3	3	4	4	4	2
Access to Nearby Port	Yes					Yes		Yes

Source: SEWRPC

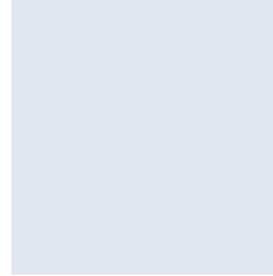
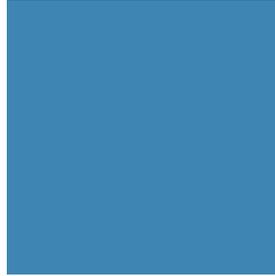
The type of land use pattern (i.e., rural, suburban, or urban) typically has little impact on the success of an aerotropolis. Each land use pattern type offers its own advantages and disadvantages. While those situated in rural environments may have an abundance of vacant land to grow the density of aerotropolis-supporting land uses, they tend to have less efficient access to interstates and railways. Conversely, aerotropolis established in urban areas typically have to redevelop parcels to increase the density of aerotropolis-supporting uses, but tend to have better access to interstates and railways.

When compared against the peer groups, there are existing characteristics of Aerotropolis Milwaukee that may not be easily overcome, like its position in the northern portion of the country relative to the center of the U.S. population. Other existing disadvantages include the lack of a commercial airline or cargo hub.

However, Aerotropolis Milwaukee has a number of strengths that can serve as a solid foundation to build upon. Its unique position between the highly urban environment of the City of Milwaukee and the suburban environment of Oak Creek and Franklin may work to its advantage. Air passengers can access Downtown Milwaukee's entertainment and hospitality offerings in minutes and the area's businesses have convenient highway and freight rail access to the nearby Port of Milwaukee. Aerotropolis Milwaukee's extensive transportation network and access to Chicago and the rest of northeastern Illinois have already attracted major industries to locate within the Aerotropolis. The area is primed to continue this trend, particularly with the considerable amount of vacant land available in Oak Creek and Franklin and redevelopment opportunities along the perimeter of the Airport.

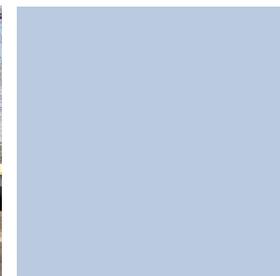
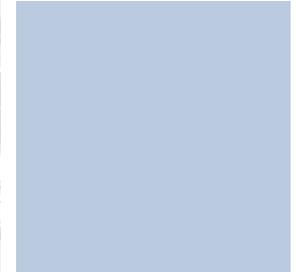
# CHAPTER 3

## Land Use Recommendations



MKE Aerotropolis Development Plan recommendations aim to achieve a shared vision for the Airport area and were created through an extensive review of existing conditions, plans, and community-led proposed projects. This chapter identifies locations where future airport-oriented growth and economic development should occur, including suggested land use changes and projects to spur further development.

Each participating community is encouraged to consider endorsement of the plan and to incorporate the plan's recommendations into its comprehensive plan. With modest changes to local comprehensive plans and zoning, implementing these recommendations will achieve Aerotropolis Milwaukee.

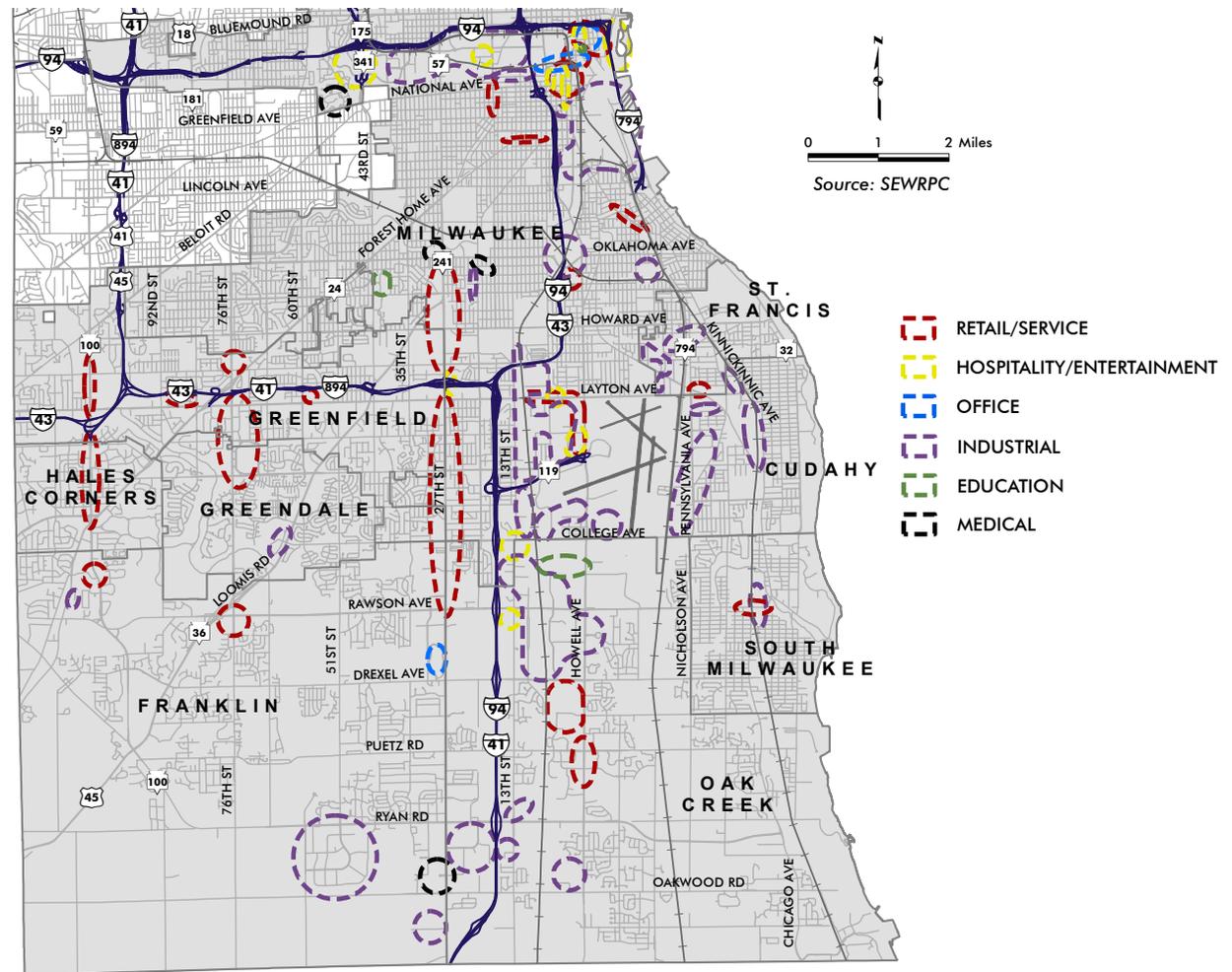


## DEFINING AREAS FOR FUTURE AEROTROPOLIS-SUPPORTING DEVELOPMENT

The Aerotropolis Planning Area contains pockets of aerotropolis-supporting land uses and areas that may serve as prime locations for future airport-oriented growth.<sup>13</sup> To determine land use changes and other recommendations that may provide the maximum impact on the aerotropolis, three types of areas were identified:

- **Contributing Aerotropolis Areas.** Contributing Areas contain clusters of land uses that support the overall aerotropolis concept.
- **Aerotropolis Growth Areas.** Growth Areas are a subset of the Contributing Areas that present opportunities for making a substantial impact on achieving the Aerotropolis. They were identified based on proximity to MKE, ability and likelihood to accommodate aerotropolis-supporting land uses, and the amount of available vacant or underutilized land.
- **Aerotropolis Catalytic Areas.** Catalytic Areas identified in the MKE Aerotropolis Development Plan have the potential to drive change in the Growth Areas. These areas often include projects currently being pursued by their respective communities.

**Map 3.1**  
Contributing Aerotropolis Areas



### Contributing Aerotropolis Areas

All of the Contributing Areas, shown by land use category on Map 3.1, play a role in the advancement of the Aerotropolis. These areas may already contain a higher concentration of aerotropolis-supporting land uses, with many areas often perceived as a destination and/or major employment center. The magnitude of a

Contributing Area's impact on the Aerotropolis is often determined by its proximity to the Airport or other critical transportation facilities, such as interstate freeways and rail lines. Six Contributing Areas that were determined to be most likely to influence the success of the Aerotropolis were identified as Growth Areas, and include more detailed recommendations later in this chapter.

<sup>13</sup> Example aerotropolis-supporting land uses are presented in Appendix A.

Some examples of Contributing Areas, along with a brief discussion on their role in the Aerotropolis, are highlighted below:

- **Downtown South Milwaukee and the Caterpillar Global Mining Plant.** Caterpillar Global Mining is a major employment center for the Aerotropolis and is adjacent to the Downtown South Milwaukee commercial district, which serves the residents and workers in the community. Changes in Caterpillar's operations and their anticipated need to downsize their footprint, along with underutilized parcels along Milwaukee Avenue, make this area an attractive location for future redevelopment. The City is currently working on implementing a strategy to redevelop and revitalize its downtown, which was prepared as part of their most recent comprehensive plan update.
- **Greendale Business Park.** The Greendale Business Park is one of a few employment centers in the Village of Greendale and is located at the intersection of two important thoroughfares that connect to I-94/41 and I-894/41/43. The business park is a likely candidate for future redevelopment and road improvement efforts due to the existence of several underutilized or vacant parcels and a network of deteriorating and narrow interior roadways.
- **The 27th Street Retail Corridor.** The 27th Street corridor serves as a major retail corridor for the adjacent communities of Milwaukee, Greenfield, Oak Creek, and Franklin. It also offers a selection of hospitality-oriented uses to serve interstate and air travelers. The corridor contains inconsistent design standards, such as setbacks and signage standards, and numerous underutilized properties



and incompatible uses contributing to the need for strategic redevelopment and beautification efforts along the corridor. The Aerotropolis Plan provides specific recommendations for the southern portion of the 27th Street Corridor as part of the 13th/27th Street Area presented later in this chapter.

- **Hales Corners Neighborhood Retail Corridor.** The County Fair Shopping Center, located southeast of the intersection of WIS 100 and Grange Avenue, is one of several strip malls located along the WIS 100 corridor in the Village of Hales Corners. With the loss of its anchor store (Kmart) in 2014, the shopping center has become a priority redevelopment site for the Village. The site is a potential catalyst for future commercial and higher-density residential development along the corridor, which would provide additional employment opportunities and improved quality of life for Aerotropolis-area residents and workers.



### Recommendations for All Contributing Areas

- Continue to attract and grow aerotropolis-supporting businesses.
- Consider increasing the density of land uses, encouraging infill and development of outlots, if applicable.
- Redevelop incompatible uses to increase land values and improve the efficiency and attractiveness of each area.
- Improve connections to the Airport through transportation improvements, wayfinding signage, and cohesive streetscape design.
- Enhance amenities that contribute to a better quality of life for Airport-area workers and a more enjoyable experience for visitors.

### Map 3.2 Aerotropolis Growth Areas

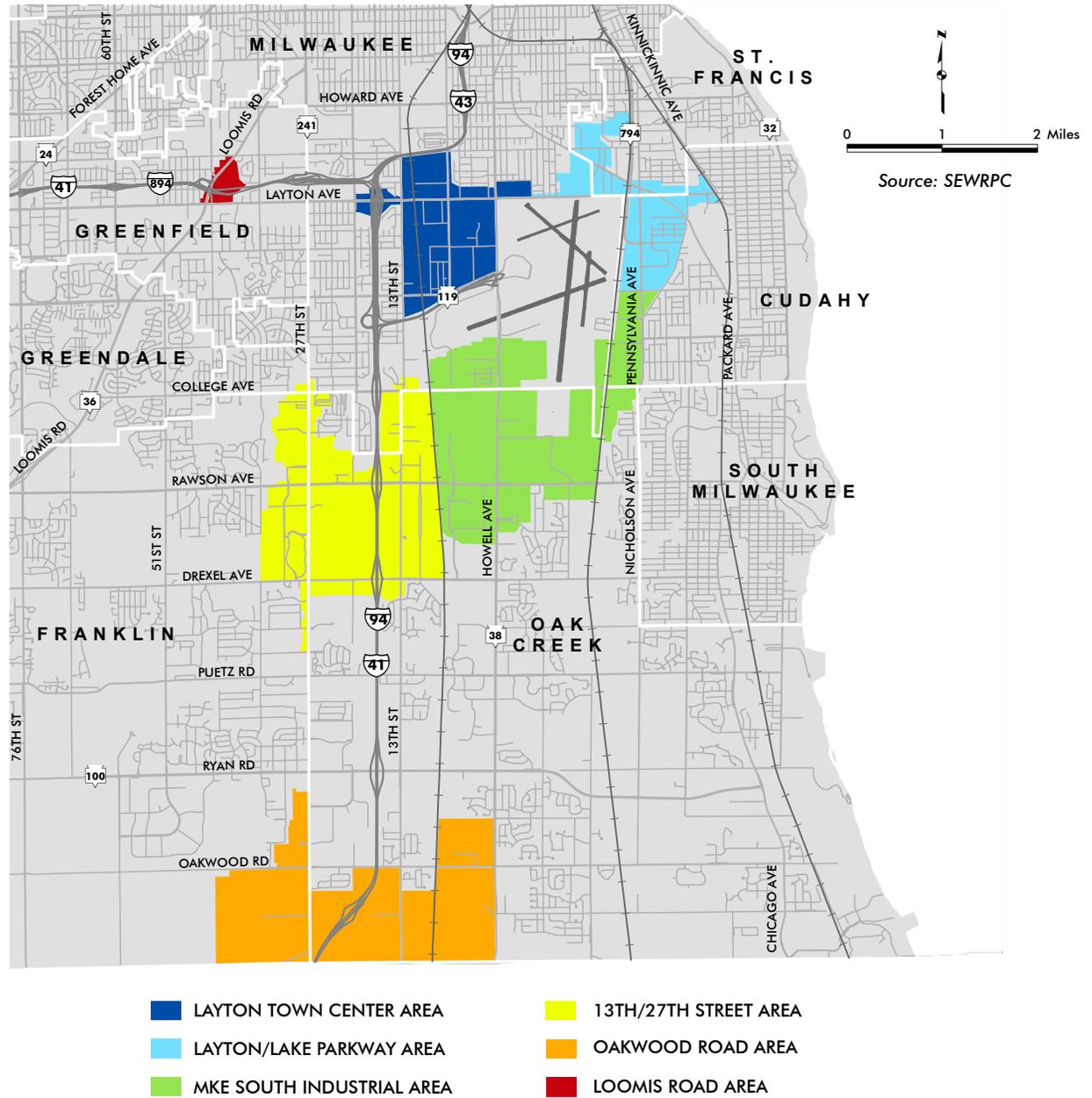
#### Aerotropolis Growth Areas

The MKE Aerotropolis Development Plan identifies six Growth Areas, shown on Map 3.2, which include:

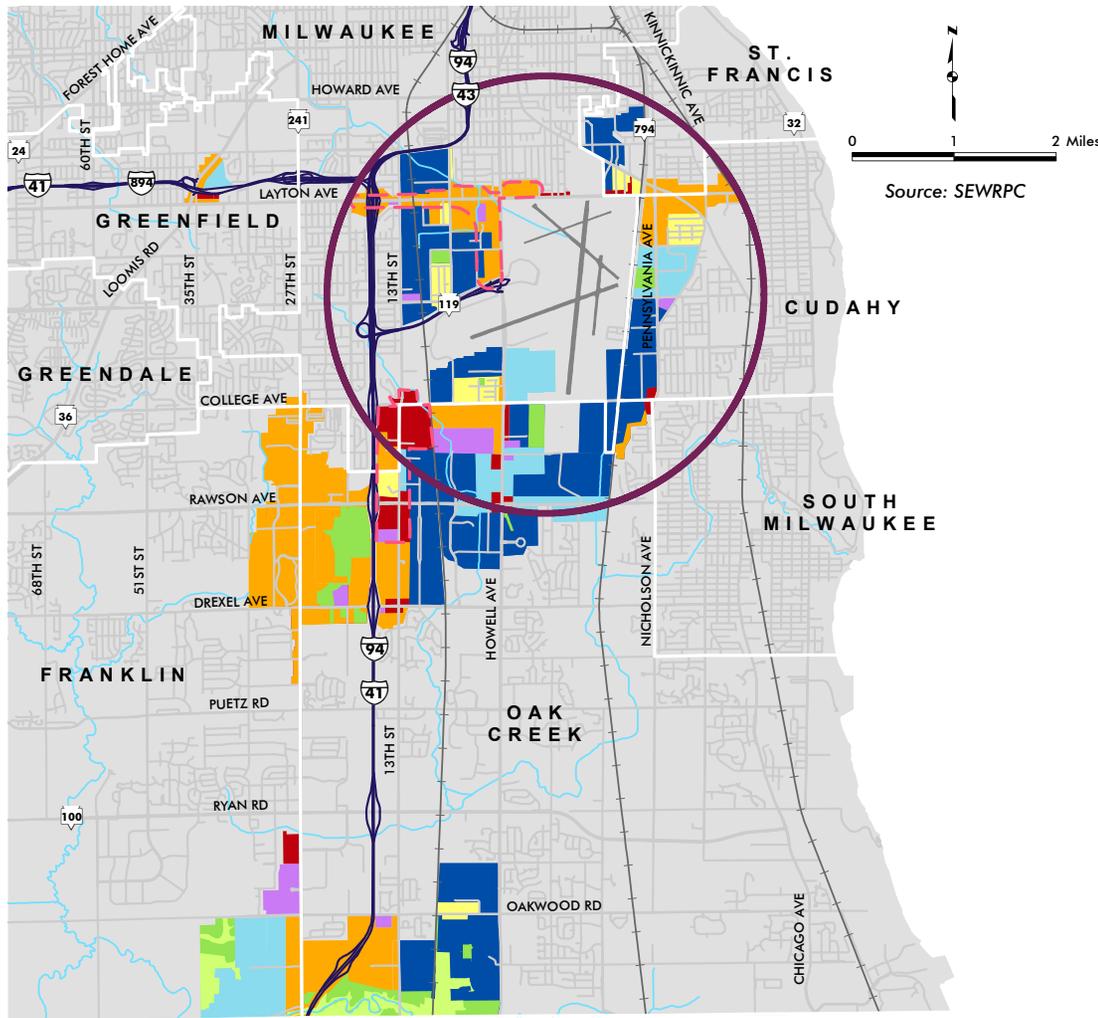
- Layton Town Center Area
- Layton/Lake Parkway Area
- MKE South Industrial Area
- 13th/27th Street Area
- Oakwood Road Area
- Loomis Road Area

These Growth Areas possess the potential to greatly influence the success of the Aerotropolis and set themselves apart from other Contributing Areas by meeting the following criteria:

- Are located in close proximity of the Airport
- Have the ability and likelihood to accommodate aerotropolis-supporting land uses
- Contain a significant amount of available vacant or underutilized land



**Map 3.3**  
**Recommended Aerotropolis Growth Area Land Uses**



- |                       |  |                                   |
|-----------------------|--|-----------------------------------|
| PRIMARY IMPACT AREA   | MIXED-USE COMMERCIAL/<br>RESIDENTIAL<br>AND COMMERCIAL | PRIMARY ENVIRONMENTAL<br>CORRIDOR |
| COMMERCIAL            | RESIDENTIAL  | PUBLIC PARK OR<br>OPEN SPACE SITE |
| INDUSTRIAL            | INSTITUTIONAL  | HOSPITALITY                       |
| INDUSTRIAL/COMMERCIAL |  |                                   |

Proximity to the Airport is the most important criterion for identifying Growth Areas. Growth Areas along the perimeter of the Airport are most likely to include aerotropolis-supporting land uses that are directly connected to MKE. These Growth Areas, which include Layton Town Center Area, Layton/Lake Parkway Area, and MKE South Industrial Area, are within the Primary Impact Area shown on Map 3.3.

Land use recommendations in this chapter reflect the significance of these three Growth Areas by encouraging higher concentrations of hospitality-, industrial-, and transportation-oriented uses that serve MKE than would be provided in areas located outside the Primary Impact Area.

Recommendations for areas outside the Primary Impact Area strive to attract more aerotropolis-supporting land uses, but also attempt to balance the desire to achieve the Aerotropolis and the needs of local residents through an increase in retail, service, and mixed uses.

The following sections provide land use recommendations for each Growth Area, identify a Catalytic Area that will drive growth within each Growth Area, and present suggested local comprehensive plan changes.

## LAYTON TOWN CENTER AREA

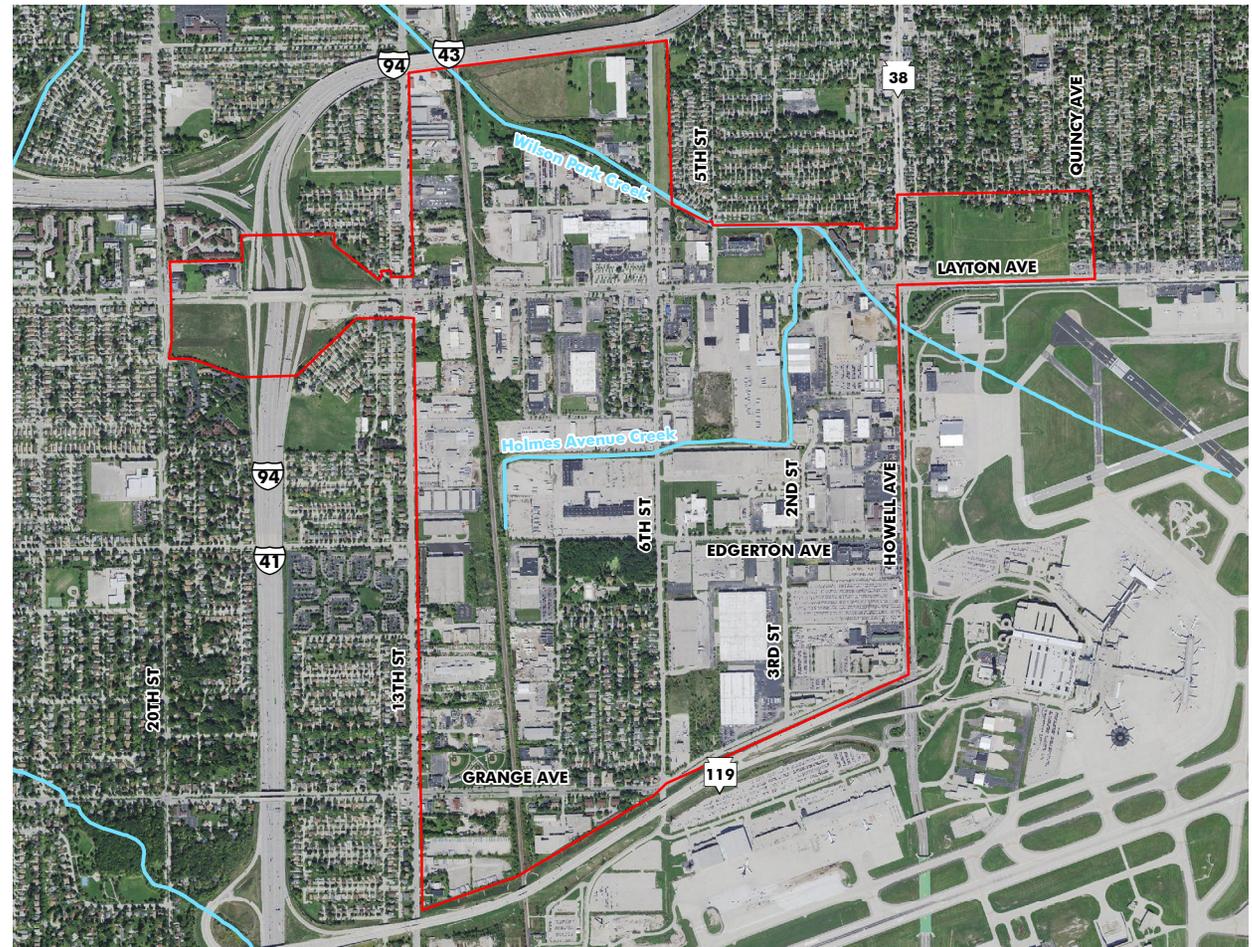
The Layton Town Center Area is envisioned to become the premier hospitality and retail area for MKE, co-existing alongside a high-caliber manufacturing and freight movement center

### KEY CONSIDERATIONS

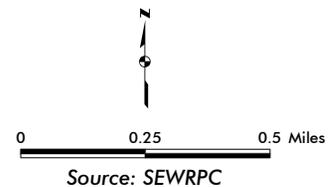
The Layton Town Center Area is within the Primary Impact Area and is noted to be one of three Growth Areas most likely to provide aerotropolis-supporting land uses directly connected to MKE. The area, located along the northwestern boundary of MKE, serves as one of three Airport gateways connecting to I-94/41. The area contains two industrial clusters bisected by an emerging hospitality/retail hub located along the Layton and Howell Avenue corridors. Layton Avenue is scattered with hotels, restaurants, strip malls, and incompatible uses such as freight forwarding companies and a mobile home park. The industrial clusters have a high concentration of existing aerotropolis-supporting land uses that benefit from the area's proximity to both MKE and the interstate. Two residential neighborhoods, along with Holler Park, are located along 6th Street adjacent to the industrial area.

Underutilized parcels occur throughout the Layton Town Center Area, but vacant land is limited to a few select areas. Vacant parcels with the greatest potential to spur change in the area are found along highly traveled Layton Avenue, near the I-94 interchange and Layton Avenue's intersection with 5th Street. Map 3.4 shows an aerial photo of the Layton Town Center Area.

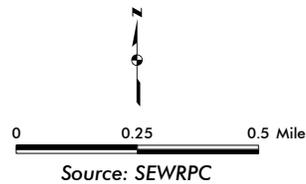
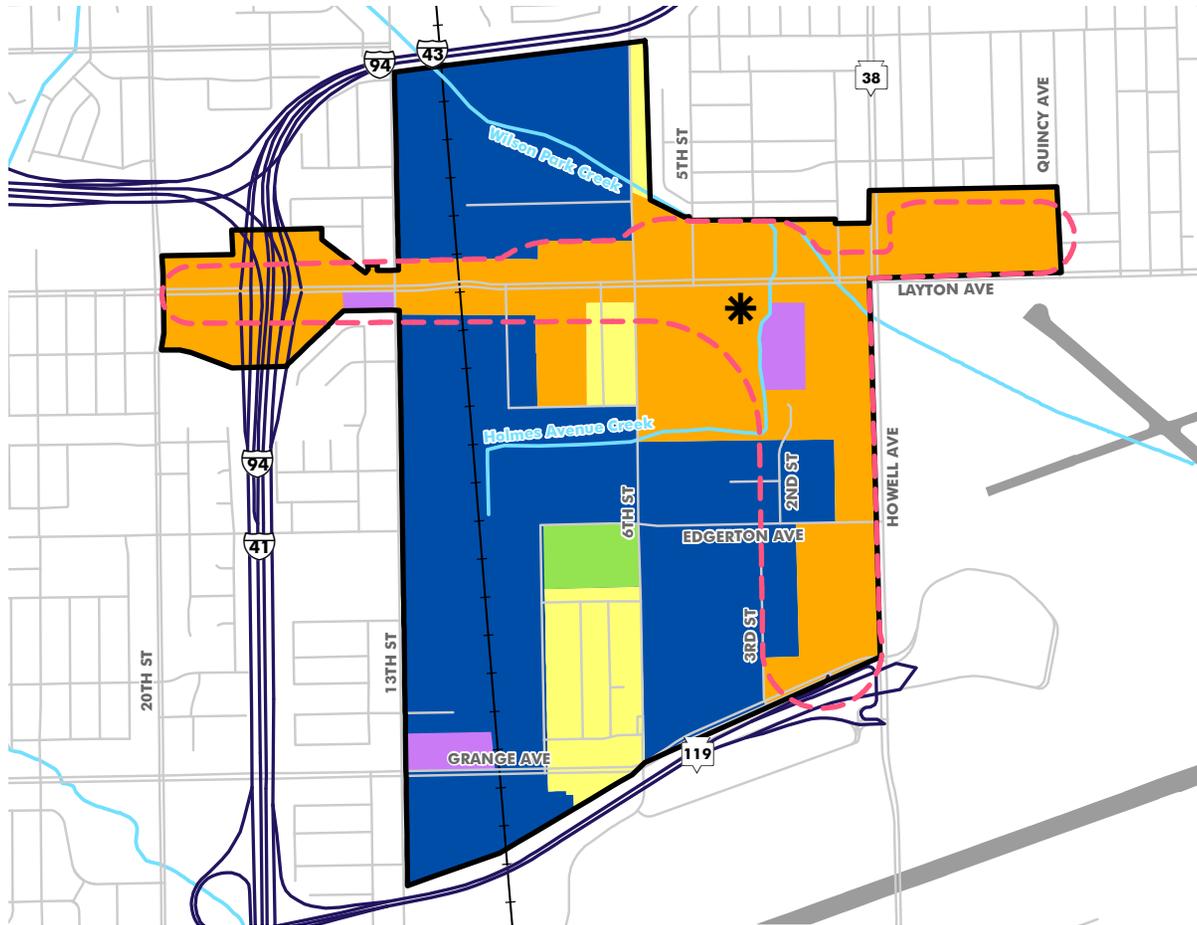
**Map 3.4**  
**Existing Layton Town Center Area**



-  GROWTH AREA
-  WATERWAY



**Map 3.5**  
**Recommended Land Use Pattern: Layton Town Center Area**



## RECOMMENDATIONS

The recommended future land use pattern for the Layton Town Center Area is shown on Map 3.5.

### Overall Recommendations

- Development opportunities should consider the potential to combine undeveloped land and underutilized parcels, and the redevelopment of incompatible uses, aging structures, and poorly designed sites, in order to capitalize on Layton Avenue's position as a gateway to MKE.
- Replacement of expansive surface parking, including long-term airport parking lots, with attractive low-rise parking structures with ground floor retail/office space will free up land along 3rd Street (between Edgerton Avenue and Grange Avenue) to create more opportunities for industrial development. Alternatively, constructing street-level retail and office space in front of surface lots or low-rise parking structures would greatly improve the appearance of the corridors of Layton and Howell Avenues.
- The street grid should be completed as opportunities present themselves. Completion of the street grid should be pursued in areas containing expansive underutilized or vacant industrial lands that are targeted for future commercial uses. This will improve access to the redevelopment site and allow large parcels to be divided into dimensions that are more conducive for commercial development. Additional roadways in the Layton Town Center Area will also reduce block sizes, resulting in a more navigable area for motorists, bicyclists, and pedestrians.

- Future streetscaping efforts, such as street art, wayfinding signage, and landscaping, should continue to build on the identity that the Airport Gateway BID has established to improve the appearance and perception of Layton and Howell Avenues.
- Road, parking lot, and building designs should incorporate green technology and innovation, like bioswales, permeable pavements, and green roofs, to reduce stormwater runoff throughout the Layton Town Center Area to further support and extend recommendations set forth in the 6th Street Green Corridor Designation Plan (discussed in Chapter 2).
- The Milwaukee Metropolitan Sewerage District (MMSD) has proposed reconstructing Wilson Park Creek, between 13th Street and Howell Avenue, to address frequent flooding issues. The project would restore the natural riparian corridor by replacing the existing concrete lining with natural river stone and planting native trees, shrubs, and groundcovers. The renewed urban waterway can add value to the area by providing enhanced aesthetic amenities and encouraging more investment.
  - The City of Milwaukee should also pursue a similar naturalization project for Holmes Avenue Creek, between Layton and Edgerton Avenues. Once both creeks are restored, the corridors could be used as attractive spaces for a future off-street bicycle/pedestrian path to link Wilson Park and adjacent neighborhoods, the emerging retail/hospitality hub, and Holler Park. Recreational and natural amenities may draw more investment into the Layton Town Center Area and forge a more attractive hospitality and community-oriented area.

### Recommendations for the Hospitality and Retail Corridors

Layton and Howell Avenues are envisioned to become the premier hospitality and retail-oriented corridors serving MKE. The City of Milwaukee should encourage higher-value retail and hospitality uses, which include businesses that provide food and beverage, lodging, entertainment, and luxury services, along each corridor to enhance the overall traveler experience and elevate the area into an exciting destination. Uses that serve business travelers, like meeting room space and banquet facilities, should be encouraged near or within hotel clusters.

Layton Avenue serves as an important gateway, connecting the I-94 corridor to the Airport, the Cities of St. Francis and Cudahy, and the shoreline of Lake Michigan. Dominant visual features should be established along the corridor to draw visitors eastward through the Layton Town Center Area and beyond. This can be achieved by incorporating a cohesive streetscape design, high-quality building aesthetics, and encouraging medium- to high-density development near major intersections.

The area immediately adjacent to the Layton Avenue/I-94 interchange should set the tone of development for the Layton Avenue corridor. In 2014, WisDOT reconfigured the Layton Avenue/I-94 interchange as part of the I-94 North-South Freeway Project. The reconfiguration reduced the footprint of the interchange, creating vacant land adjacent to the interchange. The City of Milwaukee should consider using the newly vacant land for higher-density, mixed-use development.

MKE runway protection zones, located between Howell Avenue and Brust Avenue, serve as an existing barrier to continuing the hospitality and



retail theme; however, should MKE and the FAA pursue the decommissioning of Runway 13/31,<sup>14</sup> the runway's 24-acre runway protection zone located between Howell and Quincy Avenues may become available for development. Currently, the City of Milwaukee Southeast Side Area Plan has proposed a dog park for the runway protection zone; however, should the runway be decommissioned, the City may consider using this land for future hospitality uses, capitalizing on its position adjacent to MKE and access to multiple transit routes. The City could consider exploring alternative locations for the dog park, such as the Mitchell Airport Park, located northwest of the intersection of Layton and Brust Avenues.

While expanding the number of hospitality offerings along Layton and Howell Avenues is an important goal, increasing the number of jobs and households per acre is key to the economic vitality of the Layton Town Center Area. The inclusion of higher-density retail, office, and residential uses will result in an increase of workers and residents available to support the proposed hospitality uses. By strategically diversifying uses and increasing densities, the area will become more multifaceted, self-sustaining, and resilient against the cyclical nature of the tourism and hospitality industries.

Transit-oriented design (TOD) principles should be integrated into the redevelopment of each corridor. This includes placing higher-density, mixed-use, pedestrian-oriented development around transit stops along Layton and Howell Avenues. Design elements that create enjoyable places to walk, cycle, and socialize should be incorporated throughout. Careful design of

streets and public spaces can greatly improve the perception of this corridor and propel it into a desirable destination for both travelers and local residents and workers. Proper screening, separation, or redevelopment of incompatible uses should occur along the Layton and Howell corridors and in transitional spaces between adjacent industrial and hospitality-driven areas.

Transit improvements that increase the frequency and quality of service between MKE, the Layton Town Center Area, and Downtown Milwaukee should be pursued. An increase in transit service will support the hospitality and retail corridors, making them more appealing and accessible to travelers and local residents alike. Detailed transportation improvements proposed for Aerotropolis Milwaukee are presented in Chapter 4.

Examples of aerotropolis-supporting land uses that will support the vision for the hospitality and retail corridors include the following:

- Hospitality-driven uses
- Meeting room and banquet facilities
- Retail/service establishment
- Mixed-use retail/residential
- Mixed-use retail/office
- Flex/virtual office
- Professional office
- Higher-density multifamily residential
- Public space/recreation

### **Recommendations for the Industrial Area**

The industrial lands in the Layton Town Center Area serve as an excellent example of an aerotropolis-driven industrial area and any future development or redevelopment within

the area should continue to complement and enhance the current character of the area. Future development should contribute to a cohesive campus-like setting, incorporating attractive landscaping and public space into a modern industrial setting.

Current uses require large parking lot surfaces and building footprints, which have resulted in an increase of impermeable surfaces in the industrial areas. Impermeable surfaces have contributed to an increase in stormwater runoff and subsequent flooding of surrounding lands during periods of heavy rain. The MMSD flood mitigation and stream restoration project to remove the concrete channel, and to create a more natural channel and floodplain areas along Wilson Park Creek, should be supported. Modern green infrastructure stormwater management practices, such as bioswales, vegetated filter strips, and constructed wetlands, should be incorporated into new and existing developments. Installation of green infrastructure will reduce stormwater runoff during smaller storms, improve water quality throughout the watershed, and provide aesthetic and recreational amenities that will serve as a community asset.

Examples of aerotropolis-supporting land uses that will support the vision for the industrial area include the following:

- Industrial campus
- Just-in-time manufacturing
- Distribution center
- Flex industrial
- Freight forwarding
- Car rental facilities
- Long-term airport parking structures

<sup>14</sup> See the section in Chapter 2 entitled "The Future of MKE and the Airport's Impact on Surrounding Areas" for more information regarding the Airport Master Plan and the possible decommissioning of Runway 13/31.

### Catalytic Aerotropolis Area: Holmes Avenue Creek Redevelopment Project

The City of Milwaukee has proposed the redevelopment of the Old Dominion Freight Terminal, located south of Layton Avenue between 2nd and 6th Streets, as part of the Holmes Avenue Creek Redevelopment Project. This redevelopment, as shown in Figure 3.1, can serve as a prototype for future desirable development along Layton and Howell Avenues. The proposed concept incorporates TOD elements to take advantage of existing transit service and proposed transit improvements. Commercial uses, such as a hotel, retail shopping center, and a stand-alone restaurant, would be located close to the street with parking at the rear of the buildings. Office space, eateries, and a plaza with connecting pedestrian boulevards may serve as a center piece for the development. Multifamily residential buildings, recreational space, and a dry detention basin are proposed towards the rear of the property, adjacent to Holmes Avenue Creek. The project proposes the construction of a roadway between Howell Avenue and 6th Street to provide better access to the site and a connection to 2nd Street.

### Suggested Comprehensive Plan Changes

The MKE Aerotropolis Development Plan encourages the City of Milwaukee to consider incorporating recommendations made for the Layton Town Center Area into its comprehensive plan during future plan updates. The following summarizes the recommendations that differ from recommendations found within the current City of Milwaukee Southeast Side Area Plan:

- Should Runway 13/31 be decommissioned and its runway protection zone become available for development, encourage hospitality and retail-oriented uses in this location to continue the Layton Town Center concept eastward.
- Consider moving the proposed dog park location from the runway protection zone for Runway 13/31 to the Mitchell Airport Park located near the intersection of Layton and Brust Avenues.

**Figure 3.1**  
**Holmes Avenue Creek Redevelopment**



## LAYTON/LAKE PARKWAY AREA

The Layton/Lake Parkway Area will feature a retail corridor complementary to the Layton Town Center Area, including mixed-use development, office space, and advancement of a food and beverage manufacturing area

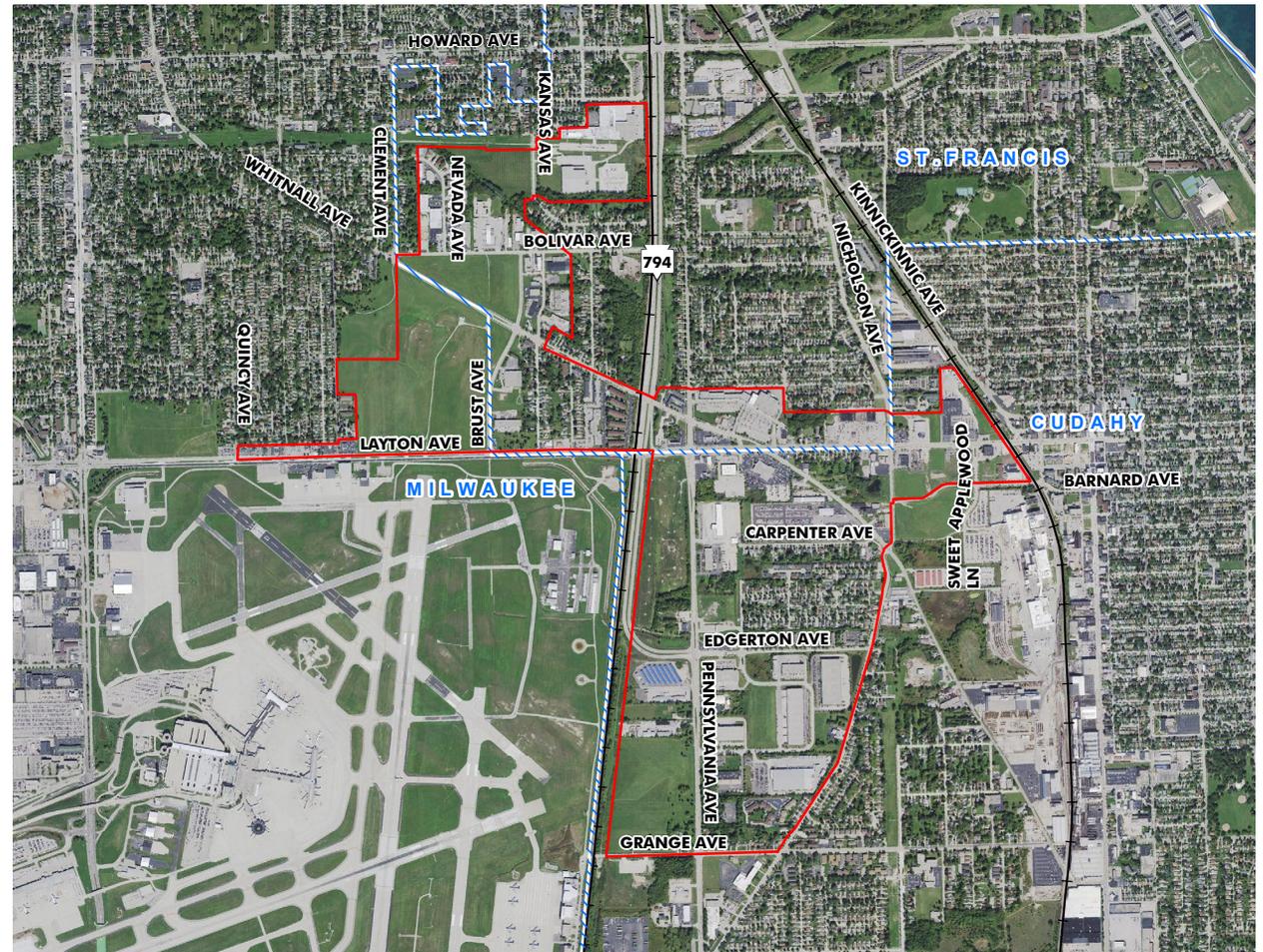
### KEY CONSIDERATIONS

The Layton/Lake Parkway Area is the second of three Growth Areas within the Primary Impact Area. The area is located along the northeast boundary of MKE and spans portions of St. Francis and Cudahy. The Layton/Lake Parkway Area serves as the only Airport gateway connecting to the Lake Parkway (WIS 794). Providing direct access to the Port of Milwaukee and Downtown Milwaukee, the Lake Parkway is a vital asset to the industrial and residential uses in this area. The area contains a neighborhood-oriented commercial corridor, an emerging food and beverage manufacturing district, the Mitchell International Business Park, and scattered clusters of industrial and residential uses. Map 3.6 shows an aerial photo of the Layton/Lake Parkway Area.

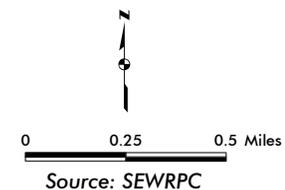
There are several large clusters of vacant land available for development within the Layton/Lake Parkway Area. Two of the most notable sites include a 24-acre former Cudahy landfill site, located south of Layton Avenue between the Lake Parkway and Pennsylvania Avenue, and an 18-acre site located between Brust, Whitnall, and Bolivar Avenues.

The Layton/Lake Parkway Area has a variety of redevelopment opportunities due to a large

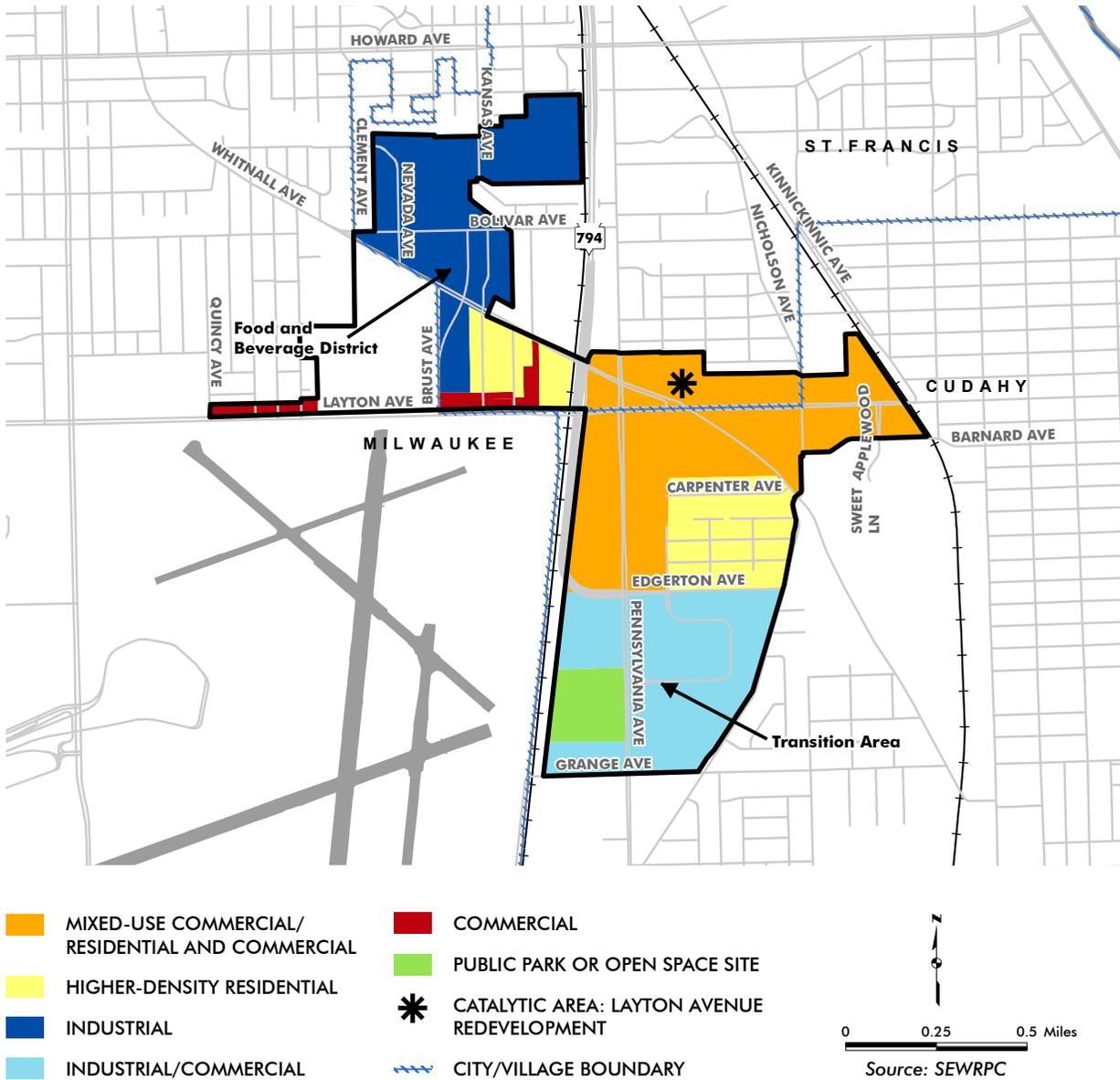
**Map 3.6**  
**Existing Layton/Lake Parkway Area**



-  GROWTH AREA
-  CITY/VILLAGE BOUNDARY



**Map 3.7**  
**Recommended Land Use Pattern: Layton/Lake Parkway Area**



number of underutilized and vacant buildings. Underutilized parcels are found throughout the area, but are more concentrated along Layton and Pennsylvania Avenues. Two properties, the former Shur-line distribution facility located on Kansas Avenue and the former Roadrunner freight terminal located along Pennsylvania Avenue, were recently vacated and may provide additional redevelopment opportunities for Aerotropolis Milwaukee.

## RECOMMENDATIONS

The recommended future land use pattern for the Layton/Lake Parkway Area is shown on Map 3.7.

### Overall Recommendations

- Capitalize on the Layton/Lake Parkway Area’s position as an important eastern gateway to MKE, by improving the appearance and perception of Layton and Pennsylvania Avenues. This can be achieved by creating an identity reflective of the communities’ character through streetscaping efforts, such as street art, wayfinding signage, and high-quality landscaping.
- Proper screening, separation, or redevelopment of incompatible uses should occur throughout the Layton/Lake Parkway Area, especially in transitional spaces between industrial and residential areas.
- Continue to build on the existing transportation network by strengthening connections between the Layton/Lake Parkway Area, MKE, the Layton Town Center Area, and Downtown Milwaukee. This can be achieved by implementing the transportation recommendations presented in Chapter 4. Key improvements

in the area include implementing a commuter rail line, improving and expanding local transit service, adding bicycle and pedestrian facilities, and constructing an extension of the Lake Parkway (WIS 794).

- The street grid should be completed as opportunities present themselves. Completion of the street grid should be pursued in areas containing expansive underutilized or vacant lands. This will improve access and allow large parcels to be divided into dimensions that are more conducive for development. Additional roadways in the Layton/Lake Parkway Area will also reduce block sizes, resulting in a more navigable area for motorists, bicyclists, and pedestrians.

### Recommendations for the Layton Avenue Retail and Mixed-use Corridor

The Layton Avenue retail and mixed-use corridor includes Layton Avenue between Quincy Avenue and the easternmost of the two UP rail lines, and an area south of Layton Avenue between Pennsylvania, Nicholson, and Edgerton Avenues. Layton Avenue, which serves as a shared retail corridor for the Cities of St. Francis, Cudahy, and Milwaukee, should be developed with higher-density commercial and mixed-use developments featuring neighborhood-oriented retail, professional office space, and multifamily uses. Development along the corridor should complement and support development proposed for the adjacent Layton Town Center Area, and contribute to an increase in the number of jobs and households per acre. Development should also complement the liveliness and character of the communities by incorporating public space and other pedestrian-friendly elements to increase the activity along the corridor.

As discussed earlier in this chapter under the Layton Town Center Area, Layton Avenue serves as an important gateway, connecting the I-94 corridor to the Airport, the Cities of St. Francis and Cudahy, and the shoreline of Lake Michigan. This area also serves as a gateway for motorists entering the area via the Lake Parkway. Coordinated visual features, such as cohesive streetscape design and high-quality building aesthetics, should be established along Layton and Pennsylvania Avenues to draw motorists into the Layton/Lake Parkway Area. The intersection of Layton Avenue and Pennsylvania Avenue is the most traveled intersection in the Layton/Lake Parkway Area, with an average daily traffic count of about 30,000 vehicles, making the area around the intersection an attractive location for higher-density development.

Several underutilized strip malls, vacant land, and incompatible uses exist along Layton Avenue, providing ample redevelopment opportunities to increase the density and appearance of Layton Avenue. A catalytic project identified for the Layton/Lake Parkway Area—the Layton Avenue Redevelopment Project—which addresses many of these redevelopment opportunities, is described later in this chapter. Additional projects to improve the appearance, and increase the density, of development along the Layton Avenue corridor should be explored. The Cities of Cudahy and St. Francis should consider forming a partnership to create a redevelopment plan for Layton Avenue. One potential mechanism for funding proposed improvements in the corridor that the communities should jointly explore is creation of a multi-jurisdictional tax incremental financing (TIF) district. This may, however, be more of a long-term consideration given that both communities have already put significant resources into ongoing TIF districts that will not expire for several years.



TOD principles should be integrated into the redevelopment along Layton Avenue. This includes locating higher-density, mixed-use, pedestrian-oriented development around transit stops along the corridor. This type of development will also support the proposed commuter rail line, which, if implemented, would include a potential Cudahy/St. Francis station east of the Layton Avenue and Sweet Applewood Lane intersection.

Additional opportunities for redevelopment, which include several large vacant and underutilized parcels, are located within the City of Cudahy along Pennsylvania, Whitnall, and Nicholson Avenues. Due to the proximity of the Mitchell International Business Park (located south of Edgerton Avenue) and the Patrick Cudahy Plant (located east of Sweet Applewood Lane), higher-density professional office space should be pursued along the Pennsylvania Avenue corridor and in vacant land between Nicholson and Sweet Applewood Lane to act as a buffer between these uses, existing residential development, and proposed mixed-use development. To improve access to these large vacant and underutilized parcels, the City of Cudahy may want to pursue the following enhancements to their street grid:

- Extend Delaware Avenue northward to Carpenter Avenue and into the east side of the former Roadrunner freight terminal property
- Extend Carpenter Avenue westward to Pennsylvania Avenue
- Extend Barnard Avenue westward to Nicholson Avenue

Examples of aerotropolis-supporting land uses that will support the vision for the Layton Avenue retail and mixed-use corridor include the following:

- Retail/service establishment
- Mixed-use retail/residential
- Mixed-use retail/office
- Flex/virtual office
- Professional office
- Higher-density multifamily residential
- Public space/recreation

### Recommendations for the Pennsylvania Avenue Transition Area

The Pennsylvania Avenue Transition Area is located between Edgerton Avenue and Grange Avenue and serves as a transitional space between the residential and commercial uses to the north and the industrial uses to the south along Pennsylvania Avenue. This area also serves as a gateway for motorists entering the City of Cudahy from the Lake Parkway. The City should continue to encourage uses that facilitate this transition, including moderate-scale office, research and technology, and light manufacturing uses to be developed within the Mitchell International Business Park and in vacant parcels along Pennsylvania Avenue. Light manufacturing uses are defined as high-quality indoor manufacturing businesses that produce minimal noise, visual, and light impacts on neighboring residential areas. Other existing uses that may be seen as incompatible with the vision of the area should be considered for redevelopment, with the exception of the South Woods Restaurant and Banquet Hall, a popular neighborhood establishment located near the intersection of Pennsylvania and Grange Avenues.



The City should also encourage the development of a small business incubator along Pennsylvania Avenue, including storefront showrooms and rear-facing production space. This would allow for start-up manufacturers to capitalize on the high traffic volumes along Pennsylvania Avenue and facilitate on-site sales opportunities.

A community garden with an associated roadside stand or a dog exercise area should be considered for areas west of Pennsylvania Avenue impacted by floodplains and height restrictions. This would allow the area to be preserved for potential future development while providing a beneficial community service in the interim.

Land uses within the Pennsylvania Avenue Transition Area should be designed to achieve a campus-like setting, using attractive landscaping and modest green space as an additional source of buffering and screening between the area and surrounding neighborhoods. Cudahy should also encourage high-quality design guidelines and green technology throughout this area, including attractive and complementary façades, permeable parking lots, and bioswales.

Other efforts in the transition area should be focused along Pennsylvania Avenue. Improvements, such as sidewalks, way-finding signage, and lighting, may set the tone for the corridor to serve as an important eastern gateway into the Aerotropolis Milwaukee area. These improvements may also facilitate a better connection between the Layton Avenue Retail and Mixed-use Corridor, the transition area, and other industrial uses occurring south of the Layton/Lake Parkway Area.

Examples of aerotropolis-supporting land uses that will support the vision for the Pennsylvania Avenue Transition Area include the following:

- Office campus
- Professional office
- Flex/virtual office
- Freight forwarder
- Mail/delivery service
- Courier delivery service
- Research/technology park
- Flex/tech
- Light manufacturing
- Open and public space

### **Recommendations for the Food and Beverage (FaB) Manufacturing District**

The FaB manufacturing district, located in the City of St. Francis, is bounded by the Lake Parkway, and Layton, Brust, Whitnall, Clement, and Norwich Avenues. The City should continue to encourage FaB-oriented manufacturing and compatible commercial uses that will support the further growth of the district, such as food grade manufacturing facilities, perishable food storage warehouses, and mixed-use industrial-commercial buildings. The City should also explore developing a start-up kitchen incubator and consider maintaining a variety of industrial space sizes within the district. By doing this, a new business can begin and expand without the need to relocate outside of the district.

Access may be a barrier for future development in the northern portion of the FaB district. The former Shur-line facility, an industrial use, and a large vacant parcel are positioned between two residential areas. Freight traffic must travel

through these neighborhoods to access Howard Avenue or Bolivar Avenue. The City should consider ways to complete the street grid between Kansas and Bolivar Avenues or between Nevada and Kansas Avenues to provide less impactful routes for this freight traffic.

Other vacant parcels available for development are located near the intersection of Brust and Whitnall Avenues. In 2016, the City of St. Francis extended Nevada Avenue to Whitnall Avenue with the intention to close a portion of Bolivar Avenue west of Nevada Avenue, and Brust Avenue between Bolivar and Whitnall Avenues. Those street modifications would improve access and create more opportunities for existing businesses to expand within the district.

Redeveloping underutilized buildings, located along Nevada, Bolivar, and Kansas Avenues, may provide additional opportunities to combine parcels to make way for larger, or more suitable space for, FaB-oriented manufacturing facilities. Non-FaB uses, especially those that contribute to high freight volumes traveling through adjoining neighborhoods, should be considered for relocation and redevelopment.

Examples of aerotropolis-supporting land uses that will support the vision for the FaB manufacturing district include the following:

- Mixed-use industrial-commercial
- Manufacturing
- Industrial supportive services
- Perishable goods storage facility

**Figure 3.2**  
**Catalytic Aerotropolis Area: Layton Avenue Redevelopment Project**



**Catalytic Aerotropolis Area:  
Layton Avenue Redevelopment Project**

The City of St. Francis has proposed the redevelopment of the north side of Layton Avenue, between Pennsylvania and Nicholson Avenues, to improve the appearance and increase the density of commercial development along the existing retail corridor. This project, shown conceptually in Figure 3.2, includes removing Whitnall Avenue, between Pennsylvania and Layton Avenues, allowing the existing triangular island lot to be incorporated into the Whitnall Square shopping center and more frontage to be available along Layton Avenue. By removing this portion of Whitnall Avenue, safety issues that exist with the current alignment of the

intersection of Whitnall and Layton Avenues may also be eliminated. A new roadway would be constructed between Pennsylvania Avenue and Nicholson Avenue to improve access to the site. The redevelopment project would also include redeveloping the underutilized Layton Mart Shopping Center, making way for several new commercial buildings.

**Suggested Comprehensive Plan Changes**

The MKE Aerotropolis Development Plan encourages the Cities of Cudahy, Milwaukee, and St. Francis to consider incorporating recommendations made for the Layton/Lake Parkway Area into their comprehensive plans

during future plan updates. The recommendations for the Layton/Lake Parkway Area are consistent with the City of Cudahy Comprehensive Plan, City of Milwaukee Southeast Side Area Plan, and the City of St. Francis Comprehensive Plan. The following summarizes the recommendations that differ from recommendations found within the City of Cudahy Redevelopment Plan:

- Consider encouraging more mixed-use buildings, containing first-floor commercial uses with higher-density residential above, to be developed along Layton and Pennsylvania Avenues, instead of limiting development to single-use commercial or residential buildings.

## MKE SOUTH INDUSTRIAL AREA

The MKE South Industrial Area is envisioned as an airport-oriented employment center featuring several concentrated industrial parks, including one with unique inside-the-fence access to MKE, and a distribution and logistics hub

### KEY CONSIDERATIONS

The MKE South Industrial Area is within the Primary Impact Area and is one of three Growth Areas most likely to provide aerotropolis-supporting land uses directly connected to MKE. The area, which wraps around the southern half of MKE, includes portions of the Cities of Milwaukee, Cudahy, and Oak Creek and serves as the southern gateway into the Airport area. The MKE South Industrial Area is highly accessible due to its proximity to the Airport, I-94/41, the Lake Parkway, and two freight rail main lines. The area's accessibility, along with large parcels of contiguous vacant land, have allowed the area to attract several extensive clusters of aerotropolis-supporting manufacturing and logistics-driven uses. The two largest concentrations of industrial uses can be found in the Northbranch Industrial Park,<sup>15</sup> located west of the intersection of Rawson and Howell Avenues, and the Mitchell Industrial Park, located northwest of the intersection of

<sup>15</sup> The MKE Aerotropolis Development Plan uses the Canadian Pacific Railway, which bisects the Northbranch Industrial Park, as the boundary between the MKE South Industrial Area and the 13th/27th Street Area. Recommendations for the eastern portion of the Northbranch Industrial Park are included in the MKE South Industrial Area. Recommendations for the western portion are included in the 13th/27th Street Area, and are presented later in this chapter.

College and Pennsylvania Avenues. The MKE Regional Business Park, on the former 440th Air Reserve Base, is located adjacent to the southwest boundary of MKE and features unique inside-the-fence access to the Airport runways and a variety of office and flex space available for lease.

While uses in the MKE South Industrial Area are more industrial-oriented, the area contains pockets of other uses. Howell Avenue, a corridor serving as an entry point into the Airport area, has attracted a mix of uses that are often incompatible with one another. The Milwaukee Area Technical College (MATC) Oak Creek Campus, located southwest of the intersection of College and Howell Avenues, is the only higher education facility located within the Aerotropolis Planning Area. Two clusters of residential uses, the New Coeln neighborhood and College Manufactured Home Community, are located northwest of the intersection of College and Howell Avenues and provide a source of workforce housing.

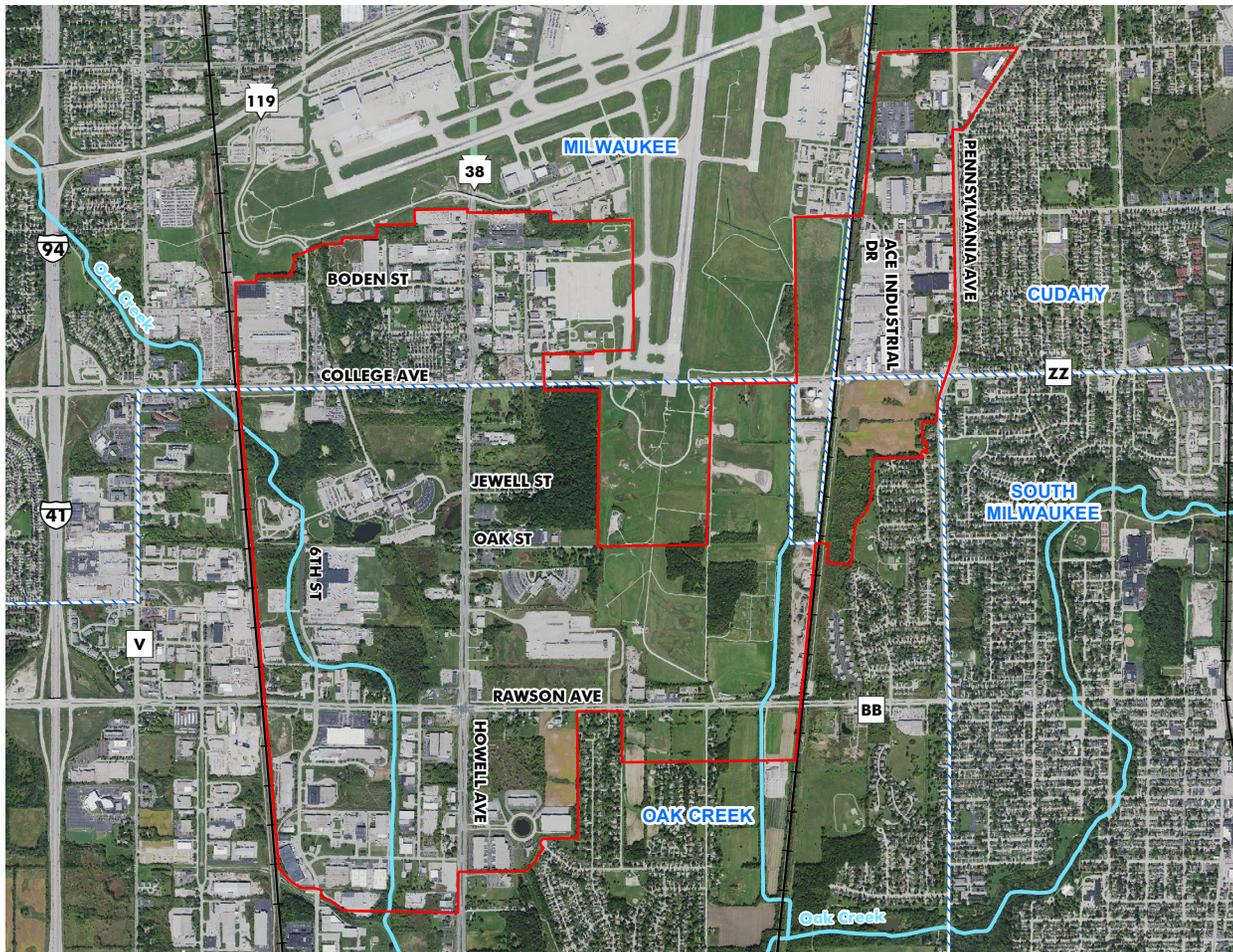
Redevelopment opportunities within the MKE South Industrial Area are scattered throughout; however, the highest concentrations are located within the Mitchell Industrial Park and along Howell and Rawson Avenues. Parcels of vacant land are located south of College Avenue, but many contain development restrictions due to their proximity to the Airport and existing environmental limitations. The Airport Master Plan's proposed Runway C-1<sup>16</sup> has also greatly influenced the development pattern and ability to redevelop some of the underutilized parcels within the MKE South Industrial Area. Much of

<sup>16</sup> See the section in Chapter 2 entitled "The Future of MKE and the Airport's Impact on Surrounding Lands" for a discussion about the proposed Runway C-1.

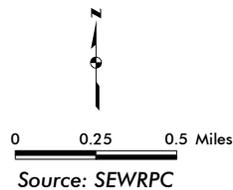
the developed and available vacant land located near the intersection of College and Howell Avenues is impacted by the proposed alignment of the runway. As discussed in Chapter 2, given the possibility that the proposed runway may be removed from the future Airport Master Plan update, recommendations made for the MKE South Industrial Area anticipate that Runway C-1 will eventually be removed from the Airport Master Plan, which may have a substantial effect on the economic development potential in this area.

Map 3.8 shows an aerial photo of the MKE South Industrial Area.

**Map 3.8**  
Existing MKE South Industrial Area



- GROWTH AREA
- CITY/VILLAGE BOUNDARY
- WATERWAY



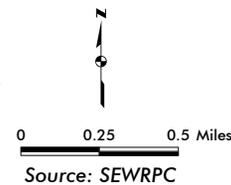
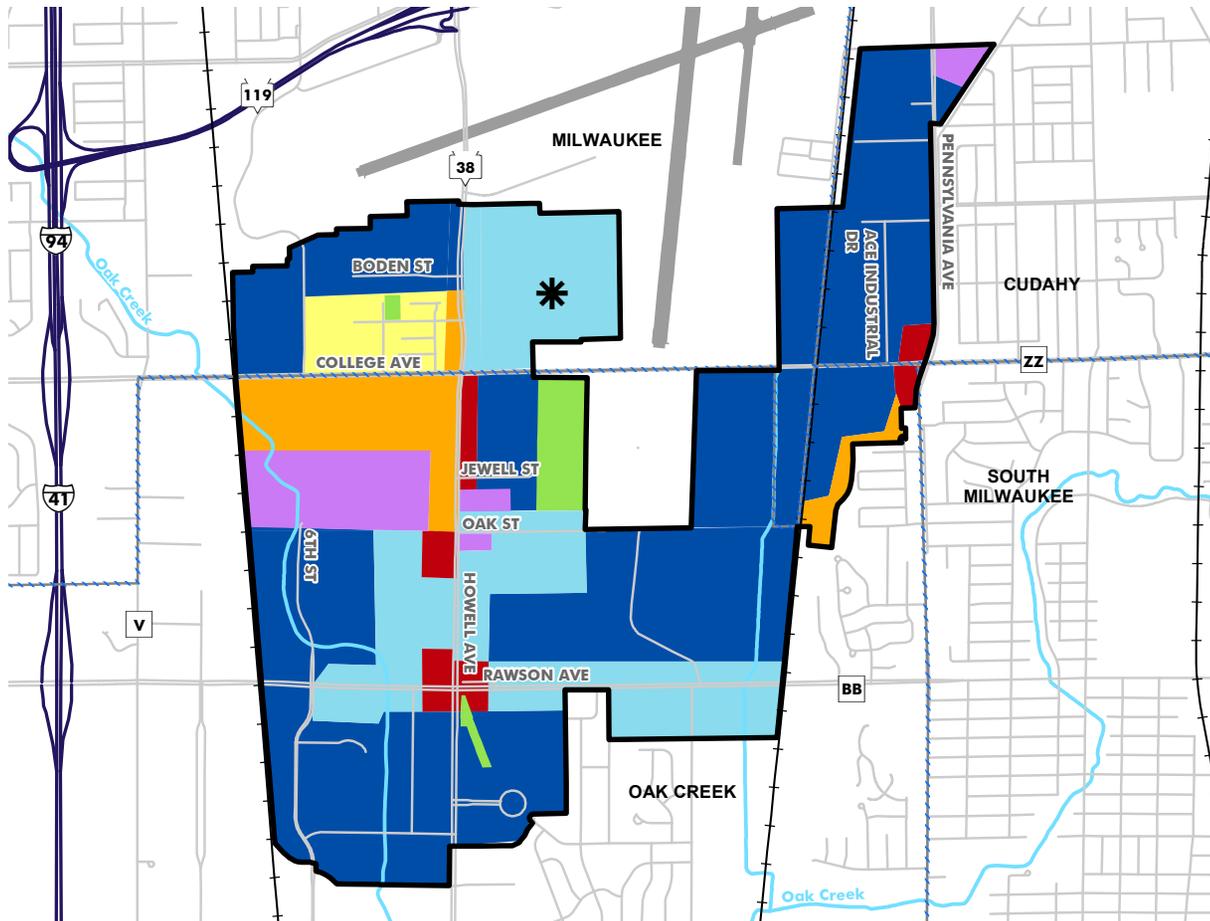
**RECOMMENDATIONS**

The recommended future land use pattern for the MKE South Industrial Area is shown on Map 3.9.

**Overall Recommendations**

- Capitalize on the MKE South Industrial Area’s exceptional access to the Airport, I-94/41, Lake Parkway, and two freight rail main lines by pursuing aerotropolis-supporting manufacturing, logistics, and airport-dependent uses.
- Consider underutilized parcels for redevelopment. Excluding the residential uses within the New Coeln neighborhood and College Manufactured Home Community, parcels with businesses that do not benefit from exceptional Airport access or parcels that are not aerotropolis-supporting could be candidates for absorption into adjacent development and business relocation.
- Continue to build on the existing transportation network by strengthening connections between the MKE South Industrial Area, MKE, the Layton Town Center Area, Downtown Milwaukee, and the Amtrak Hiawatha station. This can be achieved by implementing the transportation recommendations presented in Chapter 4. Key improvements in the area include implementing a nearby commuter rail line, improving and expanding local transit service, adding bicycle and pedestrian facilities, preserving and enhancing existing freight routes, and constructing an extension of the Lake Parkway (WIS 794).

**Map 3.9**  
**Recommended Land Use Pattern: MKE South Industrial Area**



- Collaboratively establish design standards that reflect the area’s identity as MKE’s South Gateway and improve the appearance and perception of corridors located south of the Airport. The design standards should incorporate site, building, and signage design. Site and building designs within the MKE South Industrial Area should also incorporate appropriate green technology, such as bioswales, permeable pavements, and green roofs, to promote the Green Corridor efforts.<sup>17</sup>
- Incorporate streetscape elements, including sidewalks, landscaping, way-finding signage, and lighting, along Howell, Pennsylvania, and College Avenues, which are three of the four major roadways that make up the MKE road ring. Proper streetscape design would create a more consistent and attractive appearance, enhance the pedestrian environment, and ultimately create a vibrant atmosphere that welcomes people to the Airport area. These elements would also help facilitate a better connection to the Layton/Lake Parkway Area, 13th/27th Street Area, Layton Town Center Area, and Drexel Town Square, which contain restaurants and shopping establishments that are frequented by workers in the MKE South Industrial Area.
- The Cities of Oak Creek and Milwaukee should capitalize on the proximity of MATC, potentially collaborating to expand job training opportunities.

<sup>17</sup> See the section in Chapter 2 entitled “Other Relevant Plans and Districts” for more information on efforts to make S. 6th Street into the Green Corridor.

## Recommendations for the Industrial Areas

The industrial lands identified in the MKE South Industrial Area are well-positioned to make a positive impact on Aerotropolis Milwaukee. The Cities of Oak Creek, Cudahy, and Milwaukee should continue to encourage higher concentrations of aerotropolis-supporting industrial and transportation-oriented uses in this area. The communities should try to attract mixed-use industrial and commercial uses to the MKE Regional Business Park, along Rawson Avenue, and along Howell Avenue between the MATC campus and Rawson Avenue.

Opportunities for redevelopment and infill should be pursued in the Northbranch and Mitchell Industrial Parks, where several underutilized and vacant buildings exist. These sites should be redeveloped and combined, if possible, to allow for the construction of modern industrial and transportation-oriented facilities.

Mitchell Industrial Park also has the opportunity to expand its boundaries into the 97 acres of vacant land available south of College Avenue. The Cities of Oak Creek and Milwaukee should consider using this land by extending Ace Industrial Drive southward to provide access to the backlot areas of these parcels, making them more attractive to development.

The City of Milwaukee should also encourage the expansion and redevelopment of the MKE Regional Business Park, which is identified as a catalytic project for the MKE South Industrial Area. When opportunities present themselves, the business park should consider acquiring adjacent parcels fronting College and Howell Avenues. Details on this catalytic project are discussed later in this section.

The Milwaukee County Runway Dog Exercise Area and the privately-operated golf course located along Rawson Avenue should be considered for relocation to accommodate more suitable aerotropolis-supporting land uses. Milwaukee County and the City of Oak Creek should instead consider establishing a distribution and logistics park in this area. The County and City may also consider limiting future development of this area to large-footprint airport-dependent or aerotropolis-supporting development that will benefit from its superior access to the UP rail line and MKE and its proximity to the interstate and the Port of Milwaukee. New local roadways will need to be constructed to serve this area and should be designed to provide convenient direct access to Rawson, Howell, and College Avenues. The County, MKE, and the City of Oak Creek may also consider exploring the potential to establish a second secure MKE access point, similar to the access provided at the MKE Regional Business Park, around the south end of Runway 1R/19L.

Continual efforts to preserve and/or enhance freight routes through and around the MKE South Industrial Area will be vital to support these industrial areas. As discussed in Chapter 4, Aerotropolis Milwaukee partners should continue to support the development of the Lake Parkway (WIS 794) extension, which would provide additional access to Downtown Milwaukee and the Port of Milwaukee. They should also work with local manufacturers and shippers, freight railroads, and the State to pursue a new truck-rail intermodal facility within or near the Aerotropolis.

Improving the appearance of industrial areas in the MKE South Industrial Area will improve the overall appearance and perception of the area. Each community should encourage high-quality design guidelines and green technology throughout all industrial areas,

including attractive and complementary façades, permeable parking lots, and bioswales. Attractive entryways and consistently landscaped buffers around the perimeter of industrial and business parks should be used and the visibility of storage yards should be discouraged. Along MKE South Industrial Area arterial streets, communities should discourage businesses from creating secondary access points outside the industrial and business parks to minimize freight traffic along roadways predominantly used for local traffic.

The City of Oak Creek should consider restoring the natural riparian buffer along the Oak Creek waterway, located near 6th Street within the Northbranch Industrial Park, with natural river stone and the planting of native trees, shrubs, and groundcovers. Restoration of the waterway may improve stormwater management and provide recreational and natural amenities that could draw more investment into the industrial park.



Examples of aerotropolis-supporting land uses that will support the vision for the industrial areas include the following:

- Free trade zone
- Logistics park
- Industrial park
- Intermodal freight hub
- Air cargo
- Flex tech
- Flow-through/e-fulfillment facility
- Research/technology park
- Just-in-time manufacturing
- Maintenance, repair and operations facility (MRO)
- Passenger transportation services
- Perishable goods storage facility
- Industrial supportive services
- Bonded warehouse district
- Distribution center



### **Recommendations for the Mixed-use and Commercial Areas**

Encouraging strategically placed clusters of aerotropolis-supporting mixed-use and commercial development will provide the additional support and amenities that the MKE South Industrial Area needs to grow. Three areas for this type of development have been identified in the MKE South Industrial Area:

- Along College and Howell Avenues adjacent to the MATC campus and New Coeln Neighborhood
- Areas adjacent to the intersection of Pennsylvania and College Avenues
- Areas surrounding the intersection of Rawson and Howell Avenues

While College and Howell Avenues serve as the southern gateway into the Airport area, the plan does not envision that commercial development along these corridors within the MKE South Industrial Area would be devoted to serving air passengers. The plan does not necessarily recommend existing hospitality uses be relocated, but encourages the City of Milwaukee to discourage any additional hospitality-oriented development. Within the overall Aerotropolis Milwaukee vision, this type of development should be focused within the 13th/27th Street and Layton Town Center Areas.

Appropriate aerotropolis-supporting commercial and mixed-use development near the intersection of College and Howell Avenues should focus on serving area residents, MATC students, and workers. MATC has also expressed interest in seeing the immediate surrounding area developed in a manner that will provide an active and full student experience. This can be achieved by encouraging mixed-use development

containing first-floor retail space and multifamily units above, professional office space, and public space. Additionally, development that capitalizes on its proximity to the MATC campus, such as research or technology facilities, may support further job growth and innovation in the area.

Commercial development proposed around the intersection of Rawson and Howell Avenues should capitalize on Rawson Avenue's proximity to Drexel Town Square and its role as a gateway into Oak Creek and South Milwaukee. Development around the intersection should be walkable and contain aerotropolis-supporting commercial uses to serve the surrounding industrial, educational, and residential areas. Due to the presence of a utility corridor, development opportunities surrounding the intersection may be limited; however, the City of Oak Creek should explore ways to improve the appearance of the intersection through attractive and higher-density commercial uses on developable parcels.

Commercial and mixed uses proposed around the intersection of Pennsylvania and College Avenues should not only serve nearby workers and residents, but should also provide an attractive transition between surrounding neighborhoods, Chapel Hills Park (located south of the MKE South Industrial Area), and proposed industrial uses. Moderate-scale commercial development should be concentrated around the intersection; however, development south of the intersection may include a mix of neighborhood retail, professional office, or multifamily uses.

All development in the mixed-use and commercial areas should be constructed with high-quality design standards that encourage attractive façades, signage, and landscaping. Communities within the MKE South Industrial Area should also encourage maintaining consistent setbacks for



structures along the area’s arterial streets to ensure each business is visible along the roadway.

Examples of aerotropolis-supporting land uses that will support the vision for the mixed-use and commercial areas include the following:

- Flex/virtual office
- Professional office
- Mixed-use commercial and residential
- Retail/service establishment
- Research/technology park
- University/college campus
- Courier delivery service

**Recommendations for Residential Areas**

Residential uses in the MKE South Industrial Area are located within the New Coeln neighborhood, the College Manufactured Home Community, and scattered along arterial streets. Residences within the New Coeln neighborhood and the College Manufactured Home Community provide affordable workforce housing and should not be considered for future aerotropolis-oriented redevelopment efforts. The Cities of Oak Creek and Milwaukee should consider establishing buffers and screening between these existing areas and industrial and commercial uses.

Scattered single-family homes fronting arterial streets should be discouraged from being used as places of businesses, when possible, as this can lead to the deterioration of the corridor’s appearance. Residential uses, especially within those areas identified for future industrial, commercial, or mixed-use development, often contain larger parcel sizes and may be better suited for redevelopment as opportunities present themselves. Due to the proposed uses in the MKE South Industrial Area, the communities should consider discouraging any additional

single-family residential development within the area.

Examples of aerotropolis-supporting land uses that will support the vision for residential areas include the following:

- Higher-density residential
- Mixed-use commercial and residential

**Catalytic Aerotropolis Area:  
MKE Regional Business Park  
(Former 440th Air Reserve Base)**

The MKE Regional Business Park, once the 440th Air Reserve Base, is a 102-acre site located along the southwest perimeter of MKE. The 440th Air Reserve Base was closed in 2005 due to the Federal Base Realignment and Closure Act (BRAC). Through a collaboration between the City of Milwaukee, Milwaukee County, and the Milwaukee 440th Local Redevelopment Authority, the 440th Air Reserve Base Redevelopment Plan was prepared in 2008 to determine how to reuse the site.<sup>18</sup> Recommendations from that plan encouraged existing facilities to be preserved and made available for immediate lease and redevelopment. The plan also called for the preservation of the site to allow for the future construction of the Airport Master Plan’s proposed Runway C-1, which would consume nearly half of the 440th site.<sup>19</sup>

<sup>18</sup> See the section in Chapter 2 entitled “Other Relevant Plans and Districts” for more information regarding the 440th Air Reserve Base Redevelopment Plan.

<sup>19</sup> See the section in Chapter 2 entitled “The Future of MKE and the Airport’s Impact on Surrounding Lands” for a discussion about the proposed Runway C-1, and the possibility that the runway may not be included in the next Airport Master Plan update.

The MKE Regional Business Park has been identified as a catalytic area for the MKE Aerotropolis Plan due to its unique inside-the-fence access to Airport runways and extensive inventory of available office and industrial flex space. Should the proposed runway be removed from the Airport Master Plan, the County should pursue additional opportunities to redevelop the park. Any future redevelopment project should focus on creating new buildings better equipped to attract higher concentrations of aerotropolis-supporting industrial, mixed-use industrial-commercial, and aviation-oriented uses. In addition, the County should consider absorbing adjacent underutilized parcels and nonaerotropolis-supporting land uses into the business park along Howell and College Avenues. Doing so would improve the visibility of the MKE Regional Business Park and enhance the appearance of each corridor. Additional visibility improvements could include corridor frontage or building, landscaping, or signage designs that are discernable to traffic travelling along College or Howell Avenues.

### **Suggested Comprehensive Plan Changes**

The MKE Aerotropolis Development Plan encourages the Cities of Cudahy, Milwaukee, and Oak Creek to consider incorporating recommendations made for the MKE South Industrial Area into their comprehensive plans during future plan updates. The recommendations for the MKE South Industrial Area are consistent with the City of Cudahy Comprehensive Plan and the City of Milwaukee Southeast Side Area Plan. The following summarizes the recommendations that differ from recommendations found within the Oak Creek Comprehensive Plan and 440th Air Reserve Base Redevelopment Plan:

### **Oak Creek Comprehensive Plan**

- Consider industrial uses, instead of commercial and mixed uses, south of College Avenue as part of an expansion of the Mitchell Industrial Park. Some commercial and mixed uses should remain to act as a buffer for surrounding residential areas.
- Consider industrial and mixed-use industrial-commercial along Rawson Avenue, instead of recreational uses.
- Consider allowing mixed-use and commercial adjacent to the MATC campus, instead of limiting development to commercial uses.
- Consider accommodating the highest and best uses should the proposed Runway C-1 be removed from the Airport Master Plan.

### **440th Air Reserve Base Redevelopment Plan**

- Consider redeveloping underutilized parcels rather than leasing existing buildings within the MKE Regional Business Park.
- Consider absorbing adjacent nonaerotropolis-supporting uses to expand the footprint of the business park.



## 13TH/27TH STREET AREA

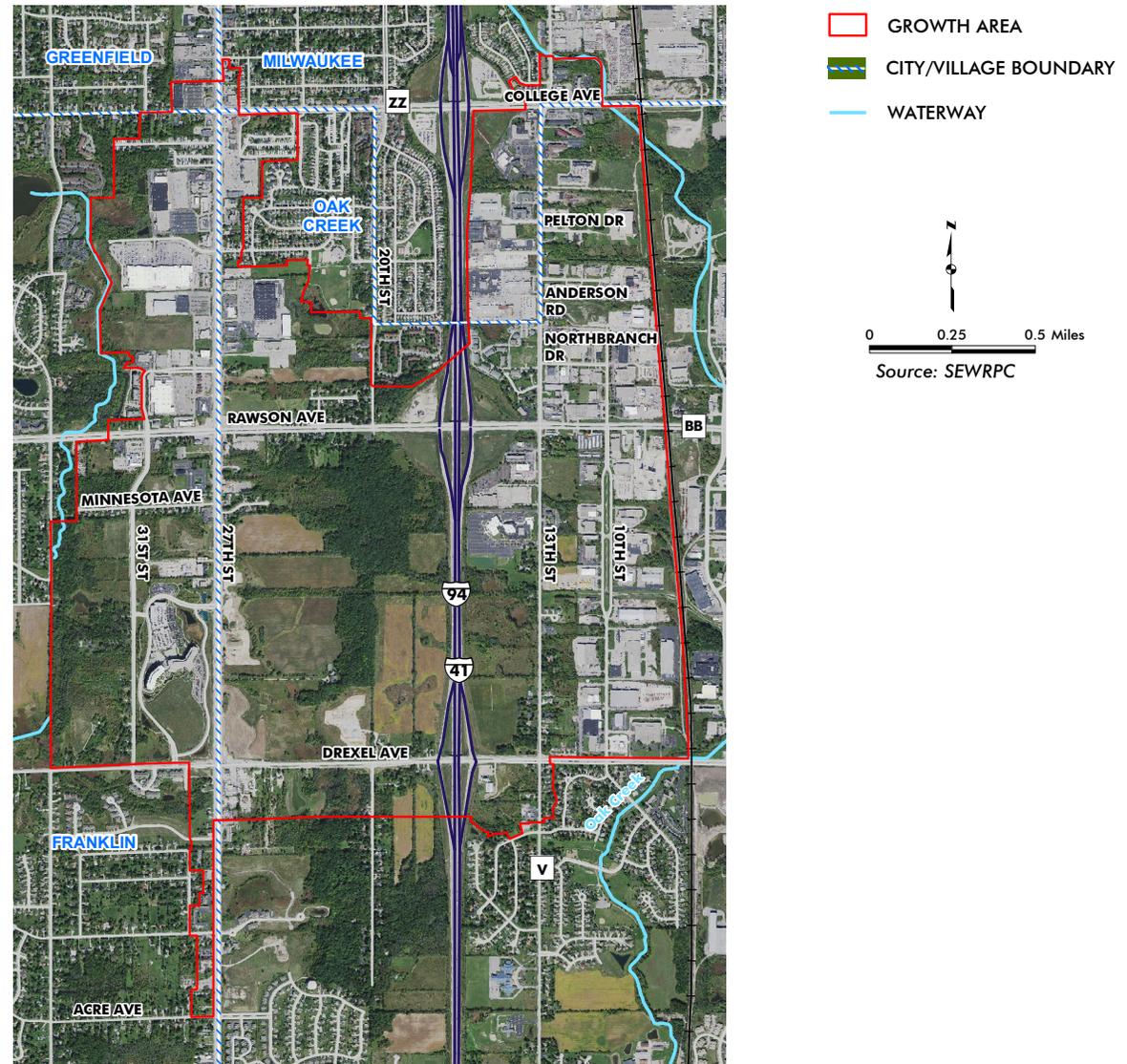
The 13th/27th Street Area will become a regional destination featuring high-value mixed-use corridors containing uses that cater to visitors while also creating a desirable atmosphere to work and live near the Airport

### KEY CONSIDERATIONS

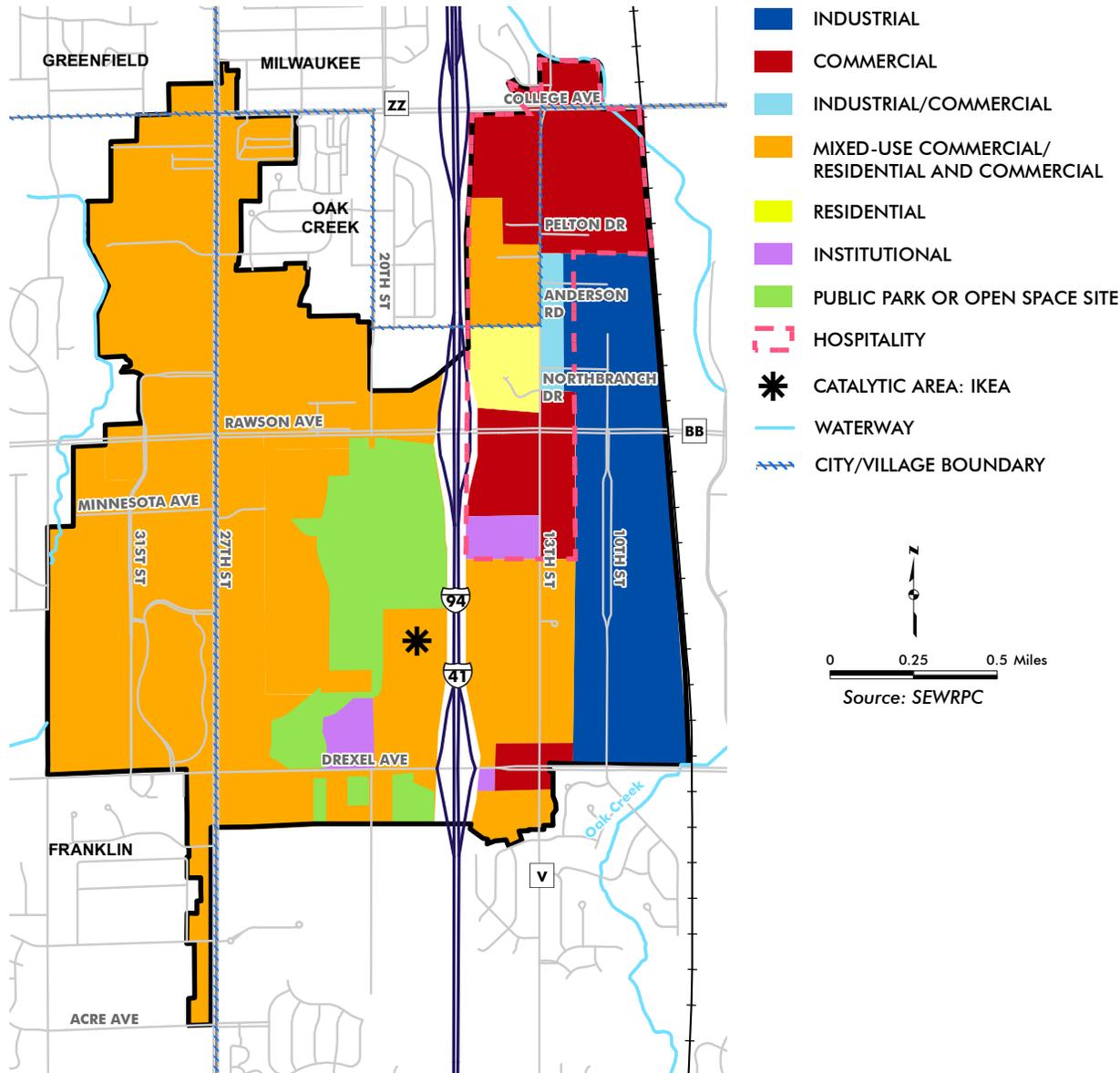
The 13th/27th Street Growth Area is located outside of the Primary Impact Area in the Cities of Franklin, Greenfield, Oak Creek, and Milwaukee. The Growth Area, bisected by I-94/41, provides access to the interstate through interchanges at College, Rawson, and Drexel Avenues. Each of these three arterial streets plays an important role in Aerotropolis Milwaukee. College Avenue, via Howell Avenue, serves as the southern gateway into MKE. Drexel Avenue is envisioned to become the next destination for high-value retail and mixed-use development. All three streets also provide vital access to the industrial uses in the 13th/27th Street and MKE South Industrial Areas. Map 3.10 shows an aerial photo of the 13th/27th Street Area.

The 13th/27th Street Area contains a mix of urbanized development, located between College and Rawson Avenues, and suburban and rural density development south of Rawson Avenue. Existing uses along 13th Street and 27th Street differ greatly. While 27th Street contains the Northwestern Mutual Campus and several suburban-style retail establishments, much of the 27th Street corridor remains undeveloped.

Map 3.10  
Existing 13th/27th Street Area



**Map 3.11**  
**Recommended Land Use Pattern: 13th/27th Street Area**



In contrast, the 13th Street corridor is mostly developed and contains a vast array of uses, including the second largest cluster of hospitality uses within the Aerotropolis Planning Area, the Northbranch Industrial Park,<sup>20</sup> and several scattered pockets of industrial, institutional, commercial, and residential uses.

Opportunities to redevelop underutilized or incompatible uses exist throughout the 13th/27th Street Area, but are mostly contained to the 13th and 27th Street corridors, between College and Rawson Avenues, and areas within the Northbranch Industrial Park. Large parcels of vacant land are located along 13th Street and 27th Street, between Rawson and Drexel Avenues, but may have natural limitations to development.<sup>21</sup> The recommended future land use pattern for the 13th/27th Street Area is shown on Map 3.11.

<sup>20</sup> The MKE Aerotropolis Development Plan uses the Canadian Pacific Railway, which bisects the Northbranch Industrial Park, as the boundary between the MKE South Industrial Area and the 13th/27th Street Area. Recommendations for the western portion of the Northbranch Industrial Park are included in the 13th/27th Street Area. Recommendations for the eastern portion are included in the MKE South Industrial Area presented earlier in this chapter.

<sup>21</sup> See Map 2.9 and Map 2.11 in Chapter 2 for more information regarding the natural limitations to development that impact the 13th/27th Street Area.

## RECOMMENDATIONS

### Overall Recommendations

- Promote higher-density land uses that increase the number of jobs and households per acre to support the nearby hospitality and retail clusters. These uses include higher-density retail, professional office, and mixed-use development with first-floor commercial uses and multifamily housing above.
- The Cities of Franklin, Milwaukee, and Oak Creek should consider encouraging the redevelopment of underutilized or low-density parcels or parcels that do not contain aerotropolis-supporting land uses. The communities should also consider the potential to combine undeveloped or underutilized parcels to form larger parcels to allow for larger-scale development or redevelopment to increase the intensity of airport-related uses and the value of development within the growth area.
- As redevelopment occurs and interest in developing aerotropolis-supporting uses increases within the 13th/27th Street Area, the communities should consider encouraging the relocation of land uses that are not aerotropolis-supporting or are incompatible with the vision for the area. The communities should work with business and property owners or tenants to determine their needs for relocating. Displaced nonaerotropolis-supporting uses should be relocated outside the Aerotropolis Growth Areas. Incompatible aerotropolis-supporting uses should be encouraged to be relocated to a more suitable location, preferably adjacent to a cluster of complementary uses within one of the six growth areas.

- Development within the 13th/27th Street Area should preserve and capitalize on the area's environmentally significant lands and natural features. The most notable of these lands is Falk Park, located in Oak Creek. Preserving natural features can improve the area's appearance; provide recreational opportunities for Airport area employees, residents, or visitors; and attract investment in the form of new development.
- High-quality design standards should be established to achieve a cohesive identity within the growth area. Design standards may also extend to development outside the area to create better visual connections to nearby destinations, such as Drexel Town Square. Established standards should incorporate modern site, building, and signage design; integrate landscaped buffers and streetscaping elements; and incorporate TOD principles to support proposed transit improvements. Improvements in the growth area's appearance can lead to investment within the area.
- Continue to build on the existing transportation network by strengthening connections between the 13th/27th Street Area, MKE, the Layton Town Center Area, Drexel Town Square, and Downtown Milwaukee. This can be achieved by implementing the transportation recommendations presented in Chapter 4. Key improvements in the area include improving and expanding local transit service, adding bicycle and pedestrian facilities, and preserving and enhancing existing freight routes.
- The street grid should be completed as opportunities present themselves.

Completing the street grid should be pursued in areas containing expansive underutilized or vacant industrial lands that are targeted for future development. This will improve access to redevelopment sites and allow large parcels to be divided into dimensions that are more conducive for desired development.

### Recommendations for the 13th Street Corridor

The 13th Street corridor should become a high-value hospitality and mixed-use corridor that complements the Layton Town Center Area and the emerging Drexel Avenue retail corridor. The Cities of Oak Creek and Milwaukee should work to increase hospitality-oriented uses between College and Rawson Avenues, focusing on serving air and Interstate travelers. To attract and grow its client base, the corridor should feature a dense and walkable array of hospitality-oriented development and other complementary neighborhood-oriented retail and service establishments. Hospitality-oriented development that features desirable amenities similar to those provided by hotels in Downtown Milwaukee, such as meeting and banquet space, can increase visitors' interest in staying in Airport area hotels. The corridor should contain an assortment of businesses such as lodging, restaurants, salons, dry cleaners, a print and ship center, and convenience stores.

The Cities of Oak Creek and Milwaukee should also explore placing higher-density mixed uses, with first-floor commercial uses and multifamily units above, and professional office space along the corridor. These uses will help increase the number of jobs and households per acre within the growth area and will support the proposed nearby hospitality and retail uses.

Development near the intersection of 13th Street and Drexel Avenue should capitalize on its position adjacent to I-94/41 and between major nearby employment and retail areas. As the first dense development within the immediate Airport area that is visible to northbound traffic on I-94/41, development near the intersection can set the scene for visitors to Oak Creek's major employment and retail areas and the overall Airport area. The City should consider planned unit development (PUD) provisions within the area to take advantage of the contiguous expanse of developable land. PUD provisions can enable coordinated site planning, allowing for latitude in the location and type of structures and for a mixture of compatible residential, commercial, institutional, and open space uses. To enhance the value and appearance of the corridor, any new development at this location should incorporate TOD principles and be designed to integrate with the area's environmentally significant lands and natural features.

Creating appropriate clustering and logical transitions between land use clusters along the 13th Street Corridor may improve the appearance and functionality of the corridor. The Cities of Oak Creek and Milwaukee should continue to encourage the development of hospitality-oriented uses, neighborhood-commercial uses, and professional office space along 13th Street while encouraging growth of industrial uses along 10th Street. Incompatible uses should be addressed through relocation, redevelopment, buffering, and screening. As the corridor becomes more pedestrian-oriented, some existing industrial and transportation-oriented uses may be better suited within the industrial park or in other Aerotropolis Growth Areas to minimize potential pedestrian and freight traffic conflicts and preserve the rapid movement of goods.

To achieve a lively hospitality and mixed-use corridor, visitors lodging along the corridor should be able to travel comfortably between its different businesses on foot, without having to rely on a vehicle. To achieve this, all development should be arranged and oriented to incorporate walkways and pedestrian amenities connecting the various uses. Other improvements along 13th Street should incorporate pedestrian-friendly elements such as street furniture, landscaping, pedestrian islands, and wider sidewalks.

Examples of aerotropolis-supporting land uses that will enhance the 13th Street Corridor include the following:

- Entertainment and hospitality uses
- Mixed-use commercial and residential
- Mixed-use commercial (office, retail, and service)
- Office campus
- Professional office
- Flex/virtual office
- Retail/service establishment
- Higher-density residential



## Recommendations for the Northbranch Industrial Park Area

The Northbranch Industrial Park should continue to be promoted for its excellent access to I-94, MKE, and Downtown Milwaukee. Although most of the parcels have been developed, the City of Oak Creek should encourage the redevelopment of underutilized parcels throughout the park. Some of these parcels may be combined to attract more desirable aerotropolis-supporting development. Expanding uses within the Northbranch Industrial Park from the 10th Street corridor westward to the frontage of 13th Street should be avoided in an effort to discourage the visibility of storage yards and the creation of secondary access points outside the park. Existing development of this nature should be addressed via attractive buffering and screening to reduce impacts on proposed uses along 13th Street.

Opportunities to expand the industrial park should be explored, including potentially extending 10th Street to Anderson Road, which would provide additional access to underutilized and vacant parcels located to the north of the park. This extension may also reduce the amount of freight traffic turning onto 13th Street from Anderson Road.

The Cities of Oak Creek and Milwaukee should collaborate to enhance the appearance and visibility of the Northbranch Industrial Park area. Design guidelines that incorporate streetscaping treatments should be developed and applied to industrial development throughout the area, especially at entryways and transition points between different uses. Streetscaping treatments should include signage at entrances to the Northbranch Industrial Park and consistent buffers and attractive landscaping along the park's edges, especially along 13th Street and Rawson and Drexel Avenues. The

Northbranch Industrial Park does not currently have a campus-like atmosphere and instead resembles scattered development, resulting in a lower-quality, lower-value appearance for the park and the surrounding area. Design guidelines and streetscaping treatments can unify the area, improve its visibility, contribute to increasing interest in developing the area as an airport-oriented industrial park, and promote higher-value, aerotropolis-supporting development throughout the growth area.

The City of Oak Creek should also consider restoring the waterway within the 10th Street median. Removing the concrete channel and allowing the waterway to function naturally can create a recreational amenity within the Northbranch Industrial Park. Naturalizing the waterway would improve stormwater management within the area, which may have larger beneficial impacts to the City.

Examples of aerotropolis-supporting land uses that will support the vision for the Northbranch Industrial Park area include the following:

- Logistics park
- Industrial park
- Flex tech
- Just-in-time manufacturing
- Maintenance, repair and operations facility (MRO)
- Passenger transportation services
- Perishable goods storage facility
- Industrial supportive services
- Bonded warehouse district
- Distribution center

## Recommendations for the 27th Street Corridor

With the recent addition of the Drexel Avenue/I-94 interchange, the proposed IKEA,<sup>22</sup> and the nearby Drexel Town Square, the 27th Street Corridor continues to grow into a regional retail destination and desirable place for Airport area workers to live. The 27th Street Corridor is shared by the Cities of Franklin, Greenfield, Milwaukee, and Oak Creek. These communities should consider partnering to identify and implement detailed infrastructure improvements, land uses, and design guidelines that will capitalize on and support recent investments in the corridor.

To achieve the vision for the 27th Street corridor, the corridor's communities should continue to encourage a mix of land uses. Desirable aerotropolis-supporting land uses for the corridor include high-value and higher-density retail and services, professional office, multifamily, and mixed-use with first-floor retail or professional office and residential above. Land uses should support the need to increase the number of jobs and households per acre along the corridor, while respecting each community's preferences for the appearance and character for the corridor.

Each community along the corridor is encouraged to seek out infill and redevelopment opportunities. Incompatible uses, especially those surrounding major intersections, should be identified for redevelopment and replaced with noteworthy higher-density development that will set the tone for the corridor. Infill development is especially important between College and Rawson Avenues and within the Northwestern Mutual Campus. Between College and Rawson Avenues, the 27th Street corridor is dominated

<sup>22</sup> See the section entitled "Catalytic Aerotropolis Area: IKEA" found later in this chapter for more information on the proposed IKEA project.

by big-box retail stores and restaurants, but lacks supporting uses such as nearby residential and employment centers that would allow the corridor to become livelier and more economically stable. While future infill development within the Northwestern Mutual Campus should primarily consist of professional office space, supportive commercial uses such as cafés, eateries, and convenience stores may be encouraged in a mixed-use capacity.

To enhance the value and appearance of the corridor, any new development along the corridor should incorporate high-quality design standards



and TOD principles, and be designed to integrate with the area's environmentally significant lands and natural features. Adequate buffering and screening should be provided between adjacent neighborhoods and the corridor. Pedestrian- and transit-friendly elements, such as sidewalks, street furniture, landscaping, and pedestrian islands, should also be incorporated throughout the corridor to foster better connections between the corridor and surrounding residential areas. In addition, preservation of Falk Park is strongly encouraged.

Examples of aerotropolis-supporting land uses that will enhance the 27th Street corridor include the following:

- Retail/service establishment
- Mixed-use commercial and residential
- Mixed-use commercial (office, retail, and service)
- Office campus
- Professional office
- Flex/virtual office
- Higher-density residential

#### **Catalytic Aerotropolis Area: IKEA**

IKEA, a major retailer, plans to develop a store on 29 acres of land northwest of the Drexel Avenue and I-94/41 interchange in the City of Oak Creek. The proposed store is expected to be a regional destination and may stimulate and support other aerotropolis-supporting uses such as hospitality, entertainment, and retail within the 13th/27th Street Area and greater Aerotropolis Milwaukee Area. IKEA plans to open the new store in the summer of 2018 and employ approximately 250 people.

#### **Suggested Comprehensive Plan Changes**

The MKE Aerotropolis Development Plan encourages the Cities of Franklin, Greenfield, Milwaukee, and Oak Creek to consider incorporating recommendations made for the 13th/27th Street Area into their comprehensive plans during future plan updates. The recommendations for the 13th/27th Street Area are consistent with the City of Greenfield Comprehensive Plan and the City of Milwaukee Southeast Side Area Plan. The following summarizes the recommendations that differ from recommendations in the City of Franklin Comprehensive Plan and the City of Oak Creek Comprehensive Plan:

##### **City of Franklin Comprehensive Plan**

- Consider allowing mixed uses along 27th Street north of Rawson Avenue, instead of commercial uses only.
- Consider allowing mixed-use development between Minnesota and Drexel Avenues, instead of restricting the use to professional office.

##### **City of Oak Creek Comprehensive Plan**

- Consider hospitality-oriented commercial uses along Pelton Drive, east of 13th Street, instead of industrial uses.
- Consider allowing mixed uses south of Rawson Avenue, just east of 27th Street, instead of single-family residential uses.

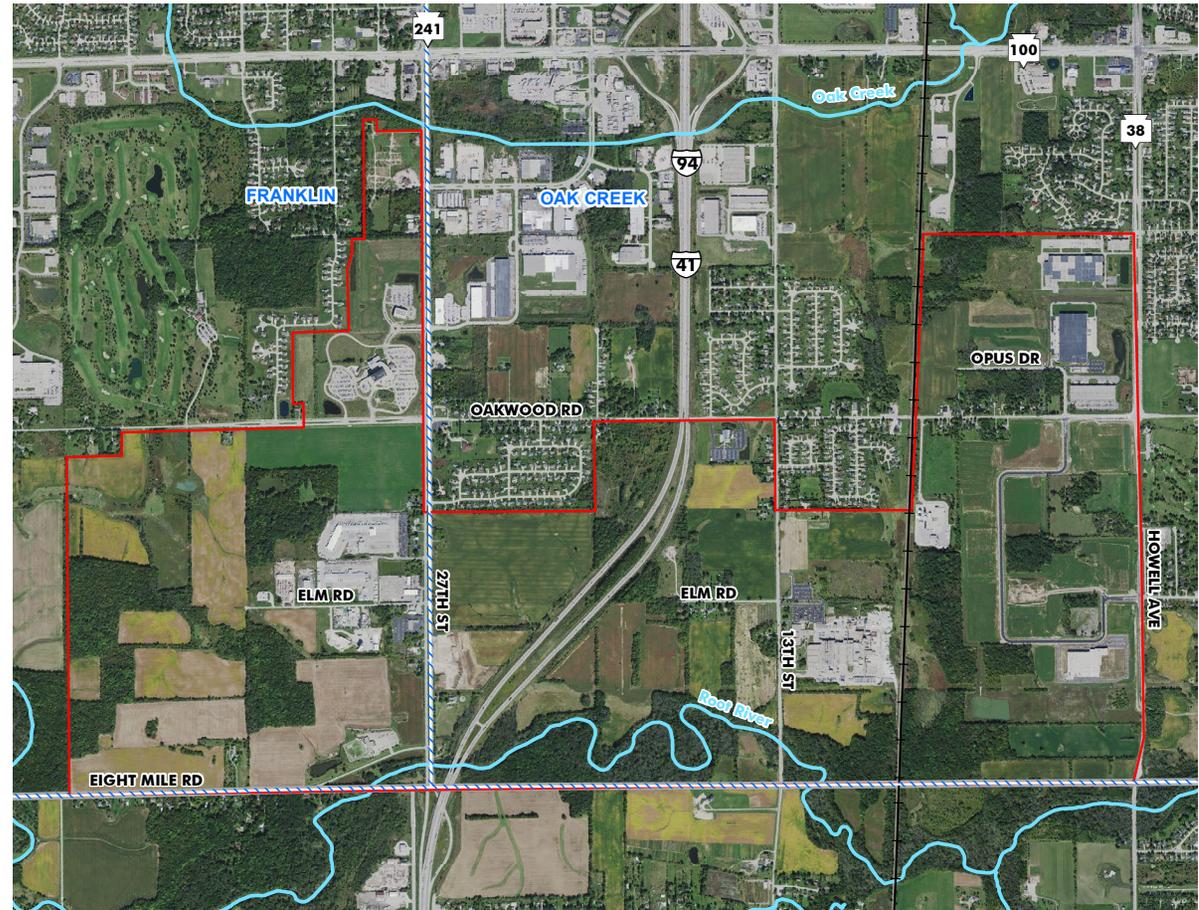
## OAKWOOD ROAD AREA

The Oakwood Road Area will become the principal Aerotropolis Milwaukee site for office and light manufacturing space, supported by medical services, higher-density mixed-use commercial/residential development, and an abundance of natural and recreational amenities

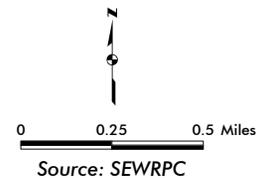
### KEY CONSIDERATIONS

The Oakwood Road Area is located outside the Primary Impact Area along the southern Milwaukee County boundary. The area includes portions of the Cities of Franklin and Oak Creek and is bisected by I-94/41. Notable existing development includes the Wheaton Franciscan Healthcare Franklin Campus, the OakView Business Park, and the Oakwood Crossing Business Park. The Wheaton Franciscan Campus, located along 27th Street, contains a 188,000 sq. ft. hospital, a 65,000 sq. ft. medical office building, and an additional 35 acres to accommodate future ancillary medical office space. The two business parks are located west of Howell Avenue in Oak Creek. The 85-acre Oakwood Crossing contains a large distribution center, headquarters for a manufacturing company, and a 51-acre vacant site. As of 2016, the 220-acre OakView Business Park, established in 2014, has approximately 25 percent of its parcels sold and development within the business park has begun. Other developments in the Oakwood Road Area include scattered pockets of residential uses and a cluster of industrial and freight-oriented uses along Elm Road. Map 3.12 shows an aerial photo of the Oakwood Road Area.

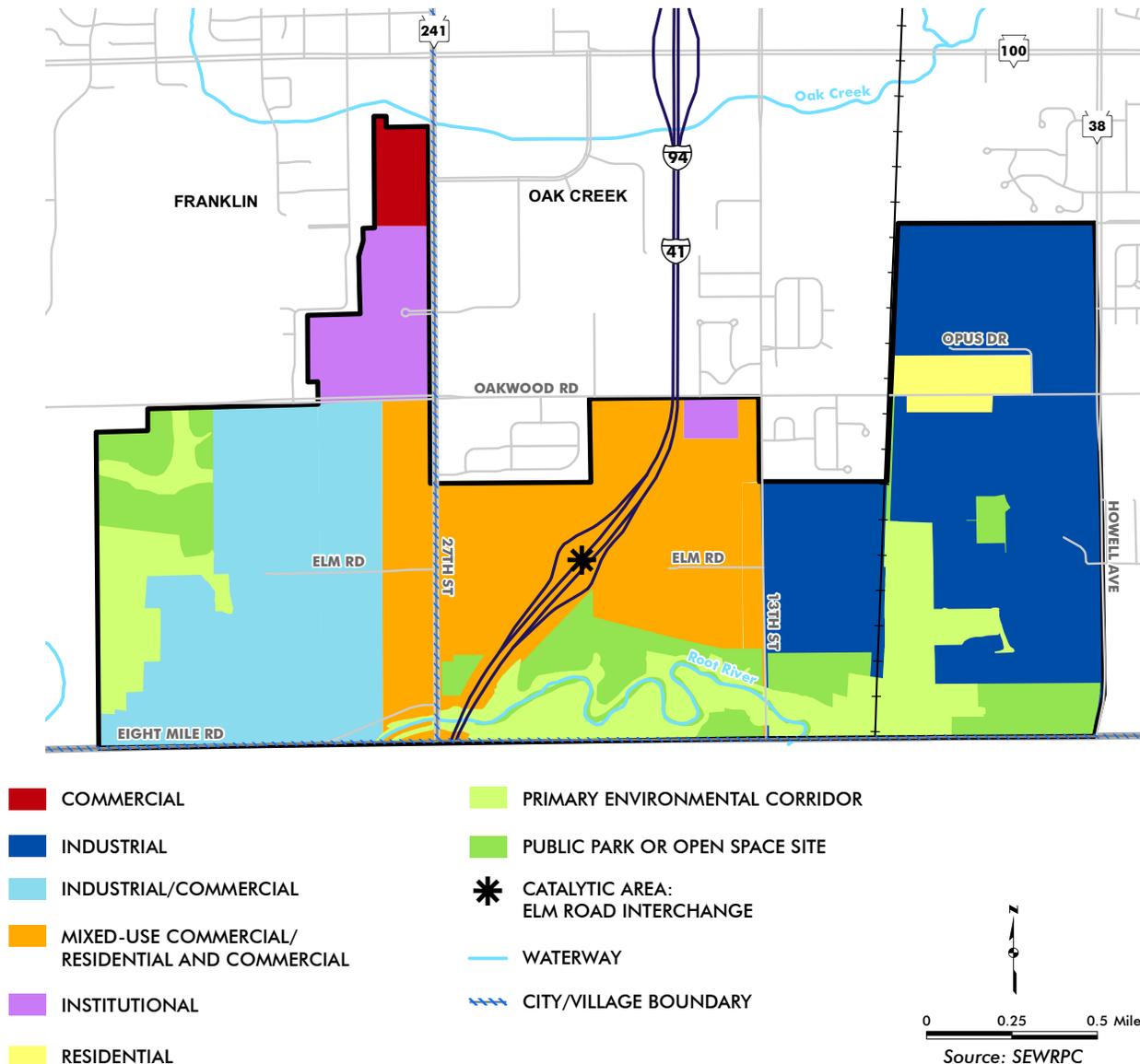
**Map 3.12**  
Existing Oakwood Road Area



- GROWTH AREA
- CITY/VILLAGE BOUNDARY
- WATERWAY



**Map 3.13**  
**Recommended Land Use Pattern: Oakwood Road Area**



The greatest assets within the Oakwood Road Area are the amount of contiguous developable land available, its lack of FAA building height restrictions, and its abundance of natural amenities associated with the Root River.

## RECOMMENDATIONS

The recommended future land use pattern for the Oakwood Road Area is shown on Map 3.13.

### Overall Recommendations

- Create a strong multimodal transportation network throughout the Oakwood Road Area to help attract development along the 27th Street corridor and existing industrial areas. Detailed transportation improvements proposed for Aerotropolis Milwaukee are discussed in Chapter 4.
- Consider establishing a partnership between the City of Oak Creek and the City of Franklin to develop and adopt design standards to create a cohesive and attractive multi-jurisdictional Aerotropolis Growth Area with a focused effort on 27th Street, which serves as a shared retail corridor for the two cities.
- Capitalize on the Oakwood Road Area's position as the south gateway into Milwaukee County, ensuring attractive design standards are used for development visible from the interstate.
- Promote the Oakwood Road Area, highlighting its unique position as the last large-scale contiguous grouping of vacant developable land adjacent to an interstate in Milwaukee County.

- Consider establishing a multi-jurisdictional tax incremental district to fund projects that will help to attract more aerotropolis-supporting development into the area.
- Preserve natural resources as future development is pursued in the Oakwood Road Area. Design of industrial parks and commercial areas should highlight the area’s natural amenities. This can be achieved through environmentally conscious site planning such as incorporating native plants into landscaping, establishing buffers between natural areas and development, and integrating natural stormwater management systems. The OakView Business Park’s incorporation of Mardeand Park, an area identified by SEWRPC as a secondary environmental corridor, serves as an example of such environmentally conscious site planning.

### **Recommendations for the Wheaton Franciscan Medical Campus**

The City of Franklin should continue to encourage the growth of the Wheaton Franciscan Hospital and Medical Campus. While the current campus is not directly aerotropolis-supporting, these medical facilities play an important role in the economy and well-being of residents in the area. Should the hospital expand and offer a wider-range of specialized services, the hospital could become more directly aerotropolis-supporting by operating as a destination for medical tourism. Medical tourism involves patients travelling across state and/or national borders to obtain specialized, high-quality, and/or low-cost health care. Other aerotropolis-supporting uses considered desirable for the campus include bio-medical manufacturing (pharmaceuticals, medical devices, and electronics) and medical research facilities.

Areas north of the medical campus, along 27th Street, should be considered for the development of neighborhood-supporting retail. Currently, there are no retail or service establishments within the Oakwood Road Area and very few retail or service establishments exist nearby. With over 130 existing office and industrial businesses located within a two-mile radius of the Oakwood Road Area, the need for a variety of restaurants that are conveniently accessible to nearby workers will continue to grow as new businesses develop within the area.

Examples of aerotropolis-supporting land uses that will enhance the Wheaton Franciscan Medical Campus include the following:

- Research/technology park
- Medical-related small-scale manufacturing
- Professional office
- Neighborhood retail

### **Recommendations for the Industrial Areas East of 13th Street**

The City of Oak Creek should continue to focus on attracting new aerotropolis-supporting development into Oakwood Crossing and the OakView Business Park before considering creating additional business parks near the Oakwood Road Area. The City should continue to promote Oakwood Crossing and the OakView Business Park as ideal places for airport-related manufacturing, distribution, and research and development.

Heavier industrial uses may continue to be more appropriate in areas surrounding the CP rail line, especially north and south of the PPG Industries property. Substantial buffering should be used between industrial uses and nearby or adjacent residential and environmentally sensitive lands.

Examples of aerotropolis-supporting land uses that will enhance the industrial areas east of 13th Street include the following:

- Industrial campus
- Manufacturing
- Research/technology park
- Flow-through/e-fulfillment facility
- Flex/tech
- Industrial supportive services
- Open and public space

### **Recommendations for the Mixed-use Areas Between 13th and 27th Streets**

The Wisconsin Department of Transportation’s (WisDOT) proposed Elm Road interchange project<sup>23</sup> would replace the existing 27th Street interchange and add an extension of Elm Road from the new interchange to 27th Street. The City of Oak Creek should consider working with WisDOT to extend Elm Road east of the proposed interchange to 13th Street and possibly to Howell Avenue. This easterly extension could be either north or south of the existing Elm Road alignment to avoid existing homes.

The proposed Elm Road interchange may initiate development of vacant lands located along the 27th Street corridor and between 27th Street and the CP rail line. Mixed-use buildings should be encouraged along the Elm Road extension and 27th Street, with limited highway-oriented commercial development. Highway-oriented commercial development includes uses such as lodging, gas stations, and restaurants. Vacant land further from Elm Road, 27th Street, and 13th Street should be devoted to higher-density

<sup>23</sup> Discussed in greater detail later in this chapter in a section entitled “Catalytic Aerotropolis Area: Elm Road Interchange Project” and in the “Streets and Highways” section in Chapter 4.



mixed and professional office uses. Future development can achieve higher floor-to-area ratios here due to the lack of FAA development height restrictions. Higher-density mixed-use buildings in this area, containing first-floor retail or office and residential above, should be encouraged. Residential development with higher residents per acre in this area will further support the neighboring employment centers and the growth of retail along Drexel Avenue. Any development occurring in this area should be clustered in a manner that creates an appropriate buffer between residential, industrial, and commercial development. Development should also incorporate higher-quality design standards and landscaping elements that provide natural transitions between environmentally significant lands and urban development.

Examples of aerotropolis-supporting land uses that will support the vision for the mixed-use area between 13th and 27th Street include the following:

- Retail/service establishment
- Mixed-use commercial and residential
- Highway-oriented lodging
- Flex/virtual office
- Professional office
- Office campus
- Open and public space

### **Recommendations for the Industrial/Commercial Area West of 27th Street**

Areas west of 27th Street contain a significant amount of developable land that would have exceptional interstate access via the proposed Elm Road interchange. The City of Franklin should encourage the development of a business park west of 27th Street, with uses that contain a higher jobs per acre ratio. The business park could be designed as a campus-like setting that integrates landscaping elements that mimic flora found in the surrounding environmentally significant lands along the Root River.

Along 27th Street, the City should encourage the development of mixed-use buildings, containing first-floor retail with office space above, with a limited amount of highway-oriented uses. These uses will create an appropriate buffer between the proposed business park and mixed-use development (commercial and residential uses) suggested for the east side of 27th Street.

Examples of aerotropolis-supporting land uses that will support the vision for the industrial/commercial area west of 27th Street include the following:

- Business park
- Mixed-use manufacturing/professional office
- Manufacturing
- Flex/virtual office
- Professional office
- Open and public space

### Map 3.14 Elm Road Interchange



Source: WisDOT

### Catalytic Aerotropolis Area: Elm Road Interchange Project

As part of the I-94 North-South Freeway Project,<sup>24</sup> WisDOT has proposed a new interchange at Elm Road and an extension of Elm Road east of 27th Street. The project also includes a realignment of I-94 between Oakwood Road and the Milwaukee-Racine County Line and the removal of the existing 27th Street interchange. As of 2016, the two-year construction project is anticipated to begin in 2018, but is subject to change depending on funding included in the 2017-2019 State budget. The proposed alignment for the Elm Road interchange is shown on Map 3.14.

The configuration of the new interchange may create more opportunities for development. Unlike the existing 27th Street interchange, future development around the proposed interchange would not be constrained by the need to accommodate the environmentally significant lands found along the Root River. This may allow for more development that is visible from the interstate. The currently proposed alignment of the interchange and Elm Road extension will also provide direct access to the proposed Franklin Business Park located west of 27th Street.

### Suggested Comprehensive Plan Changes

The MKE Aerotropolis Development Plan encourages the Cities of Franklin and Oak Creek to consider incorporating recommendations made for the Oakwood Road Area into their comprehensive plans during future plan updates. The following summarizes the recommendations that differ from recommendations found within the current City of Franklin and City of Oak Creek comprehensive plans:

#### City of Franklin Comprehensive Plan

- Consider institutional uses that are complementary to the hospital near the Wheaton Franciscan Medical Campus, instead of mixed uses.
- Consider land along 27th Street, between Ryan Road and the Wheaton Franciscan Medical Campus, for commercial uses, instead of mixed uses.
- Consider changing the land use designation of the land located south of Oakwood Road, and non-environmentally significant land east of the Root River, from mixed-use to business park.

#### City of Oak Creek Comprehensive Plan

- Encourage planned mixed-use development in vacant areas south of Oakwood Road between 27th and 13th Streets, instead of single-family residential and industrial.
- Retain existing residential uses along Oakwood Road between the CP rail line and Opus Drive.

<sup>24</sup> See the section in Chapter 4 entitled "Streets and Highways" for more information on the I-94 North-South Freeway Project.

## LOOMIS ROAD AREA

The Loomis Road Area will feature higher-value mixed-use, commercial, and light industrial development, taking advantage of easy access to the Airport, high visibility from the interstate, and adjacent desirable neighborhoods

### KEY CONSIDERATIONS

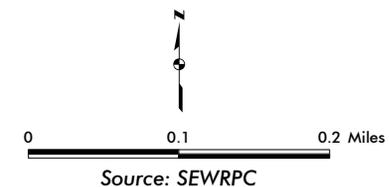
The Loomis Road Area is located outside the Primary Impact Area and within the eastern portion of the City of Greenfield. The area is bisected by the Loomis Road interchange with I-894/43/41 and includes a portion of Loomis Road (WIS 36) and Layton Avenue. Both corridors are composed of a mix of land uses, changing design standards, and setbacks. Land uses along the Loomis Road corridor include low-density commercial, light industrial space, and a small multifamily residential development located south of the interchange. The Layton Avenue corridor contains a small cluster of commercial uses and several single-family homes on large, rural lots. Underutilized sites and vacant parcels can be found throughout the Loomis Road Area, but are more concentrated around the interchange. Map 3.15 shows an aerial photo of the Loomis Road Area.

The greatest asset to the Loomis Road Area is the Former Stadium Freeway Interchange Site and existing park-ride lot located northeast of the existing Loomis Road interchange. WisDOT owns the 21-acre site that was once intended to be used for the now decommissioned Stadium Freeway Interchange Project. Approximately five acres of the site have been converted into the

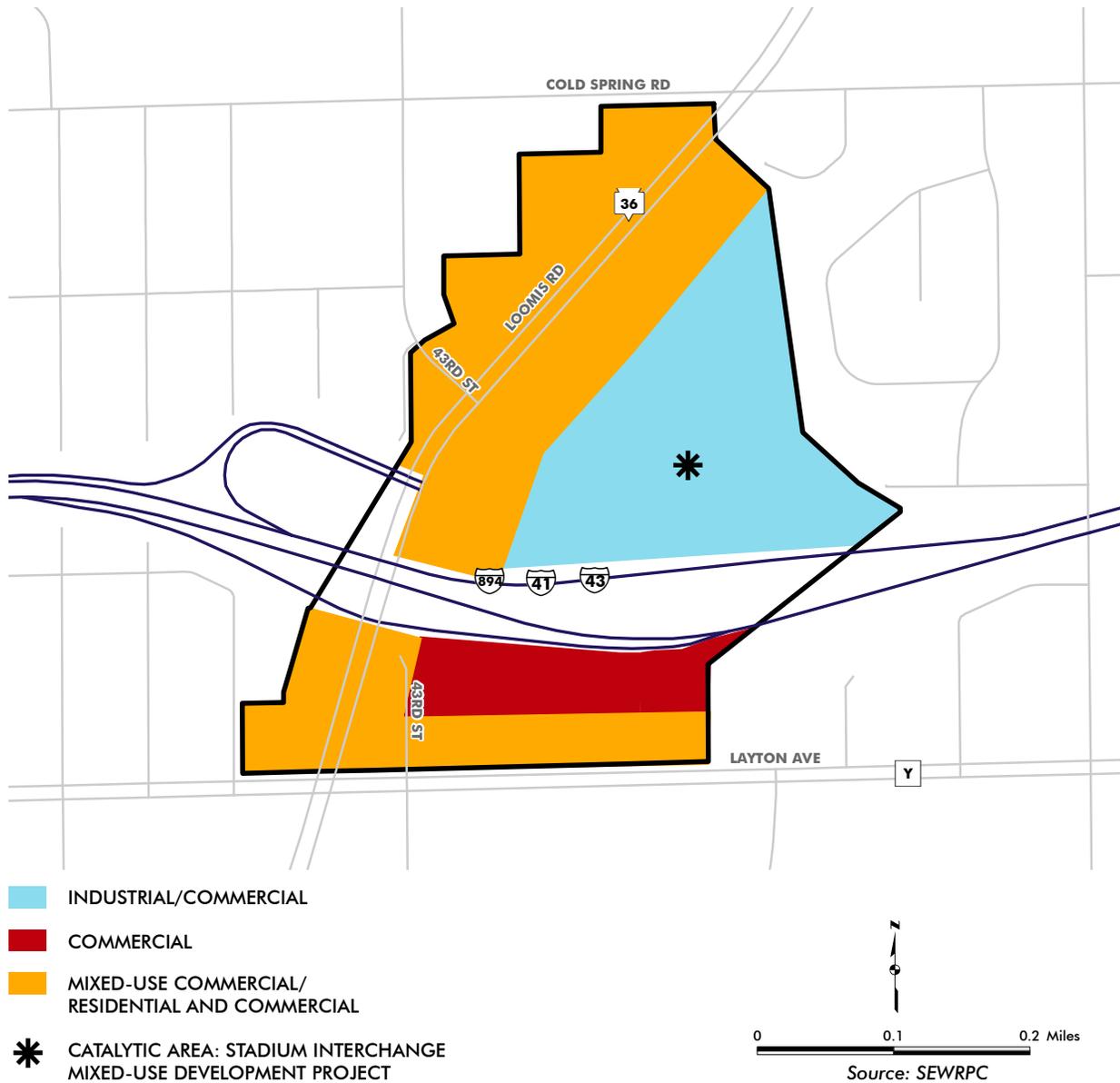
Map 3.15  
Existing Loomis Road Area



□ GROWTH AREA



**Map 3.16**  
**Recommended Land Use Pattern: Loomis Road Area**



Loomis Park-Ride Lot. The City of Greenfield has been working with WisDOT to purchase the site and remove the remaining interchange ramps to make way for future development opportunities that can capitalize on the site’s visibility from the interstate.

Another asset is the Loomis Road Area’s position relative to MKE. Layton Avenue and I-894/43/41 provide direct routes to the Airport for motorists, making the Loomis Road Area an excellent location for businesses that rely on air travel for business. The attractiveness of this area will also be enhanced should the nearby Layton Town Center Area be developed into a destination for hospitality and entertainment.

### RECOMMENDATIONS

The recommended future land use pattern for the Loomis Road Area is shown on Map 3.16.

#### Overall Recommendations

- Incorporate TOD principles into all development along the Loomis Road and Layton Avenue corridors to take advantage of existing and proposed transit improvements. This includes locating compact, higher-density, mixed-use, pedestrian-scale development around transit stops and within proximity of the Loomis Park-Ride Lot.
- Utilize higher-quality building and streetscape design to make the Loomis Road Area a noteworthy gateway to the City of Greenfield and an attractive place for redevelopment.
- Improve the continuity of bicycle and pedestrian amenities along Layton Avenue and Loomis Road by constructing sidewalks and incorporating bicycle facilities where

needed. Providing connections between the park-ride lot, proposed commercial development, and established community amenities like the Greenfield Farmers Market at nearby Konkel Park is important to developing the Loomis Road Area.

### **Recommendations for the Loomis Road and Layton Avenue Corridors**

WisDOT should work with the City of Greenfield to re-align 43rd Street and relocate the intersection of 43rd Street and Loomis Road near the midpoint between the existing 43rd Street and Cold Spring Road intersections with Loomis Road. This proposed re-alignment would address safety issues and improve access to the former Stadium Freeway Interchange Site. 43rd Street, which becomes Miller Park Way north of Lincoln Avenue, is commonly used as the southern access road to Miller Park, WIS 175, and the East-West Freeway (I-94). The proximity of the existing 43rd Street and Loomis Road intersection to the I-894/43/41 westbound on-ramp is a safety concern. Traffic is often backed-up along Loomis Road and 43rd Street, especially on Brewer game days.

Increasing employment opportunities for the City of Greenfield should be considered a priority during the review of any proposed projects within the Loomis Road Area. Historically known as a bedroom community, job opportunities within the City are limited. The City can achieve a higher jobs per acre ratio by encouraging the redevelopment of underutilized parcels located along Loomis Road, Layton Avenue, and I-894/43/41. The City should pursue high-value, higher-density professional office space or mixed-use developments, with office space above first-floor retail space, which will not only generate more employment opportunities for residents, but

may also contribute to an increase in business travel through MKE and a greater reliance on the proposed hospitality and entertainment options offered in the nearby Layton Town Center Area.

To achieve attractive transitions between surrounding neighborhoods and the commercially driven Loomis Road corridor, the City should consider supporting the development of mixed-use buildings, with residential uses above first-floor neighborhood retail or office space, along Loomis Road at the intersections of Cold Spring Road, 43rd Street, and Layton Avenue. Commercial retail and service uses found at these intersections should supplement existing commercial development located south of the intersection of Loomis Road and Layton Avenue.

Examples of aerotropolis-supporting land uses that will support the vision for the Layton Avenue and Loomis Road corridors include the following:

- Mixed-use commercial and residential
- Professional office
- Open and public space
- Mixed-use retail and professional office
- Retail/service establishment

### **Catalytic Aerotropolis Area: Stadium Freeway Interchange Mixed-use Development Project**

The City of Greenfield should continue to pursue the concept plan for TID #5 by collaborating with WisDOT to remove the remnants of the former Stadium Freeway Interchange from the site and transfer the ownership of land from the State to the City. In turn, the City should make efforts to acquire parcels between the interstate and the Wisconsin Bank and Trust building (located at the intersection of 43rd Street and Loomis Road) to make way for a more compact park-ride lot.

The City should consider using remaining available land within the site for professional office and mixed-use buildings. Mixed-use buildings should accommodate first-floor neighborhood-oriented retail with professional office uses above. Professional office space within the site should be marketed to national and international businesses that will benefit from the site's proximity to MKE, transit access, and nearby interstate connection. Other air-travel-dependent commercial and light industrial businesses may also be desirable.

### **Suggested Comprehensive Plan Changes**

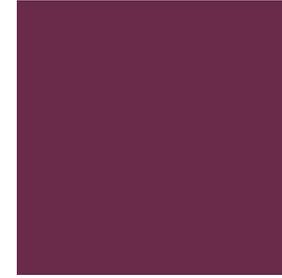
The MKE Aerotropolis Development Plan encourages the City of Greenfield to consider incorporating recommendations made for the Loomis Road Area into its comprehensive plan during future plan updates. The following summarizes the recommendations that differ from recommendations found within the current City of Greenfield Comprehensive Plan:

- Within the former Stadium Freeway Interchange Site, the City should encourage industrial and commercial uses and discourage mixed-use development containing a residential component to increase the jobs per acre ratio for the area.
- Underutilized parcels south of I-894/43/41 should capitalize on their unique visibility to the interstate and be considered for higher-density professional office use, instead of mixed-use development containing a residential component.

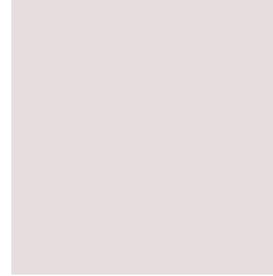
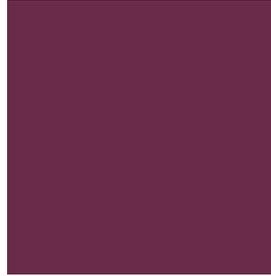


# CHAPTER 4

## Transportation Recommendations

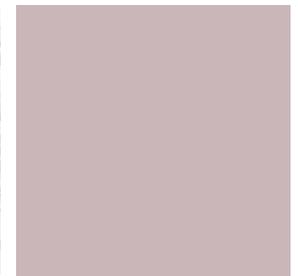


A critical component of Aerotropolis Milwaukee's success will be high-quality, multimodal transportation infrastructure and services to serve the plan's Growth Areas. The plan's transportation recommendations are designed to maximize connectivity between aerotropolis-supporting land uses. Speed, agility, and convenience are among the primary considerations of airport-oriented businesses in choosing potential development locations. Recommended transportation improvements are largely derived from VISION 2050, the long-range regional land use and transportation plan for Southeastern Wisconsin prepared by SEWRPC, and refined for the Aerotropolis Planning Area.

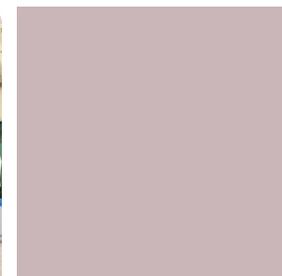


The recommended transportation system consists of the following four elements:

- Streets and highways
- Transit
- Freight transportation
- Bicycle and pedestrian



*Appendix A provides key definitions for the different types of recommended transportation investment.*



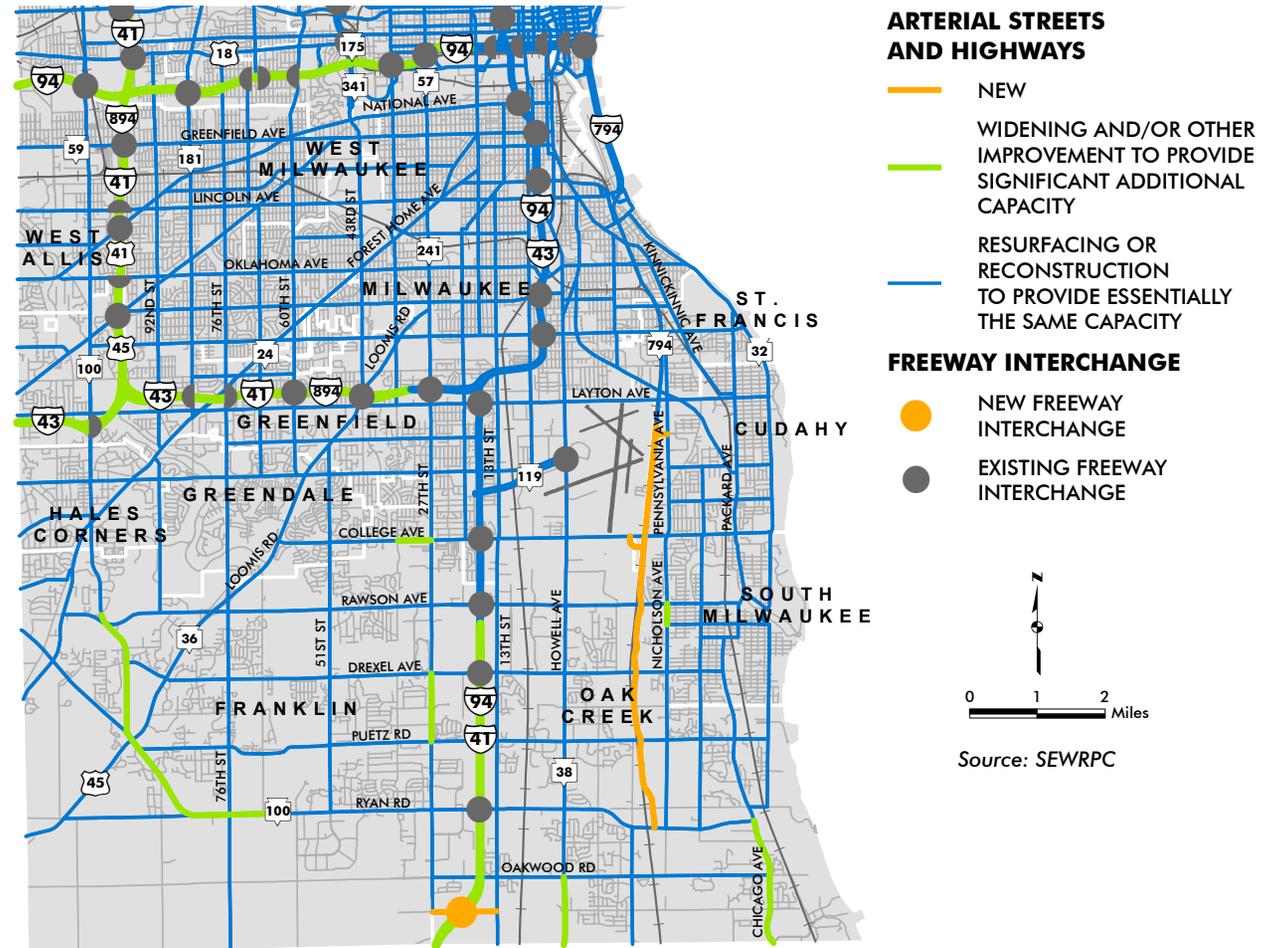
RECOMMENDATIONS

Arterial streets and highways are that portion of the total street and highway system principally intended to provide travel mobility, serving the through movement of traffic and providing transportation service between major subareas of a region and also through the region.

They include surface arterials (also referred to as standard arterials), which are major streets with primarily at-grade intersections that may also provide direct access through driveways, and freeways, which are divided arterial highways with full access control and grade separations (over- and under-passes) at all interchanges.

The recommended arterial street and highway system is shown on Map 4.1, and is largely based on the system recommended under VISION 2050. Based on expected traffic volumes, the vast majority of the arterial streets and highways in the Aerotropolis Planning Area would not require adding significant capacity (e.g., additional through traffic lanes). They are recommended to be resurfaced and reconstructed to their existing traffic carrying capacity. While these do not necessarily represent improvements to the system, ensuring that the system is kept in a state of good repair will be critical for Aerotropolis Milwaukee and the larger Southeastern Wisconsin Region as a whole.

Map 4.1  
Recommended Arterial Street and Highway System



The plan does, however, recommend several improvements that would benefit the Aerotropolis by expanding capacity through widening to provide additional through traffic lanes or constructing a new arterial. It should be noted that these improvements are designed to address an expected increase in vehicle-miles of travel over the coming decades, which is expected to occur even with improvements to other transportation modes, such as public transit and bicycling. Some of the key improvements, discussed later in this section, include:

- Capacity expansion along the I-94 North-South Freeway (including a new interchange at Elm Road)
- Capacity expansions along several surface arterials, including 27th Street and Howell Avenue
- Extension of the existing Lake Parkway (WIS 794) from Edgerton Avenue to WIS 100

In addition to arterial street and highway improvements, the plan recommends additional local roadways within the Growth Areas to improve access to properties as development occurs. For the most part, these new local streets would complete the street grid within a development. Local road improvements are identified within the recommendations for each Growth Area presented in Chapter 3.

### I-94 North-South Freeway Project

The Wisconsin Department of Transportation (WisDOT) is currently reconstructing 35 miles of the I-94 North-South corridor between Howard Avenue and the Wisconsin/Illinois State Line, including the Airport Spur (WIS 119). The I-94 North-South Freeway Project will provide safety and capacity improvements to miles of interstate roadway traversing through the Aerotropolis. The project will include capacity improvements to bring I-94/41 from 6 to 8 lanes, replacing existing pavement along the interstate, rebuilding overpasses, and relocating ramp exits to the right side of the freeway. Project improvements will integrate community-sensitive design elements, such as noise barriers, landscaping, and retaining walls, and architectural design features on bridges. This project will directly impact the Aerotropolis Planning Area by addressing capacity and safety issues along the I-94 corridor, which will support increased efficiency in the movement of freight and make the Aerotropolis area more attractive to logistics-oriented businesses.

Within the Aerotropolis Planning Area, the project involves reconstructing and reconfiguring several interchanges, as well as constructing two new interchanges. Completed interchanges include reconstruction of the Mitchell Interchange, a new interchange at Drexel Avenue, and reconstructed interchanges at Layton Avenue, College Avenue, and Rawson Avenue. The Ryan Road interchange has yet to be reconstructed and the existing half interchange at 27th Street will be replaced by a full interchange at Elm Road.



### **Elm Road Interchange**

The Elm Road interchange is identified as a catalytic project for the Oakwood Road Area, which is discussed in Chapter 3. It would provide significant economic development benefits to the Cities of Franklin and Oak Creek as they pursue development in the area. This part of the I-94 North-South Project involves removing the existing 27th Street interchange and realigning the interstate between Oakwood Road and the Milwaukee-Racine County Line to accommodate a new interchange at Elm Road, as shown on Map 4.2. The two-year construction project for the Elm Road interchange is scheduled to begin in 2018, but is subject to change depending on funding included in the 2017-2019 State budget.

An eastern extension of the existing Elm Road is proposed as part of the new Elm Road interchange. The MKE Aerotropolis Development Plan recommends the City of Oak Creek also consider working with WisDOT to pursue construction of a further extension of Elm Road east of the interchange, providing access to 13th Street to better serve the industrial growth planned along Oakwood Road. This extension could be either north or south of the existing Elm Road alignment to avoid existing homes, and could potentially extend even further east to Howell Avenue.

**Map 4.2  
Proposed Elm Road Interchange Configuration**



Source: WisDOT

## Notable Surface Arterial Improvements

As shown on Map 4.1, the plan recommends that select existing surface arterial segments in the Aerotropolis Planning Area be considered for capacity improvements. Two notable improvements include:

- **27th Street (WIS 241) between Rawson Avenue and Puetz Road.** This improvement would involve widening this segment of 27th Street in the Cities of Franklin and Oak Creek from 4 to 6 traffic lanes. This would match the current capacity of 27th Street north of Drexel Avenue. As a state trunk highway, WisDOT would be responsible for the reconstruction and improvement of this facility. The expansion would improve access to the Northwest Mutual Campus and the growing mixed-use and commercial area near the intersection of 27th Street and Drexel Avenue. In addition, although expansion is not warranted by year 2050 forecast traffic volumes, WisDOT should consider preserving the right-of-way along 27th Street between Puetz Road and Elm Road for potential widening after 2050. Planned development and the proposed Elm Road interchange may generate significant additional traffic volumes in the future, including truck traffic associated with the proposed business and industrial parks.
- **Howell Avenue (WIS 38) between Oakwood Road and the Milwaukee-Racine County Line.** This improvement would involve widening this segment of Howell Avenue in the City of Oak Creek from 2 to 4 traffic lanes when it is reconstructed. WisDOT would be responsible for the reconstruction and improvement of this state trunk highway.

The capacity improvements would serve an anticipated increase in traffic volume along the segment, which would be generated by the new Oak View Business Park, located southwest of the intersection of Oakwood Road and Howell Avenue.

## Lake Parkway (WIS 794) Extension

The Lake Parkway (WIS 794) Extension would include a six-mile extension of the existing Lake Parkway from its current end point at Edgerton Avenue to Ryan Road (WIS 100). SEWRPC studied this extension in 2012 at the request of Milwaukee County and the Cities of Cudahy, Oak Creek, St. Francis, and South Milwaukee.<sup>25</sup> Following that request, the extension was added to the previous regional transportation plan and continues to be recommended under VISION 2050. An advisory committee composed primarily of elected officials guided the 2012 study and ultimately recommended the Lake Parkway be extended to WIS 100, including a preferred alignment, which is shown on Map 4.1. The committee also recommended providing access at the following crossing roadways:

- **Layton Avenue and Edgerton Avenue.** Access would be provided by constructing a southbound on-ramp at Layton Avenue and northbound on- and off-ramps at Edgerton Avenue.
- **College Avenue.** Access would be provided by constructing an overpass with jughandle ramp access.
- **Rawson Avenue.** Access would be provided by a grade-separated interchange.

- **Drexel Avenue.** Access would be provided by a grade-separated interchange.
- **Puetz Road.** Access would be provided by a grade-separated interchange.
- **WIS 100.** Access would be provided by an at-grade intersection west of Pennsylvania Avenue.

This project would improve access from Aerotropolis Milwaukee to Downtown Milwaukee and the Port of Milwaukee, particularly benefiting the South Shore communities and serving existing and planned industrial development south and east of the Airport. It should be noted that funding has not yet been identified for constructing the Lake Parkway Extension. As a state trunk highway, the extension would be constructed by WisDOT, which has recognized the extension's benefits, but has indicated it does not have any immediate plans to construct the extension given significant funding constraints.

<sup>25</sup> Southeastern Wisconsin Regional Planning Commission. Study of a Lake Parkway (STH 794) Extension from Edgerton Avenue to STH 100 in Milwaukee County. April 2012. <http://www.sewrpc.org/SEWRPC/Transportation/LakeParkwayExtensionStudy.htm>



## Complete Streets

Complete street concepts should be considered as part of the reconstruction of any existing surface arterial roadways and the construction of any new surface arterial roadways in the Planning Area. Complete streets is a roadway design concept related to providing for the safe and convenient travel of all roadway users (of all ages and abilities) travelling by various modes (walking, bicycling, transit, or automobile) within the roadway right-of-way. Complete street features can be implemented to encourage walking and bicycling and the use of transit as alternatives to travel by automobile.

The level of complete street features implemented for a particular roadway is dependent on a number of factors, including the types of land use adjacent to the roadway (urban, suburban, or rural), the prevalence of each type of user, and the desires of the community in which the roadway is located. In urban areas, complete street features can be added to support and enhance adjacent mixed-use developments. Along arterials where transit service is provided, complete street features can include providing safe and accessible transit stops for transit users within the roadway right-of-way. Accommodations, such as sidewalks and bicycle lanes, can also be implemented to enhance bicycle and pedestrian safety. In addition, accommodations can be provided within the roadway right-of-way of lower-speed arterial roadways that enhance the adjacent mixed-use developments (e.g., plantings, trees, bike racks, benches, tables, and chairs).

## FUNDING ISSUES NEED TO BE ADDRESSED

The financial analysis prepared for VISION 2050 indicated that continuing funding levels from the past decade or so of State budgets may be adequate to fund the arterial system improvements recommended for the Region, including the improvements identified in this chapter. However, in recent State budgets, the State has chosen to provide this level of funding through bonding and the long-term sustainability of this approach has been questioned. In addition, the 2017-2019 State budget is likely to include a reduction in funding levels.

Issues have been raised regarding the ability to sustainably fund the arterial street and highway system at the regional, State, and Federal levels in the future. The Federal motor fuel tax has not changed since 1993, and the State motor fuel tax—the principal source of State transportation funding—is no longer indexed to inflation (the ability to index was repealed in 2006). Combined with improvements in motor vehicle fuel economy and increasing alternative fuel use, State and Federal motor fuel tax revenues have been declining.<sup>26</sup>

<sup>26</sup> Wisconsin Transportation Finance and Policy Commission. Keep Wisconsin Moving—Smart Investments, Measurable Results. January 2013.

## RECOMMENDATIONS

The recommended transit system within the Aerotropolis Planning Area is shown on Map 4.3, and is largely based on the system recommended under VISION 2050. VISION 2050 recommends a significant improvement and expansion of public transit in Southeastern Wisconsin, including a number of key improvements that would benefit Aerotropolis Milwaukee:

- **Rapid Transit.** Implement a rapid transit line (either bus rapid transit or light rail) connecting the Aerotropolis Planning Area and Downtown Milwaukee.
- **Commuter Transit.** Implement a commuter rail line connecting the Aerotropolis to Downtown Milwaukee and Northeastern Illinois via Racine and Kenosha, and improve and expand existing commuter bus routes.
- **Express Bus.** Increase the frequency and service hours on existing express bus routes and extend the existing MCTS Purple Line south along 27th Street.
- **Local Bus.** Increase the frequency and service hours on existing local bus services, add or extend local routes to serve planned development within the Aerotropolis Growth Areas, and implement planned City of Milwaukee streetcar lines.
- **Amtrak Hiawatha.** Increase the speed and frequency on the existing Amtrak Hiawatha passenger rail line.

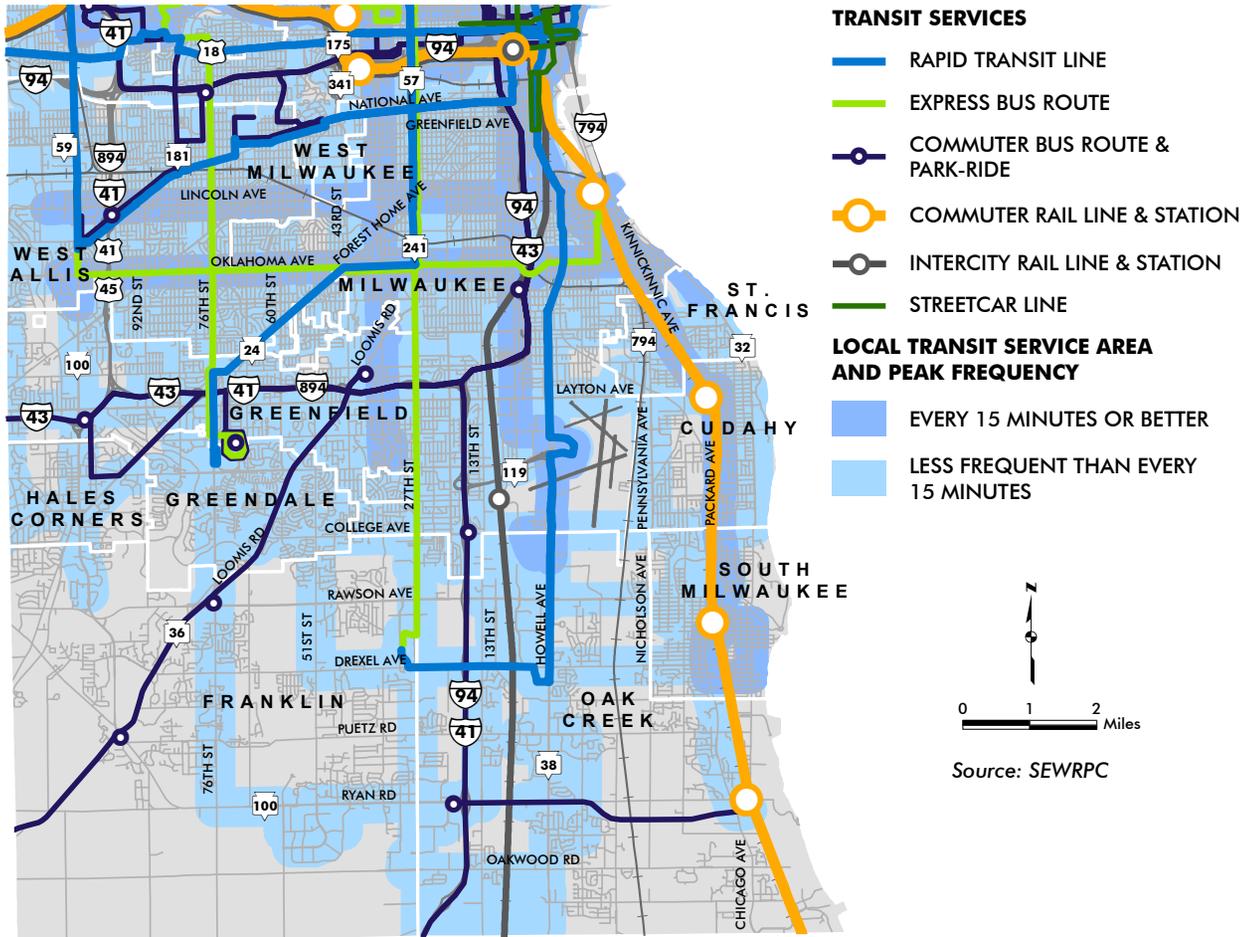
### Rapid Transit

Recommended rapid transit services would provide travel times competitive with those of an automobile on a parallel arterial roadway during congested peak periods. They could be either in the form of bus rapid transit or light rail, which have dedicated transit lanes and priority or preemption at transit signals. Stations should be spaced every one-half to one mile and be designed to maximize speed and enhance the rider experience, with features such as off-board fare payment, real-time information screens, and raised platforms. To provide attractive rapid transit services, it is important to ensure frequent service (every 15 minutes or better all day) and service during all time periods.

The primary rapid transit line recommended for the Aerotropolis Planning Area would connect the Airport Area and Downtown Milwaukee and would be part of an eight-corridor rapid transit system in the Milwaukee metro area (shown as blue lines on Map 4.3). The Downtown-Airport line would operate from Northwestern Mutual's Campus on 27th Street in Franklin to Downtown Milwaukee via the Airport, predominately along Howell Avenue and 1st Street. It would also provide a valuable connection between the Aerotropolis and the City of Milwaukee's Harbor District, a major strategic redevelopment effort centered on the Port of Milwaukee, aimed at revitalizing Milwaukee's harbor.



**Map 4.3**  
**Recommended Transit System**



**Commuter Transit**

Recommended commuter rail and bus services would provide travel times competitive with cars over longer distances. Both types of commuter services should provide frequent service, every 15 minutes in the peak in both directions and every 30 to 60 minutes in both directions at other times. They should generally have stops or stations at least two miles apart. Commuter bus services (shown as navy blue lines on Map 4.3) should be extended to serve new areas, and existing services should run in both directions throughout the day. Existing services include MCTS Freeway Flyer routes and the Kenosha-Racine-Milwaukee commuter bus route operated by Wisconsin Coach Lines. New commuter rail lines (shown as orange lines on Map 4.3) should be implemented along the Kenosha-Racine-Milwaukee corridor and potentially be extended west of Downtown Milwaukee via the Milwaukee Intermodal Station.

The commuter rail line that would serve commuters traveling to and from the Aerotropolis is a 33-mile line (often referred to as the Kenosha-Racine-Milwaukee, or KRM, line) that has been studied in the past, but plans to construct the line



were indefinitely postponed in the early 2010s. In past studies, nine stations were planned along the line, including stations that would serve the Aerotropolis area in Cudahy/St. Francis, South Milwaukee, and Oak Creek.

- **Cudahy-St. Francis Station.** This station would be located within the Layton/Lake Parkway Area, east of the intersection of Layton Avenue and Sweet Applewood Lane. Dedicated shuttle bus service would connect the station and the Airport.
- **South Milwaukee Station.** This station would be located near the intersection of Milwaukee Avenue and 11th Street. Through local transit service, it would serve three Aerotropolis Growth Areas: MKE South Industrial Area, 13th/27th Street Area, and Layton/Lake Parkway Area.
- **Oak Creek Station.** This station would be located near the intersection of 5th Avenue and Ryan Road. The Oakwood Road Area would have access to the station via a commuter bus route and local bus service.

Riders on the line would be able to travel between the Aerotropolis and Downtown Milwaukee to the north, as well as Northeastern Illinois via Racine and Kenosha to the south. Additional commuter rail lines could extend west from Downtown Milwaukee, providing access to and from areas such as Wauwatosa, Brookfield, Waukesha, and Oconomowoc. Implementing commuter rail would involve making upgrades to existing freight rail corridors to allow passenger rail at speeds of up to 79 miles per hour.

### Express Bus

While they would not have dedicated lanes like rapid transit services, the recommended express bus services would have shorter travel times than local bus routes due to stops being spaced further apart (at least one-half mile). The primary express route serving the Aerotropolis would be an extension of the MCTS Purple Line south along 27th Street, terminating at Northwestern Mutual's Campus, which is also the southern end of the recommended rapid transit line between the Aerotropolis and Downtown Milwaukee. This route should also see increased frequency, with service at least every 15 minutes nearly the entire day.



### Local Transit

Frequent, reliable local transit service is essential to a well-connected transit network. While adding new technologies like rapid transit and commuter rail provides faster service competitive with an automobile, the underlying local services are necessary for making last mile connections and serving destinations that those higher-level services cannot feasibly serve. Improvements to local services currently provided by MCTS should thus provide connections to these planned commuter and rapid services. Within the Aerotropolis area, the frequency and service hours on existing local bus services should be increased and local routes should be added or extended to serve planned development within the Aerotropolis Growth Areas. In addition, the City of Milwaukee is currently constructing an initial streetcar line connecting the Milwaukee Intermodal Station to the Historic Third Ward, East Town, and the Lower East Side, and designing extensions to connect the system to the Lakefront and to the site of the new Bucks Arena. Further extensions should be pursued, which are shown conceptually as dark green lines on Map 4.3.



The areas to be served by local transit services are shown on Map 4.3, with areas served by less frequent local fixed-route bus service shown in a lighter shade of blue and areas served by frequent local service shown in a darker shade of blue. Potential locations within the Aerotropolis to which extending local service should be considered include:

- The Loomis Road Park-Ride Lot
- Along 27th Street to serve the Northwestern Mutual Campus, Wheaton Franciscan Medical Campus, and the proposed business park at the intersection of 27th Street and Elm Road
- Along Howell Avenue to Oakwood Crossing and the Oak View Business Park
- Along Rawson Avenue to serve the proposed logistics and distribution area between Howell Avenue and the UP rail line
- Along Drexel Avenue to serve the developing commercial corridor between Drexel Town Square, IKEA, and Northwestern Mutual
- Along College Avenue between Howell and Pennsylvania Avenues to serve the area of predominantly industrial development planned for the MKE South Industrial Area

### **Amtrak Hiawatha**

The existing Amtrak Hiawatha line provides a long-distance transit connection, operating on CP track between Chicago and Milwaukee with a convenient stop at the Milwaukee Airport Railroad Station (MARS). Recommended improvements to the Hiawatha service, which are currently being pursued by WisDOT and the Illinois Department of Transportation (IDOT) in partnership with the Federal Railroad Administration (FRA), include track and infrastructure improvements that would increase the speed of the service and increase the number of daily roundtrips from seven to ten. WisDOT should also consider extensions of the existing Hiawatha service to Minneapolis/St. Paul via Milwaukee and Madison and to Green Bay via Milwaukee and the Fox Valley. Both services are currently included in WisDOT's long-range State rail plan and would operate at speeds up to 110 miles per hour.



### **FUNDING ISSUES NEED TO BE ADDRESSED**

Like streets and highways, VISION 2050 included a financial analysis of the recommended transit improvements. This analysis showed a significant funding gap for transit. The ability to implement the transit recommendations requires adequate funding, and unless the identified funding gap is addressed, the recommended transit system improvements will not occur. Indeed, unless a new source of funding is identified for transit, existing transit services are expected to decline as they have since the early 2000s. This additional funding would require State legislation allowing local dedicated transit funding sources to be enacted and renewing adequate annual State financial assistance to transit.

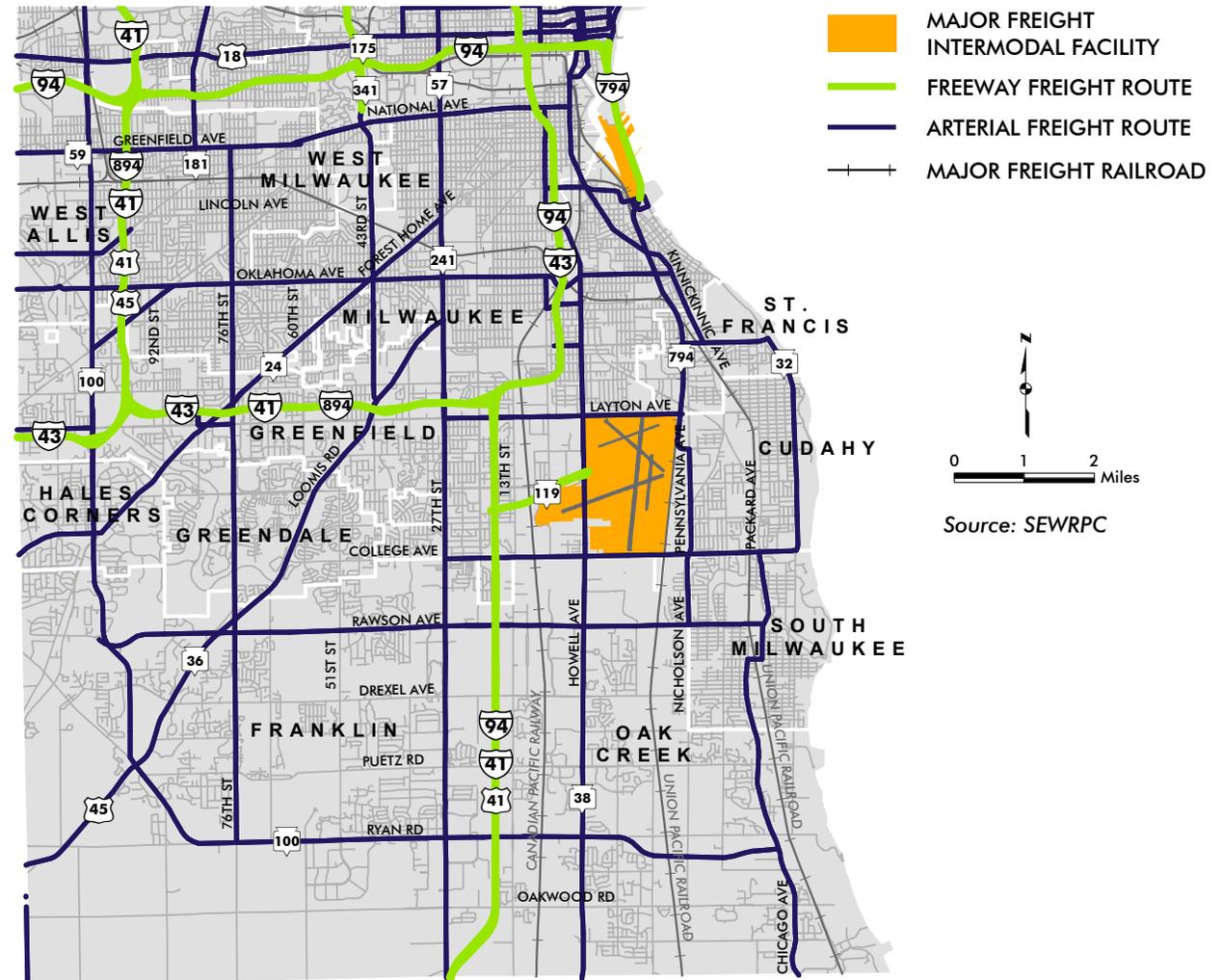


RECOMMENDATIONS

The recommended freight network, including freight rail lines, freight routes over arterial streets and highways, and major freight intermodal facilities, is shown on Map 4.4. The areas and lines on the map are unchanged from the existing freight network shown in Chapter 2, but there are a number of infrastructure improvements that will benefit freight movement to and from Aerotropolis Milwaukee.

The movement of freight is essential for maintaining and growing the economy. Truck, rail, water, and air modes of transportation bring raw materials to area manufacturers, and they carry finished goods to domestic and international markets. In 2015, approximately 138 million tons of domestic and international cargo valued at about \$206 billion (2015 dollars) were shipped to, from, and within the Milwaukee-Racine-Waukesha Combined Statistical Area.

Map 4.4  
Recommended Freight Network



Source: SEWRPC

## Capacity Improvements on the Highway Freight Network

Freight shipments in the Aerotropolis Planning Area and the larger Southeastern Wisconsin Region rely heavily on trucks using the arterial street and highway system. In particular, the movement of freight depends in large part on trucks using the regional freight network—arterial streets and highways in the Region intended to carry a higher percentage of truck traffic. The regional highway freight network, shown on Map 4.4 as Arterial and Freeway Freight Routes, is based on the National Highway System as well as the State’s designated routes for long trucks.

Higher levels of congestion and the presence of bottlenecks on the regional highway freight network can result in increased shipping delays and higher shipping costs, negatively impacting businesses and manufacturers in the Region. Implementing the capacity expansion improvements recommended under the Streets and Highways section would address existing and forecast future traffic congestion on the regional freight network. In particular, there are segments of freeway carrying high volumes of truck traffic that are recommended to be reconstructed with additional lanes, including I-94 North-South and I-894 between the Mitchell Interchange and Zoo Interchange. These improvements have the potential to significantly improve the reliability of freight movement in the Aerotropolis and Region.

In addition to addressing congestion on the freight network, it is also important to address the last mile connections associated with the beginning and end of a freight shipment. Among these types of connections, the new Elm Road interchange, and the proposed extension of Elm Road to 13th Street, would provide a valuable connection to the interstate for the industrial development planned along Oakwood Road.

Nearby segments of Oakwood Road and 13th Street, not currently well suited for the expected increase in truck traffic, should also be considered for design improvements. However, impacts to existing homes along each segment should be minimized when determining where to direct truck traffic. If the impacts are determined to be too great, alternative routes for truck traffic should be considered.

## Oversize/Overweight (OSOW) Shipments

Unusually large or heavy goods shipped within or through the Aerotropolis area require that specific oversize/overweight (OSOW) truck routes be used. These goods tend to be high value and important to the local and regional economy. In some cases the movement of OSOW shipments may require following a circuitous route to avoid physical restrictions such as low bridges or temporarily changing infrastructure along the shipment’s route—such as raising utility wires or moving traffic signals.

State and local governments, along with Gateway staff and SEWRPC, should work with local manufacturers, shippers, and utilities to improve the accommodation of OSOW shipments. To this end, a working group has been created and is currently pursuing a strategy for OSOW route preservation in Southeastern Wisconsin. Actions that should be pursued include studying past OSOW truck shipments in the Region, delineating a regional OSOW truck route network, and identifying OSOW truck route infrastructure needs. Eventually, intergovernmental agreements or changes to *Wisconsin Statutes*, the *Wisconsin Administrative Code*, or municipal ordinances may be needed to aid in the preservation of the geometric envelopes and weight restrictions on the delineated OSOW truck route network.



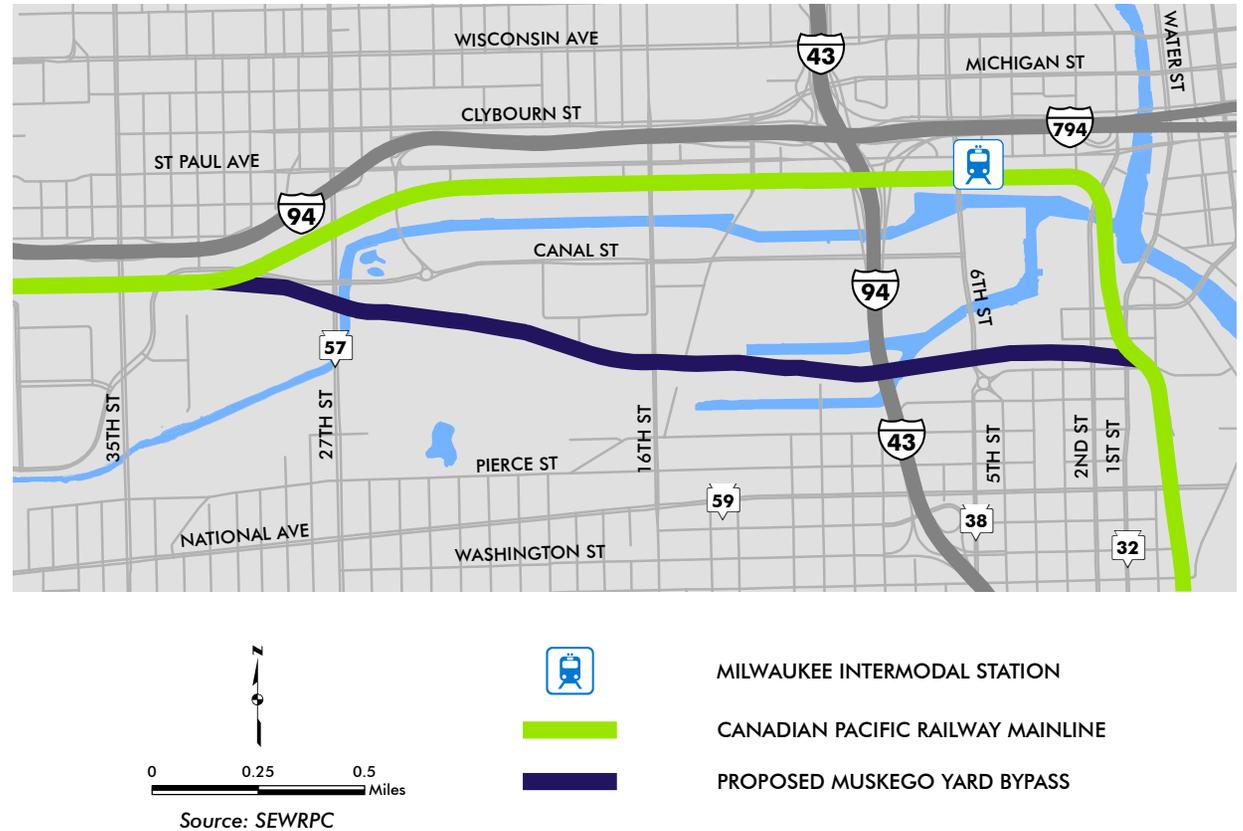
It is particularly important to ensure efficient OSOW movement between the Port of Milwaukee, one of the Aerotropolis Milwaukee partners, and industrial areas near the Airport. The Port routinely handles requests for moving OSOW goods, which in some cases have been getting larger (e.g., wind turbine blades). The Port has been a strong partner in the effort to identify and preserve OSOW routes in the Region.

## Pursue New Truck-rail Intermodal Facility

Intermodal shipments often use trucks for the shorter portion of a trip and rail for the longer portion of a trip. Currently, the truck-rail intermodal facilities—where containerized shipments are interchanged between trucks and freight trains—closest to Southeastern Wisconsin are located in the Chicago area, where intermodal shipments sometimes experience significant congestion-related delays. Locating such a facility closer to the Aerotropolis, even if not within the Aerotropolis itself, could provide significant benefits to the Region’s manufacturers and shippers, including lower shipping costs. Local governments, the Commission, local manufacturers and shippers, freight railroads, and the State should work together to pursue development of a new truck-rail intermodal facility in or near Southeastern Wisconsin. A first step would be to assess the feasibility of such a facility. A feasibility study could include identifying potential locations, surveying local manufacturers and shippers regarding their interest in using a new truck-rail intermodal facility, and working with the freight railroads to determine their interest and needs related to a new facility.



**Map 4.5**  
**Muskego Yard Bypass**



## Construct Muskego Yard Bypass

This project would include upgrading track and signaling through the Muskego Yard, owned and operated by CP, which is shown on Map 4.5. CP freight trains travelling through Downtown Milwaukee currently pass through the Milwaukee Intermodal Station (MIS). The Muskego Yard bypass project would have benefits both for freight trains, which would be able to bypass the passenger-oriented MIS, and the recommended

commuter rail and Amtrak Hiawatha service improvements discussed in the Transit section. MIS would be better equipped to accommodate the additional commuter rail and intercity passenger rail service, and it would improve safety and reduce delays to both freight and passenger trains traveling through Milwaukee. Pursuing the bypass would involve a cooperative effort by the City and County of Milwaukee, SEWRPC, the State, and CP.

## Consistent Truck Size and Weight Regulations

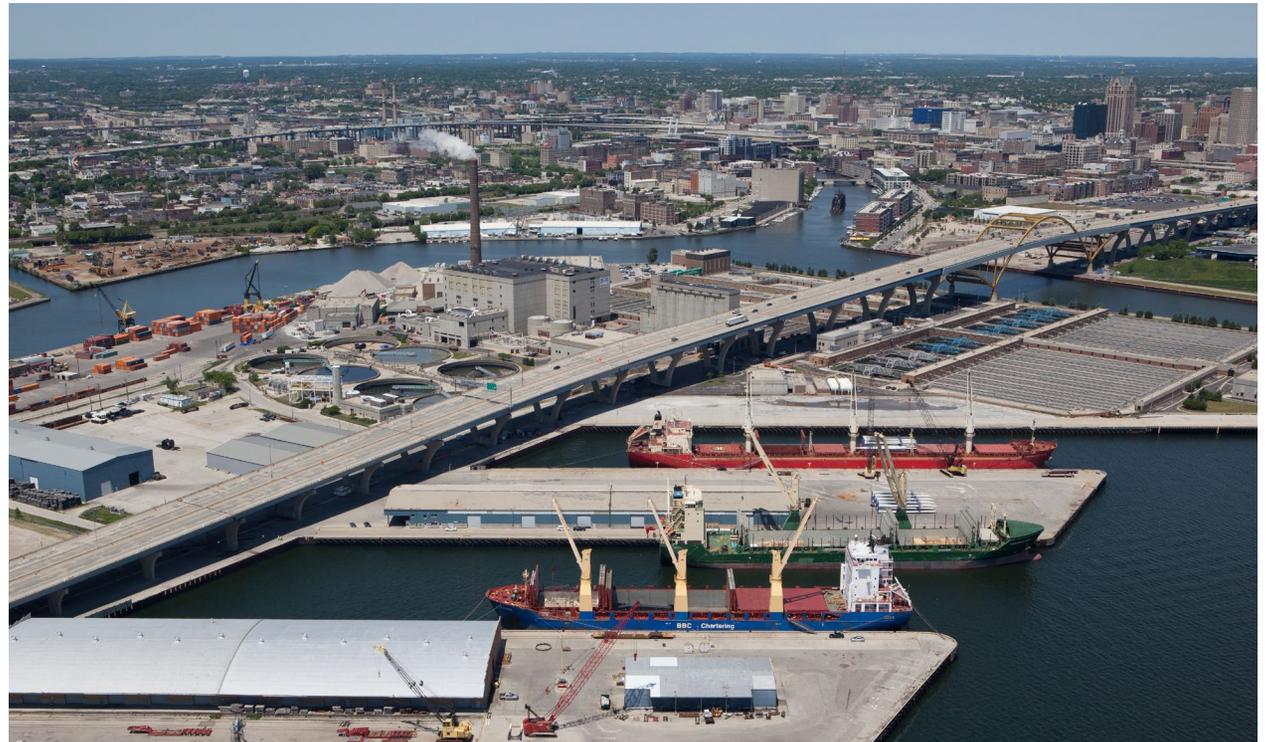
Truck size and weight regulations between Wisconsin and neighboring states are not always consistent and can result in the inefficient movement of goods by truck. For example, a truck may not be able to be fully loaded due to a neighboring state's lower weight restrictions. To address this issue, the State of Wisconsin should work with neighboring states and the Federal Highway Administration (FHWA) to develop truck size and weight regulations that are consistent across state lines.

## Support Chicago Area Efforts

Highway and rail freight movements experience significant congestion in the Chicago area, which has a negative impact on Aerotropolis manufacturers and shippers that ship goods to or through Chicago by truck and rail. A major initiative that could have benefits to the Aerotropolis and larger Southeastern Wisconsin Region is the Chicago Region Environmental and Transportation Efficiency (CREATE) Program. CREATE is a partnership between the U.S. Department of Transportation, the State of Illinois, the City of Chicago, freight railroads, Metra, and Amtrak. The partnership is pursuing specific infrastructure improvements that would reduce freight rail congestion and truck and automobile delays at grade crossings in the Chicago area. The State of Wisconsin, SEWRPC, and local manufacturers and shippers should support CREATE and other similar efforts to address issues affecting freight movement to and from the Aerotropolis.

## Future Study

A potential future study that could be pursued for the Aerotropolis would involve a localized effort to identify how freight is being moved within the Aerotropolis, specific routes being used, how much freight is being moved, and what can be done to improve freight movements. Obtaining this information on usage and needs would help to refine and prioritize future transportation improvements. The Harbor District in Milwaukee is planning to conduct a similar study and represents a potential resource or partner, particularly given strong ties between the Port of Milwaukee and the Aerotropolis.

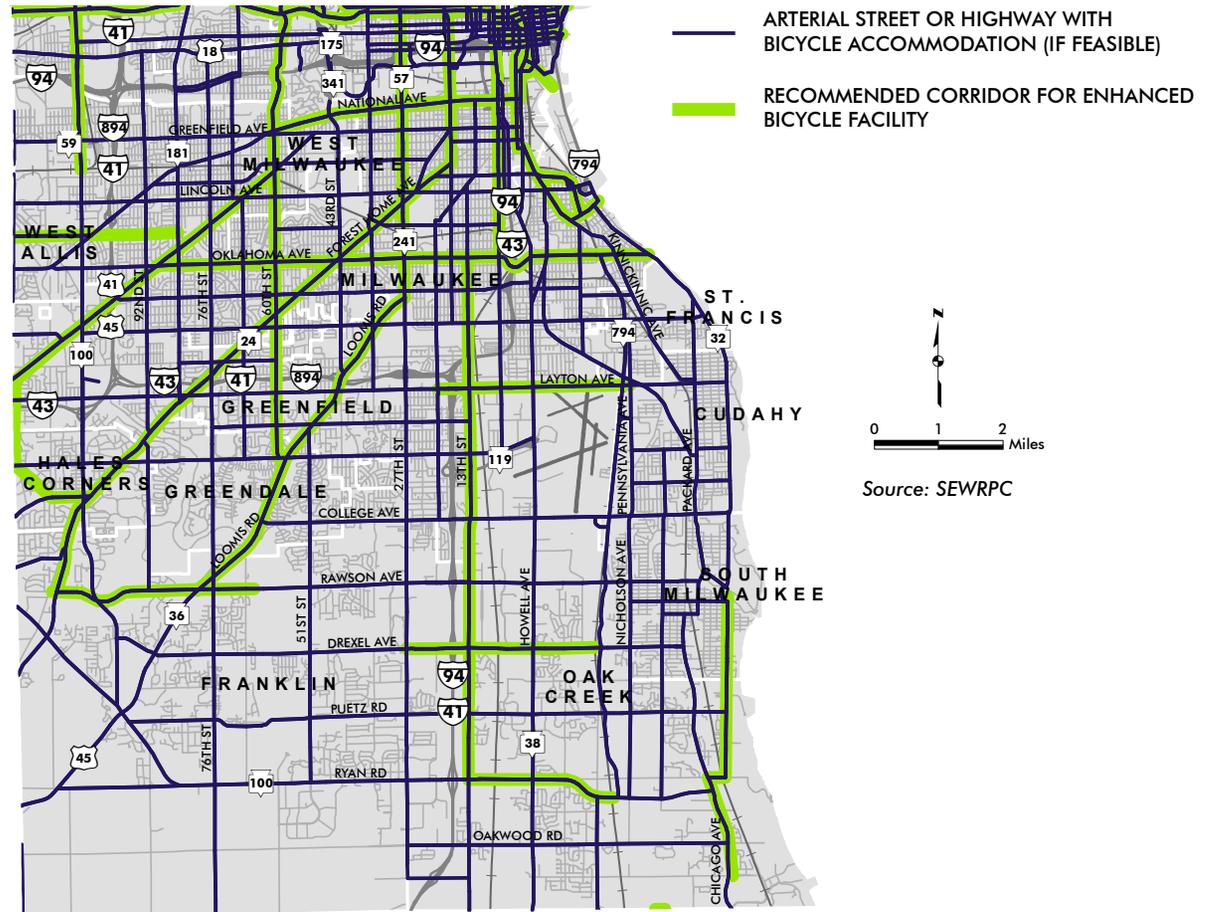


RECOMMENDATIONS

Providing a well-connected network of bicycle and pedestrian facilities within the Aerotropolis, that also connects to nearby areas and communities, will be an important element of the development and redevelopment of the Aerotropolis Growth Areas. Streets that serve as hospitality and commercial corridors, in particular, should be a priority for adding bicycle and pedestrian accommodations.

Incorporating bicycle and pedestrian accommodations improves quality of life and helps to achieve healthy, vibrant communities. Both the infrastructure and development pattern play key roles in making it easier to bike and walk. This encourages people to incorporate active travel into their daily routine, which can improve their health and reduce their healthcare costs. It is also important to integrate bicycle and pedestrian travel and public transit travel, which often begins and ends by either biking or walking.

Map 4.6  
On-Street Bicycle Facilities



On-Street Bicycle Connections

The recommended bicycle facilities along the arterial street and highway system are shown on Map 4.6, and are largely based on the accommodations recommended under VISION 2050. The navy blue lines represent surface arterials that should be considered for some

type of bicycle accommodation as they are resurfaced, reconstructed, or newly constructed. Potential accommodations include standard bicycle lanes, paved shoulders, widened outside travel lanes, and enhanced bicycle facilities. It is also important to ensure bicycle travel through intersections is appropriately accommodated.

## What are Enhanced Bicycle Facilities?

Enhanced bicycle facilities go beyond basic on-street bicycle accommodations (e.g., standard bike lanes). They provide a comfort level similar to off-street paths, but are on the street. The most common types are protected bike lanes (also called cycle tracks or separated bike lanes), which include physical separation between bicyclists and vehicles. They can also include buffered bike lanes, raised bike lanes, or a separate path within a road's right-of-way.

Also shown on Map 4.6 (in green) are corridors that should be targeted for enhanced bicycle facilities. These corridors provide important regional links and would benefit from separating bicycle and motorized traffic in some fashion. Providing enhanced facilities that go beyond the standard bicycle lane improve safety and comfort for bicyclists as well as drivers. Particular consideration should be given to enhancing the treatment of these enhanced bicycle facilities at intersections. For example, dashed white lines, potentially with colored pavement between the lines, can be used through intersections to clearly define space and the intended path for bicycles.



## What is an Enhanced Bicycle Facility Corridor?

Each enhanced bicycle facility corridor would be within about two blocks in either direction of a surface arterial street. Within the corridor, an enhanced facility would either be on or along the surface arterial street or it would be accomplished by providing a neighborhood greenway ("bike boulevard") on a parallel nonarterial. A neighborhood greenway is a low-speed nonarterial street optimized for bicycle traffic.

For Aerotropolis Milwaukee, the following areas should particularly be considered for enhanced bicycle facilities, if feasible, as they would likely have the greatest influence on accessing adjacent aerotropolis-supporting development:

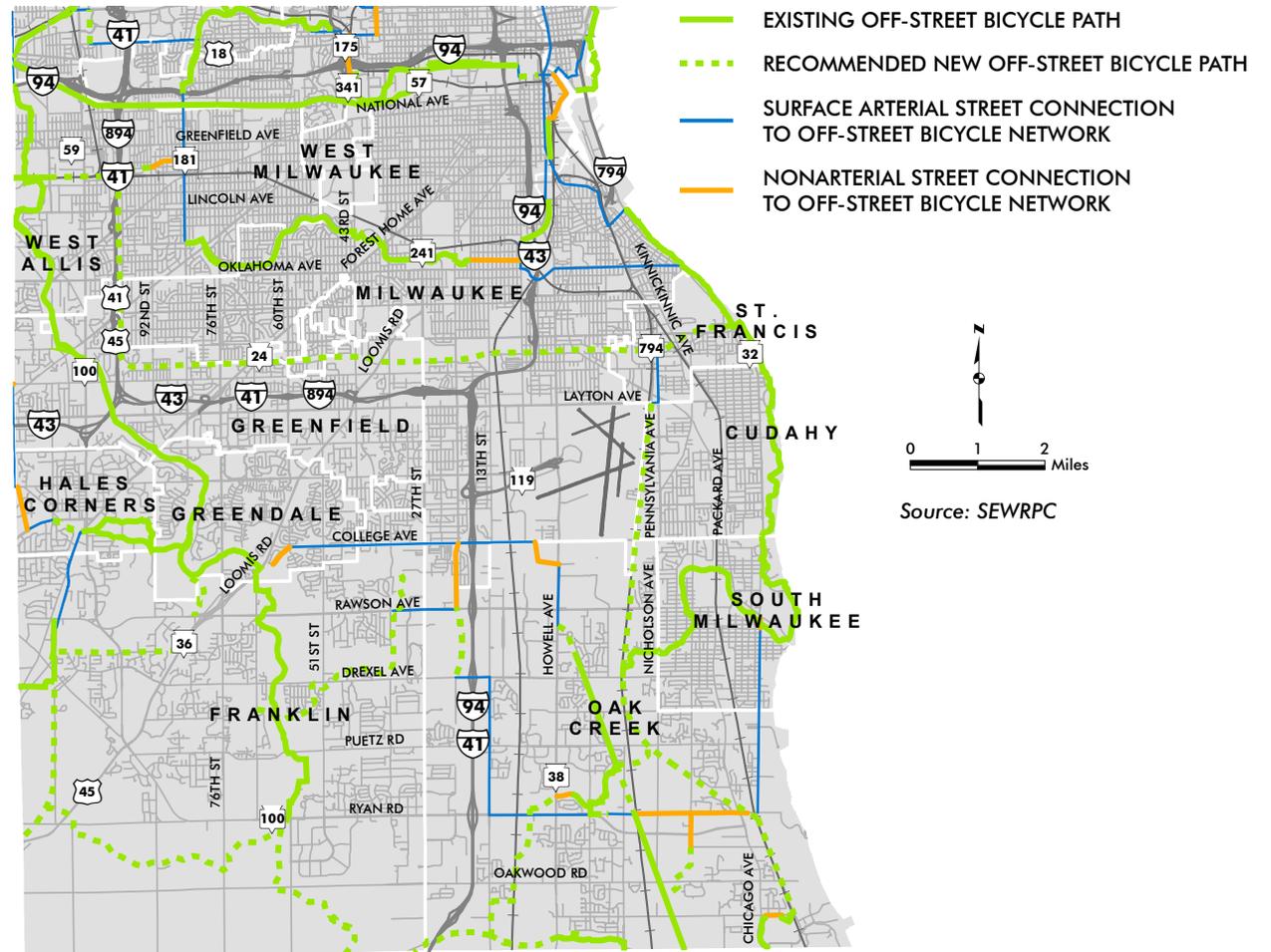
- Layton Avenue – Between 20th Street and Pennsylvania Avenue
- 13th Street – Between Oklahoma Avenue and Ryan Road (WIS 100)
- Drexel Avenue – Between 27th Street and the proposed Lake Parkway (WIS 794) Extension
- Loomis Road – Between 27th Street and Rawson Avenue

**Map 4.7**  
**Off-Street Bicycle Path System**

**Off-Street Bicycle Connections**

In addition to on-street bicycle accommodations, a well-connected system of off-street bicycle paths provides an important quality of life amenity. The Aerotropolis already contains an extensive and well-connected path system, primarily made up of segments of Milwaukee County's Oak Leaf Trail System, but there are gaps that could benefit from a new segment and corridors that could be explored to provide additional connections. Existing and recommended off-street paths in the Aerotropolis are shown on Map 4.7.

Often located in natural resource and utility corridors, these paths can be used to travel between communities along safe and aesthetically attractive routes separated from motor vehicle traffic. To maximize safety and comfort, it is important that each off-street path be appropriately marked through an intersecting street. Some on-street bicycle connections, shown as blue or orange lines on Map 4.7, would be required to connect segments of the system where existing development would prevent a path from being constructed.





### **Bike Share**

Bike share programs provide residents and visitors the option to use bicycles for short trips within and between downtown areas and adjacent neighborhoods. The bicycles are retrieved from designated stations and returned to any station once the user is done. Bike share has been rapidly expanding in the Milwaukee area, with the City of Milwaukee, partnering with BublR Bikes, currently having about 50 bike share stations. The expansion has continued to nearby communities and development within the Aerotropolis would greatly benefit from this additional travel option. As the expansion occurs, stations should be considered in the Growth Areas, particularly where there will be higher-density development and hospital-oriented uses.



### **Pedestrian Accommodations**

Everyone is a pedestrian at some point during their trip and it is important to ensure pedestrians are considered in new development and redevelopment within the Aerotropolis. This means providing a well-connected network of sidewalks and other pedestrian accommodations as well as encouraging compact development with a number of destinations that are within walking distance. Many of the Growth Areas would be designed to provide walkability, meaning the ease by which people can walk in an area to various destinations such as schools, parks, businesses, restaurants, and employment. This will be particularly important in the areas of the Aerotropolis serving as retail or hospitality destinations, where it should be easy to access various businesses.



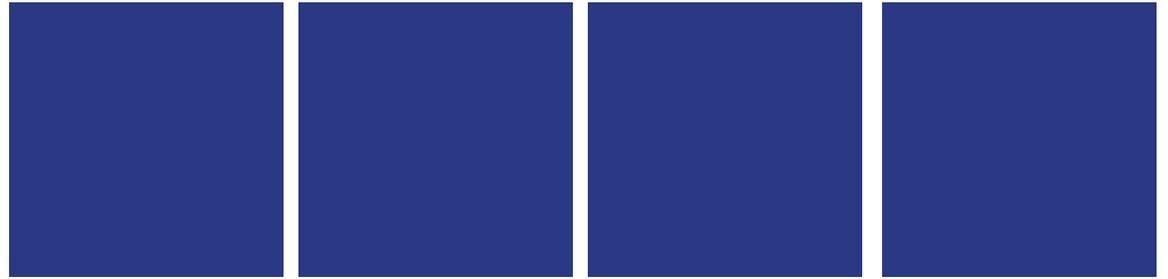
Sidewalks should be provided consistent with the type of planned development, with a focus on addressing gaps in the pedestrian network. They should be designed using widths and clearances appropriate for the levels of pedestrian and vehicular traffic in any given area and terraces or buffered areas should be provided, where feasible, between sidewalks and streets for enhancing the pedestrian environment. All pedestrian facilities need to be designed and constructed in accordance with the Federal Americans with Disabilities Act (ADA) and its implementing regulations. This means all pedestrian facilities that access public and commercial buildings and services must accommodate people with disabilities. It is also important to maximize pedestrian safety at street crossings through measures such as:

- Appropriately timing walk signal phases
- Constructing pedestrian median islands in wide, heavily traveled, or otherwise hazardous roadways
- Constructing curb extensions (“bulb-outs”) that narrow the crossing distance for pedestrians at intersections
- Implementing speed humps, raised crosswalks, and raised intersections to slow traffic and increase the visibility of pedestrians

Methods of enhancing the pedestrian environment and improving pedestrian access, safety, and convenience, should also be pursued. This could mean providing attractive streetscape elements, reducing block sizes by adding local roadways to complete the street grid, incorporating public space, or providing pedestrian amenities at transit stops.

# APPENDIX A

## Definitions



## AEROTROPOLIS-SUPPORTING LAND USES

The following is a list of example aerotropolis-supporting land uses and their definitions. The list is not necessarily comprehensive, but provides a range of different land uses that are typically located in an aerotropolis. In general, land uses within an aerotropolis should meet at least one of the following two conditions to be considered aerotropolis-supporting:

- A. The land use increases or supports passenger travel; and/or
- B. The land use results in the production of goods or facilitates freight movement.

### Commercial

- **Entertainment and Hospitality District**  
A cluster of uses that provide food and beverage, lodging, entertainment, and luxury services designed to cater to travelers, residents, and local workers alike. Luxury services include high-end restaurants, salons/spas, and unique clothing stores/boutiques. Design features in an entertainment and hospitality district should include: wider sidewalks; reduced drive lanes to slow cars; and attractive paving materials, custom street lighting, and signage to create a vibrant 24/7 atmosphere. This use is typically walkable, served by transit, and located near complementary uses.
- **Retail/Service Establishment**  
Businesses that provide services and shopping experiences, such as unique clothing stores, movie theaters, restaurants, and grocery/convenience stores. This use is typically walkable, served by transit, and located near complementary uses.

- **Lodging**  
Establishments offering overnight accommodations, such as hotels, motels, hostels, or bed and breakfasts. A variety of options can cater to differences in travelers' preferences. This use is best located in proximity to other hospitality-oriented businesses.
- **Flex/Virtual Office**  
Includes businesses that provide supportive services for business travelers and nearby offices such as printing, administrative, and technology support services. Flex/virtual office uses may provide furnished public/private work space, meeting rooms, or banquet facilities for short-term, flexible leasing.
- **Professional Office**  
Serves businesses that rely on frequent air travel, such as communications, consulting, entertainment, finance, and sales.
- **Office Campus**  
A cluster of professional office space containing attractive landscaping, public commons, greenspace, and connective pedestrian pathways.
- **Freight Forwarder**  
A consultant or agency that organizes shipments to move goods through a distribution network, often advising clients on documentation requirements and issues that affect the movement of goods.
- **Mail/Delivery Service**  
Companies that offer mailing and/or shipping services to local, national, and worldwide destinations.
- **Courier Delivery Service**  
Rapid local courier/messenger delivery service via bike, taxi, truck, etc. Specialized service benefits include speed, security, and same-day service.



Commercial – Professional Office



Commercial – Lodging



Commercial – Retail/Service Establishment



Industrial – Industrial Campus



Industrial – University/College Campus



Industrial – Research/Technology Park

## Industrial

- **Industrial Campus**

A cluster of manufacturing businesses complete with attractive landscaping, public commons, greenspace, and connective pedestrian pathways. Proximity to related businesses and freight transportation facilities provides convenient access to supplier/distribution networks for time and cost savings. Clustering development within a campus allows for a green buffer between the campus' uses and nearby incompatible uses.

- **Manufacturing**

Includes, in particular, just-in-time manufacturers specializing in time-sensitive products/products with a high value-to-weight ratio, such as manufacturers of pharmaceuticals and medical equipment, semi-conductors/computer chips, garments, jewelry, and perishable goods. Proximity to freight transportation facilities can reduce production and distribution time by providing convenient access to supplier/distribution networks.

- **Industrial Supportive Services**

Includes machine shops and repair/maintenance facilities.

- **Bonded Warehouse District**

A cluster of warehouses in which customs retains control of imported goods until the duty owed is paid. Clustering development within a district allows for a green buffer between the district's warehouses and nearby incompatible uses.

- **Perishable Goods Storage Facility**

Facility featuring a product-sensitive environment, including processes to manage inventory. Facilities may be designed to meet specialized market demand or emergency preparedness requirements.

## Institutional and Governmental

- **Research/Technology Park**

A development associated with educational or research-based institutions that provide infrastructure and support services. Benefits of research/technology parks include the potential to promote innovation, knowledge-based growth, and competitiveness. Clustering development within a park allows for a green buffer between the park's uses and nearby incompatible uses.

- **University/College Campus**

A cluster of facilities and related supporting establishments/spaces that facilitate interaction, learning, teaching, and research. These campuses provide access to resources and technology and foster innovation.

- **Regional Medical Campus**

A place that supports medical tourism by offering affordable and/or specialized medical treatment that attracts patients from long distances. The campus may also contain medical-oriented uses, such as laboratories, that rely on time-sensitive pharmaceuticals and high-value medical devices often moved via air cargo.

### Mixed-Use – Commercial and Residential

- **Mixed-Use – Commercial and Residential**

Commercial and high-density residential development with local services on the first floor and multifamily housing above. This use typically occurs along commercial corridors, is walkable, and is served by multiple modes of transit.

### Mixed-Use – Commercial and Industrial

- **Flex Tech**

An adaptable space to accommodate laboratory, light manufacturing, office, storage, or technology services. Flex tech facilities may offer shared support areas, a dock facility, flexible interior spaces, and high ceilings.

- **Flow-Through/E-Fulfillment Facility**

A distribution facility that receives and dispatches goods in an unbroken sequence. Flow-through/E-fulfillment facilities offer integrated information technology, order processing, inventory control, labelling, and packaging services. They may also feature dock space, dedicated/shared-use warehousing space, and food grade facilities. This type of facility includes fast transitions that eliminate the need for storage and cut last-mile costs.

- **Free-Trade Zone**

An area where goods may be manufactured, imported, handled, or exported without being subjected to trade taxes.

### Recreational and Open/Public Space

- **Public Space**

A social space that encourages people to gather, such as a public square, plaza, urban garden, or pedestrian boulevard.

- **Sports Complex**

A group of facilities featuring multiple flexible spaces for a variety of sporting activities. A complex should be designed to host large regional and national amateur competitions and sporting events and be located near clusters of hospitality uses.

### Transportation

- **Air Cargo**

Facilities featuring truck docks; maneuvering, staging, and marshaling areas; and taxi lane access.

- **Freight Shipping**

A regional or state-wide shipping service via freight truck.

- **Intermodal Freight Hub**

A facility that allows cargo to be transferred between different modes of transport.

- **Logistics Park**

A cluster of development focused on transporting goods to customers. Compatible uses located in a logistics park include distribution centers, and warehousing, storage, or transfer facilities. Logistics parks require access to transportation facilities, such as interstates and railways, and may feature an intermodal facility. Buildings offer dock space and sites feature wide, organized roadways to minimize turn arounds. The benefits of a logistics park to an aerotropolis include the efficient and effective organization, management, and shipping of goods to minimize transit time associated with long-distance movements and complex supply chains. Logistics parks often operate 24 hours a day, 7 days a week. Clustering development within a park allows for a green buffer between the park's uses and nearby incompatible uses.

- **Maintenance, Repair and Operations Facility (MRO)**

A facility providing hands-on technical, routine/emergency services for air, rail, or road vehicles. They may feature sufficient floor area to allow for work on multiple vehicles simultaneously and include separate spaces for specialized uses.

- **Passenger Transportation Services**

Include airport long-term parking lots, rental cars, and taxi/shuttle companies.

Mixed-Use – Commercial and Residential

Transportation – Logistics Park

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Environmental Corridor – PEC



Wetland



Riparian Buffer

## NATURAL LIMITATIONS TO BUILDING SITE DEVELOPMENT

### Environmental Corridor

Elongated areas in the landscape that contain concentrations of natural resource features (lakes, rivers, streams, and their associated riparian buffers and floodplains; wetlands; woodlands; prairies; wildlife habitat areas; wet, poorly drained, and organic soils; and rugged terrain and high-relief topography) and natural resource-related features (existing and potential park and open space sites, historic sites, scenic areas and vistas, and natural areas and critical species habitat sites).

- **Primary Environmental Corridor (PEC)**  
Contains a variety of these features and are at least 400 acres in size, two miles long, and 200 feet wide.
- **Secondary Environmental Corridor (SEC)**  
Contains a variety of these features and are at least 100 acres in size and one mile in length, unless connecting primary environmental corridors.
- **Isolated Natural Resource Area (INRA)**  
Smaller concentrations of natural resource features that are physically separated from environmental corridors by intensive urban or agricultural uses. They are at least five acres in size and 200 feet wide.

### Wetland

Areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

### Floodplain

Areas subject to inundation by the 1 percent annual probability flood event.

### Riparian Buffer

Includes a band 50 feet in depth along both sides of intermittent streams; a band 75 feet in depth along both sides of perennial streams; a band 75 feet in depth around lakes; and a band 200 feet in depth along the Lake Michigan shoreline.

### Steep Slope

Areas with land slopes of 12 percent or greater.

### Public Park or Open Space Site

A publicly owned site. Includes community and neighborhood parks that provide outdoor recreation facilities, such as playgrounds, basketball/tennis courts, softball/baseball diamonds, soccer fields, and other playfields. Also includes large parks that support natural resource-oriented recreation facilities, such as trails, golf courses, and boat launches/marinas.

### Natural Areas

Tracts of land or water so little modified by human activity, or that have sufficiently recovered from effects of such activity, that they contain intact native plant and animal communities believed to be representative of the pre-European settlement landscape.

### Critical Species Habitat

Sites consisting of areas, located outside natural areas, that support endangered, threatened, or rare plant or animal species.

## TRANSPORTATION SYSTEM

### Local Transit

Lower-speed routes with closely spaced stops, primarily with buses (or streetcars) operating over arterial and collector streets and in mixed traffic.

### Express Transit

Limited-stop, higher-speed routes, with buses operating in mixed traffic or in reserved street lanes and stops typically spaced every one-half to one mile.

### Rapid Transit

Either bus rapid transit (BRT) or light rail transit lines, with vehicles operating in exclusive lanes and using signal priority or preemption, and stations typically spaced every one-half to one mile.

### Commuter Transit

Longer-distance routes or lines, with either buses operating on freeways or rail vehicles operating in a rail corridor (i.e., commuter rail) and stops or stations typically spaced every three to five miles.

### On-street Bicycle Facility

Accommodations for bicycles provided on surface arterial streets, with either standard facilities (bicycle lanes, paved shoulders, and widened outside travel lanes) or enhanced facilities.

### Off-street Bicycle Path

Bicycle facilities separated from motor vehicle traffic and typically developed in former railway rights-of-way and parkway corridors.

### Enhanced Bicycle Facility

On-street bicycle facilities that go beyond the standard facilities to provide a comfort level similar to off-street paths, with examples including protected bicycle lanes, buffered bicycle lanes, raised bicycle lanes, and a separate path within a road's right-of-way.

### Surface (or Standard) Arterial Street

Major streets with primarily at-grade intersections that may also provide direct access through driveways.

### Freeway

Divided arterial highway with full access control and grade separations (over- and under-passes) at all interchanges, providing the highest degree of mobility.



Rapid Transit



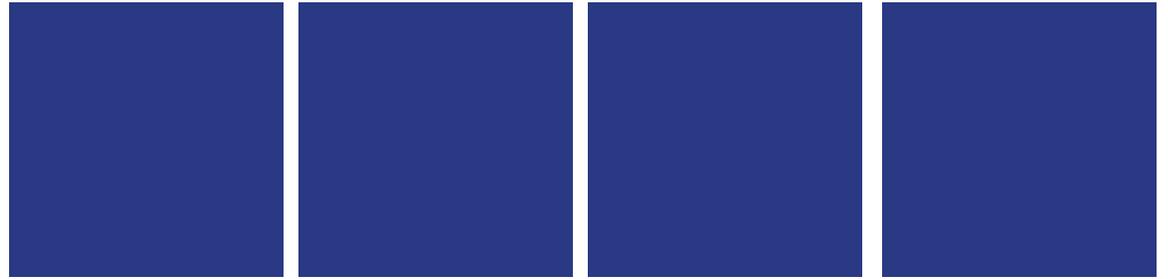
Off-street Bicycle Path



Surface (or Standard) Arterial Street

# APPENDIX B

Target Industries,  
Key Services, and  
Infrastructure



**Table B.1**  
**Industries Best Suited for Air Logistics Hubs**

<b>Industries<sup>a</sup></b>
<ul style="list-style-type: none"> <li>• Logistics service providers</li> <li>• Semi-conductor and computer chip manufacturers</li> <li>• Pharmaceuticals and contract biotech and pharmaceutical lab testing facilities</li> <li>• Computer and electronic sub-assembly manufacturers</li> <li>• Aircraft assembly, aircraft parts suppliers and aircraft maintenance services</li> <li>• Fashion, garments and accessory suppliers</li> <li>• Scientific and medical instruments manufacturers, particularly those supplying small volumes of high value products, for example aromatics</li> <li>• Optics and small precision equipment manufacturers</li> <li>• Suppliers of perishable products-for example, fresh seafood, live animals, fresh fruit and flowers</li> <li>• Digital automotive component manufacturers and related spare parts suppliers</li> <li>• Jewelry and watch manufacturers</li> </ul>

<sup>a</sup> List was developed by University of North Carolina's Frank Hawkins Kenan Institute of Private Enterprise.

Source: Dr. John D. Kasarda, *Aerotropolis Milwaukee: Strategic Guidelines and Development Actions*, 26 July 2011.

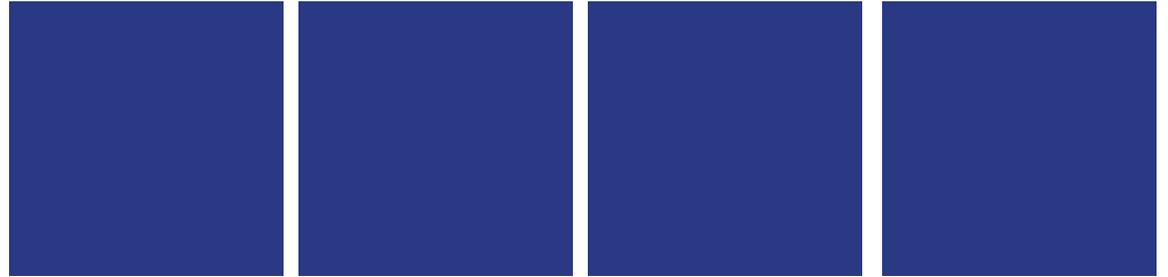
**Table B.2**  
**Supportive Services and Infrastructures Needed to Support Targeted Industries**

<b>Supportive services and infrastructure</b>
<ul style="list-style-type: none"> <li>• Expedited customs clearance and pre-clearance procedures</li> <li>• Full electronic data interchange capability</li> <li>• Foreign Trade Zone, FTZ operators, and bonded warehouses</li> <li>• New roadway and rail access to port connectors</li> <li>• Contain major airline hub</li> <li>• State-of-the-art materials handling services</li> <li>• Reliable utility services (e.g., electricity, water, sewer)</li> <li>• Industrial support services such as repair and maintenance and machine shops</li> <li>• Quality of life, good housing, schools, recreation, nightlife, low crime</li> <li>• Knowledge and education support, including a distance education and worker training facility</li> <li>• Enhanced one-stop servicing for foreign investors</li> <li>• Expedited site and building permit approvals</li> </ul>

Source: Dr. John D. Kasarda, *Aerotropolis Milwaukee: Strategic Guidelines and Development Actions*, 26 July 2011.

# APPENDIX C

## Aerotropolis Examples



**Table C.1  
National Aerotropolis Examples**

<b>Airport</b>	<b>Location</b>	<b>2014 Passenger Volume (millions)</b>	<b>2014 Connecting Passengers (percent)</b>	<b>2014 Freight-Only Cargo (100,000 pounds)</b>	<b>Transportation Features</b>	<b>Surrounding Land Use Characteristics</b>	<b>Relevance</b>
General Mitchell International Airport	Milwaukee, Wisconsin	6.5	3.9%	1,430	<ul style="list-style-type: none"> <li>• Airport spur from adjacent interstate</li> <li>• Amtrak station on-site</li> <li>• Adjacent and nearby two Class 1 railroad lines</li> <li>• Six miles from Port of Milwaukee</li> <li>• Short and long-term garage parking on-site</li> <li>• Off-site long-term surface parking lots</li> <li>• Local public transit service via two bus routes</li> <li>• Taxi, shuttle, and coach bus service</li> <li>• On-site car rental area</li> <li>• Cell phone surface parking lot on-site</li> </ul>	<ul style="list-style-type: none"> <li>• Surrounding area is mostly built-out</li> <li>• Nearby development includes an historic urban center, residential neighborhoods, and auto-oriented, strip-style and scattered commercial and industrial development</li> <li>• Parcels of airport land may be available for potential development</li> <li>• Opportunities exist for increasing the intensity of use through redevelopment</li> </ul>	<ul style="list-style-type: none"> <li>• Planning to develop as an aerotropolis</li> <li>• Currently undergoing land use planning process</li> </ul>
Hartsfield-Jackson Atlanta International Airport	Atlanta, Georgia	96.2	--	12,254	<ul style="list-style-type: none"> <li>• Serves as a passenger airline hub</li> <li>• Local and regional rapid and commuter rail transit service</li> <li>• Airport spur from adjacent interstate</li> <li>• Amtrak station on-site</li> <li>• Inter-terminal rail/van service</li> <li>• Adjacent and nearby two Class 1 railroad lines</li> <li>• Off-site short- and long-term parking garages and surface lots</li> <li>• Taxi, shuttle, and limousine service</li> <li>• On-site car rental area</li> <li>• Cell phone surface parking lot on-site</li> </ul>	<ul style="list-style-type: none"> <li>• Surrounding area is mostly built-out</li> <li>• Adjacent development includes primarily commercial, industrial, and transportation-oriented uses, including clustered hotels, a convention center</li> <li>• Additional surrounding development is predominantly single-family residential neighborhoods</li> <li>• Transitional uses within proximity to airport may present development opportunities</li> <li>• Scattered development is encroaching into pockets of nearby woodlands</li> </ul>	<ul style="list-style-type: none"> <li>• Operating as an aerotropolis</li> <li>• Recently completed a new airport master plan</li> <li>• Recently completed blueprint for development as an aerotropolis</li> <li>• Beginning to implement key elements of the airport master plan through ATLNext, which includes airside, terminal, cargo, parking, support, and private commercial development</li> </ul>

**Table continued on next page.**

**Table C.1 (Continued)**

Airport	Location	2014 Passenger Volume (millions)	2014 Connecting Passengers (percent)	2014 Freight-Only Cargo (100,000 pounds)	Transportation Features	Surrounding Land Use Characteristics	Relevance
Dallas - Fort Worth International Airport	Dallas, Texas	63.5	58.0%	13,600	<ul style="list-style-type: none"> <li>• Serves as a passenger airline hub</li> <li>• Inter-terminal rail/van service</li> <li>• Local and regional rapid and commuter rail transit service</li> <li>• Circumscribed by several state highways and four interstates</li> <li>• Dedicated state tollway bisects airport</li> <li>• Valet, terminal, express and remote parking</li> <li>• Registered courtesy car, taxi, shared ride, limousine, and charter bus services</li> <li>• Adjacent rental car cluster</li> </ul>	<ul style="list-style-type: none"> <li>• Area outside of airport perimeter is built-out with medium-density residential neighborhoods, recreational land including golf courses and lakes, and commercial clusters and corridors of aviation-related and other businesses</li> <li>• Two on-site hotels connected to terminals</li> <li>• Approximately 3,000 acres of airport land available for development</li> </ul>	<ul style="list-style-type: none"> <li>• Operating as an aerotropolis</li> <li>• Recently updated land use plan</li> <li>• Illustrates how small gateway site can feature compact airport-based development to serve passenger needs</li> <li>• Offers a reference for cooperating with private partners</li> <li>• Provides an example of how to share revenue from land devoted to airport/aviation-oriented development as surrounding municipalities become built-out</li> </ul>
Denver International Airport	Denver, Colorado	53.5	40.0%	4,870	<ul style="list-style-type: none"> <li>• Serves as a passenger airline hub</li> <li>• Direct rail service to downtown to be available in 2016</li> <li>• Served by spur from two nearby interstates and in proximity to a third interstate</li> <li>• On-site garage, economy, shuttle, valet and short-term parking facilities</li> <li>• Local public transit service via one bus route</li> <li>• Supports charter bus, hotel shuttle, mountain carrier, limousine and shared-ride (commuter shuttle) services</li> <li>• Cell phone surface parking lot off-site</li> <li>• On-site car rental facilities and shuttles</li> </ul>	<ul style="list-style-type: none"> <li>• Large rural area surrounding the airport</li> <li>• On-site commercial corridor features car rental facilities and surface parking lots</li> <li>• Off-site development includes a cluster of hotels, restaurants and a business center</li> <li>• Nearby development includes large commercial and medium-density residential areas</li> <li>• In proximity to small public airport used for recreation and education, which is under consideration for spaceport designation to support emerging space plane technology</li> <li>• On-site hotel, conference and transit center to open in late 2015</li> </ul>	<ul style="list-style-type: none"> <li>• Planning to develop as an aerotropolis</li> <li>• Pursuing development of a land use and transportation plan</li> <li>• Effort has established aerotropolis leadership</li> <li>• Example of collaboration between surrounding communities</li> </ul>

**Table continued on next page.**

**Table C.1 (Continued)**

Airport	Location	2014 Passenger Volume (millions)	2014 Connecting Passengers (percent)	2014 Freight-Only Cargo (100,000 pounds)	Transportation Features	Surrounding Land Use Characteristics	Relevance
Indianapolis International Airport	Indianapolis, Indiana	7.4	4.6% <sup>o</sup>	24,251	<ul style="list-style-type: none"> <li>• Serves as an air cargo hub</li> <li>• Served by spurs from two adjacent intersecting interstates and in proximity to a third interstate</li> <li>• At intersection of nation’s busiest trucking corridors</li> <li>• Valet, daily, hourly, and economy parking in garages and surface lots on-site</li> <li>• Local public bus service provides express service and non-express fixed-route service</li> <li>• Shuttle, limousine, and taxi services</li> <li>• Cell phone surface parking lot on-site</li> <li>• On and off-site car rental facilities</li> </ul>	<ul style="list-style-type: none"> <li>• Aviation-oriented business clusters and low and medium density residential development nearby</li> <li>• Recent improvements include airside additions to a major commercial hub and a new mid-field terminal</li> <li>• Plans for land to the immediate south include the following approximated uses:               <ul style="list-style-type: none"> <li>- 400 ac – logistics, distribution, warehouse, and/or industrial</li> <li>- 260 ac - office/hospitality</li> <li>- 120 ac - retail/consumer</li> </ul> </li> <li>• Future planned development:               <ul style="list-style-type: none"> <li>- High-end office center/commercial facility with direct connection to airport hotel and passenger terminal</li> <li>- Logistics/aviation-oriented business development zones with runway access</li> <li>- Education/technology park</li> <li>- Multimodal transport park</li> <li>- Conservation/recreation complex</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Planning to develop as an aerotropolis</li> <li>• Former passenger airline hub</li> <li>• Similar volume of passengers and proportion of connecting passengers to Milwaukee (but significantly higher cargo loads)</li> <li>• Example of the governance necessary to pursue aerotropolis development, including cross-jurisdictional communication, cooperation and coordination</li> </ul>

**Table continued on next page.**

**Table C.1 (Continued)**

Airport	Location	2014 Passenger Volume (millions)	2014 Connecting Passengers (percent)	2014 Freight-Only Cargo (100,000 pounds)	Transportation Features	Surrounding Land Use Characteristics	Relevance
Kansas City International Airport	Kansas City, Missouri	10.2	-- <sup>b</sup>	1,878	<ul style="list-style-type: none"> <li>• Served by a spur from the intersection of an adjacent interstate and U.S. highway</li> <li>• On-site shuttle bus service between terminals and to economy parking lots</li> <li>• Served by one local public bus route</li> <li>• Shuttle, limousine, and taxi services</li> <li>• Car rental facility on-site</li> </ul>	<ul style="list-style-type: none"> <li>• Surrounding area is primarily rural</li> <li>• Nearby development outside corridors/clusters features non-complimentary uses adjacent to one another</li> <li>• Airport is a dedicated foreign trade zone</li> <li>• On-site aviation-oriented uses include:               <ul style="list-style-type: none"> <li>- A logistics corridor along runway</li> <li>- A cluster of surface parking lots</li> <li>- A car rental facility area</li> </ul> </li> <li>• Future planned development:               <ul style="list-style-type: none"> <li>- 800 acres on-site for an aviation-oriented business park</li> <li>- Hotel, retail, office, industrial, logistics, and residential uses along nearby interstates and highways</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Considered to be a developing airport city</li> <li>• Former passenger airline hub</li> <li>• Serves as a reference for considering integrated airport and urban planning</li> </ul>

**Table continued on next page.**

**Table C.1 (Continued)**

<b>Airport</b>	<b>Location</b>	<b>2014 Passenger Volume (millions)</b>	<b>2014 Connecting Passengers (percent)</b>	<b>2014 Freight-Only Cargo (100,000 pounds)</b>	<b>Transportation Features</b>	<b>Surrounding Land Use Characteristics</b>	<b>Relevance</b>
Memphis International Airport	Memphis, Tennessee	3.6	2.0%	101,413	<ul style="list-style-type: none"> <li>• Serves as an air cargo hub</li> <li>• Situated in a city with a port</li> <li>• Fixed-base operators (FBO) operate shuttles and two private on-site jet terminals</li> <li>• Adjacent to the intersection of two interstates and several state highways</li> <li>• On one of nation’s busiest trucking corridors</li> <li>• Close to BNSF rail yard</li> <li>• In proximity to one of nation’s busiest inland ports</li> <li>• Economy and long and short-term garage parking on-site</li> <li>• Adjacent Greyhound Station/Transit Center</li> <li>• Local transit service provides terminal and on-site access via multiple bus routes</li> <li>• Cell phone surface parking lots on-site</li> <li>• Car rental facility on-site</li> <li>• Shuttle, limousine, and taxi services</li> </ul>	<ul style="list-style-type: none"> <li>• Situated in a developed urban area near Mississippi and Arkansas borders</li> <li>• Neighbors include small and large manufacturing, distribution and logistics clusters</li> <li>• Neighboring aviation-oriented business clusters are intermingled with multi-family, medium, and low density residential areas</li> <li>• National Guard Base on site</li> <li>• Several vacant and underutilized parcels or undeveloped land nearby may be available for development</li> <li>• Aviation-oriented commercial cluster developing on-site</li> <li>• Development plans include warehouses with greenways</li> </ul>	<ul style="list-style-type: none"> <li>• Operating as an aerotropolis</li> <li>• Former passenger airline hub</li> <li>• Similar collaborations in pursuit of aerotropolis initiatives as Milwaukee</li> <li>• Similar land use pattern as Milwaukee with commingled residential, commercial, and industrial areas (may offer design strategies to address adjacency of non-complimentary uses)</li> </ul>

**Table continued on next page.**

**Table C.1 (Continued)**

Airport	Location	2014 Passenger Volume (millions)	2014 Connecting Passengers (percent)	2014 Freight-Only Cargo (100,000 pounds)	Transportation Features	Surrounding Land Use Characteristics	Relevance
Minneapolis/St. Paul International Airport	Minneapolis, Minnesota	35.1	46.0%	4,088	<ul style="list-style-type: none"> <li>• Serves as a passenger airline hub</li> <li>• Situated in a city with a port</li> <li>• Multi-modal Transit Center                             <ul style="list-style-type: none"> <li>- Inter-terminal light rail/shuttle service</li> <li>- Light rail and local bus connections to major urban centers and local attractions</li> <li>- On and off-site car rental facilities/shuttles</li> <li>- Elite, general, short-term, and valet garage parking</li> <li>- Charter bus access</li> </ul> </li> <li>• Circumscribed by two interstates and several state highways</li> <li>• On-site cell phone surface parking lot</li> <li>• Shuttle, limousine and taxi services</li> </ul>	<ul style="list-style-type: none"> <li>• Adjacent to aviation-oriented clusters and dense residential development</li> <li>• Undevelopable natural areas and low-density development nearby</li> <li>• Potential development opportunities on vacant parcels in nearby and on-site clusters of commercial and aviation-oriented businesses</li> </ul>	<ul style="list-style-type: none"> <li>• Considered to be an operational airport city</li> <li>• Closest operating/developing Aerotropolis/Airport City peer example</li> <li>• Multiple jurisdictions are responsible for planning for land around the airport</li> </ul>

<sup>a</sup> Data are from 2012

<sup>b</sup> Data are unavailable

Source: SEWRPC



# PHOTO CREDITS

## COVER

Bird's Eye View of Airport, General Mitchell International Airport

## CHAPTER 1

**Page 1 - Clockwise:** Condo Complex, SEWRPC Staff; Office Building, Flickr User Brad Fults; Airplane on Map, Pixabay; Bus, Milwaukee County Transit System; Bird's Eye View of Airport, General Mitchell International Airport

**Page 2 - Top to Bottom:** Mixed-use Building, Flickr User Brett VA; Hotel, Flickr User James Willamor; Inside Distribution Center, Flickr User Beximco Pharma

**Page 4:** Streetscape, The Gateway to Milwaukee

**Page 6:** MKE Entrance Sign, General Mitchell International Airport

**Page 7 - Top to Bottom:** Inside Airport, Flickr User ECP; Car Rental, Flickr User Susan Nilson; Inside FaB Building, VISIT Milwaukee

## CHAPTER 2

**Page 13 - Clockwise:** Airplane in Mirror, Pixabay; Bikers on Trail, Wisconsin Bike Federation; Distribution Truck, MKE Regional Business Park; Streetscape, The Gateway to Milwaukee; Airplane at Gate, Pixabay

## CHAPTER 3

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**Page 45 - Left to Right:** Café, Flickr User Brett VA; Shopping Center, VISIT Milwaukee

**Page 50 - Top to Bottom:** Outdoor Patio, VISIT Milwaukee; Mixed-use Building, Flickr User Beyond DC; Mixed-use Building, Flickr User Brett VA

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**Page 62:** Distribution Center, Pixabay

**Page 63:** Research Park, APA Image Library User Meghan Stromberg

**Page 64 - Top to Bottom:** College Campus, Milwaukee Area Technical College; Research Park, Wikimedia Commons User Ildar Sagdejev; Mixed-use Building, Flickr User Brett VA

**Page 65 - Top to Bottom:** Bird's Eye View of Business Park, MKE Regional Business Park; Business Park Entrance Sign, MKE Regional Business Park; Flex-tech Building, SEWRPC Staff

**Page 69 - Top to Bottom:** Office Campus, Massachusetts Office of Travel and Tourism; Restaurant, Flickr User Michael Grey; Hotel, VISIT Milwaukee

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## CHAPTER 4

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**Page 83 - Top to Bottom:** Rawson Avenue at I-94/41, WisDOT; 27th Street Interchange, Google Maps; I-94/41 Signs, SEWRPC Staff

**Page 86 - Top to Bottom:** Urban Arterial Street, SEWRPC Staff; Complete Street, North Carolina Department of Transportation; Complete Street, SEWRPC Staff

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**Page 88:** Commuter Rail, SEWRPC Staff

**Page 89 - Left to Right:** Express Bus, Milwaukee County Transit System; Local Bus, Milwaukee County Transit System

**Page 90 - Top to Bottom:** Amtrak, Pixabay; Amtrak Station, SEWRPC Staff

**Page 92 - Top to Bottom:** Semi Truck, Wikimedia Commons User Benson Kua; Oversize/Overweight Shipment, Port of Milwaukee

**Page 93:** Truck-Rail Intermodal Facility, Canadian Pacific Railway

**Page 94 - Top to Bottom:** Muskego Yard, SEWRPC Staff; Port of Milwaukee, Port of Milwaukee

**Page 96 - Top to Bottom:** Protected Bike Lane, People for Bikes; Raised Bike Lane, Michael Sears; Neighborhood Greenway, NACTO

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## APPENDIX A

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**Page 102 - Top to Bottom:** Mixed-use - Commercial and Residential, Flickr User Brett VA; Logistics Park, MKE Regional Business Park

**Page 103 - All Photos:** SEWRPC Staff

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