

COMMERCE 275

 **Aerotropolis Redevelopment**

Huron Charter Township, MI



Maize
Associates

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Executive Summary

Background, Context, and Planning Problem

Detroit Region Aerotropolis Development Corporation's Commerce 275 development is on the doorstep to the world. The site presents unique international business opportunities due to its close proximity to Interstate 275 and the Detroit Metropolitan Wayne County and Willow Run Airports as well as regional connectivity via two nearby interstates, I-275 and I-94, and three rail lines. Moreover, the business-friendly zoning classification of the site provides attractive incentives for commercial and industrial businesses. It is important to note, though, that expanded industrial and commercial development in the region can have significant environmental consequences, such as noise pollution, water contamination, and wetland degradation. These issues are especially important to consider in the context of the airport's neighboring Huron Charter Township, where a regional parks system, large network of wetlands, and river cover the majority of the land area. Additionally, Huron's local communities could suffer from deprivation of political autonomy, increased business competition from larger, resource-rich firms, as well as the burden of increased traffic volumes due to Commerce 275's development. Navigating and fostering equitable, sustainable, and profitable development at Commerce 275 is a complex problem that must be addressed with deliberate planning. We believe this report offers solutions that will safeguard Huron Charter Township's assets, create immense economic development opportunities, and foster community well-being and prosperity for all residents.

Vision, Goals, and Objectives

We envision the Commerce 275 development becoming an economic hub for Huron Charter Township, the Detroit Metropolitan Wayne County and Willow Run Airports, and the larger Southeast Michigan region. This project and our research were guided by four key themes: 1) Economic and Workforce Development; 2) Environmental Impact; 3) Community Well-Being; and 4) Transportation. In regards to economic and workforce development, we aim to attract international businesses by developing state-of-the-art transportation and distribution infrastructure that maximizes the throughput of goods and services. By co-locating such infrastructure with rich environmental assets, Commerce 275 also aims to steward the natural environment. Additionally, any successful development project should prioritize the safety, health, and economic opportunities of the local community. Our plan proactively promotes the sustained well-being of Huron Charter Township residents by presenting several land-use options that balances environmental sustainability with sustainable employment through the commercial and industrial sectors. Lastly, in regards to transportation, we envision a transit center that connects Huron Charter Township to businesses throughout Michigan, the Midwest, and the world.

Methodology

The Detroit Region Aerotropolis Development Corporation asked our team to conduct a site inventory, perform a planning analysis, and create design concepts for the Commerce 275 site. To achieve this, we assembled and consolidated information about Huron Charter Township and Wayne County,

reviewed the existing site conditions, and conducted case studies of similar projects. Next, we synthesized our findings to propose three design concept alternatives - one low, one medium, and one high intensity. Lastly, we complemented these design concepts with key policy recommendations.

Research

To better understand the background and context of the Commerce 275 site and its surrounding Huron Charter Township community, we conducted document reviews of the Township's Master Plan and previous Design Charrettes for the site from 2006. These documents gave us insight into the vision of community members and officials for Commerce 275. We gained further insight from our interview with a Detroit Region Aerotropolis Development Corporation representative.

Next, our team conducted a windshield survey of the existing site. This allowed us to understand Commerce 275's context within Huron Charter Township and also gather key information regarding surrounding land uses and existing environmental concerns. Following the site survey, we conducted a joint public engagement meeting with the Huron Charter Township Board of Trustees and Detroit Region Aerotropolis Development Corporation. This allowed us to further hone our recommendations based on community feedback.

We also prepared five case studies of Aerotropolis developments in the United States and in India. Through these case studies, we learned that a mix of pro-economic development and environmental sustainability policies have supported the growth of successful businesses based around international airports across the globe. Based on these case studies and community feedback, we also conducted a review of the current development plan proposed by Hillwood Enterprise, L.P. Lastly, we ran three land use scenarios on Urban Footprint, which gave us insight into the economic, environmental, and transportation consequences of varying intensities of land use patterns.

Synthesis

Once this information was compiled, we analyzed the collected qualitative and quantitative data to determine the best land use patterns for Commerce 275. In analyzing the data and proposing recommendations, we aimed to increase employment opportunities and tax revenues in the Township while still maintaining and enhancing its character and existing community assets. Our synthesis resulted in a list of policy recommendations as well as a SWOT analysis. The policy recommendations provide actionable guidelines for economic development and environmental protection. Our SWOT analysis identifies the strengths, weaknesses, opportunities, and threats of Commerce 275's development based around this project's four guiding themes.

Recommendations

Rather than come to a single recommendation, we have provided three design concepts to aid the Detroit Region Aerotropolis Development Corporation. The design concepts offer varying land use

intensities: light, medium, and heavy. While each option presents the Detroit Region Aerotropolis Development Corporation with distinct choices, the three design concepts share important similarities. All design concepts maximize wetland protection, minimize traffic impacts to Sibley Road, and buffer existing residents from future development. The light intensity option proposes that two large commercial warehouses, which have already been earmarked for the site, be completed, as well as recommends limited retail development. This option generates roughly 4,000 jobs and maintains all the critical wetlands and open space onsite. The medium intensity development proposes a slightly more intensive land use, allocating 70% of the site to industrial and commercial development (including the already planned warehouses). This option generates roughly 7,000 jobs though it preserves less open space. Lastly, the heavy intensity development option recommends that 90% of the site be allocated for industrial and commercial development. This option generates over 9,000 jobs, as well as enhances the Township's sense of place. However, it preserves less open space and interferes with some critical wetlands, thus requiring environmental mitigation.

Background, Context, and Planning Problem

The Aerotropolis Vision

The vision to create an "Aerotropolis" to bolster and connect Detroit Metropolitan Wayne County Airport (DTW) and Willow Run Airport has influenced Wayne County's land acquisition and long-term planning strategies since the late 1990s. Based upon the economic development theories espoused by academic and consultant John D. Kasarda, the Aerotropolis model envisions the development of "metropolitan subregion(s) whose infrastructure, land use, and economy are centered around an airport" - or in the case of Southeast Michigan, two airports, as well as three rail lines and two highways. Wayne County's original proposal, crafted in collaboration with Kasarda himself, mapped out a 1,200-acre site south of DTW in the nearby rural Huron Charter Township. The plans for the development, named "Pinnacle Aeropark," included a hotel, an 18-hole golf course, and a variety of retail shopping options. However, its primary economic driver was the proposed business technology park, which would accommodate light industrial and manufacturing operations as well as transportation logistics and distribution centers.

Over 20 years later, many of the site's parcels remain undeveloped or underdeveloped. Numerous obstacles and challenges have thwarted the Metro Detroit region's Aerotropolis vision. As early as 2002, political divisions and partisan disagreement over who and what type of entity should oversee the site's development slowed progress. A 2004 Michigan Supreme Court case held that Wayne County's use of eminent domain to condemn and acquire private property for the site was unconstitutional; the motive of economic development did not qualify as a "public use," a requirement of eminent domain doctrine. This proceeding further hindered Aerotropolis plans. Amidst these political and legal challenges, a portion of the site was sold by Wayne County to a private developer, who planned to build a horse race track. The developer promised this would quickly boost Huron Charter Township's local economy. Pinnacle Race Course opened in the summer of 2008 with much fanfare; however, it was shut down only two years later, and was demolished in 2016.

The abandoned track, which sits on a 300-acre site bordered by Pennsylvania, Sibley, Vining, and Wayne Roads in Huron Charter Township, has recently been sold to Hillwood Enterprise, L.P. (Hillwood). With the backing of Detroit Region Aerotropolis Development Corporation (DRADC), Wayne County, and the Huron Charter Township Board of Trustees, Hillwood aims to develop the site, recently rebranded as "Commerce 275," into a mixed-use development with commercial, residential, light industrial, and distribution uses. We, at Maize Associates, hope our recommendations can help DRADC as they work alongside Hillwood to develop Commerce 275 and achieve the long sought-after Aerotropolis vision.

Huron Charter Township and its Master Plan

Huron Charter Township, located in southwest Wayne County, has long been known for its beautiful landscapes and rural charm. Home to three Metroparks situated along the scenic banks of Huron



Figure 1. Original "Pinnacle Aeropark" Rendering.

River, the Township's natural assets define and make up an important aspect of the region's identity. Additionally, Huron Charter Township's rural character, which has been maintained over its nearly 200-year history, has become central to community members' way of life; Huron Charter Township residents value their land, and they desire to keep it.

For this reason, the Commerce 275 development generates feelings of both excitement and concern among Township residents. While community members are excited by the prospect of new jobs, more retail options, and critically needed tax revenues, a history of development blunders leads many to be skeptical. With this in mind, we will propose three design concepts, all of which accommodate the needs and desires of Huron Charter Township residents, preserve and embrace the Township's existing assets, and unleash the economic potential of the Commerce 275 site.

Our design concepts also complement the goals, visions, and objectives outlined in Huron Charter Township's 2020 Master Plan. Principally, our three design concepts fulfill the Township's overall goal of achieving a balance between the development of public and private services and the preservation of natural features. The design concepts also realize the Master Plan's economic growth goals by affording residents with new job opportunities created by industrial and commercial development.

Southeast Michigan and the Metro Detroit Area: An Ideal Aerotropolis Location

Due to its favorable tax laws and business-friendly environment, Michigan is fast becoming a national hub for manufacturing employment and innovation. Metro Detroit's long history and strength in the transportation sector has further facilitated this growth; corporations can leverage local infrastructure, talent, and expertise. Yet another asset in the Southeast Michigan region is DTW, one of the nation's largest international service facilities for commercial goods. Moreover, serving as one of Delta's main gateways to Europe and Asia, DTW experiences a high volume of traffic. This makes the airport a strong potential anchor for regional economic development that could benefit manufacturers and commercial retailers hoping to reach a global clientele.

The Metro Detroit area is also home to Willow Run Airport. Located approximately 10 miles west of DTW, Willow Run provides another major infrastructural anchor for Aerotropolis development. Although the Airport does not accommodate standard commercial passenger travel, Willow Run does benefit the region due to its cargo transportation capacity: it typically handles over 200,000,000 pounds of cargo annually. (More detailed statistics for both DTW and Willow Run can be found in Table 1 in the Case Studies section.) The Airport also offers corporate and specialized charter flights, providing another amenity for companies looking to do business in the region and beyond.

Furthermore, Metro Detroit's airport facilities can easily connect to ground transit options. Three rail lines and two major highways, I-275 and I-94, intersect the land between the airports. This provides businesses with access to international distribution networks: Willow Run lies directly along the Canada-Mexico trading corridor and within a short 20-minute drive from DTW, the Detroit-Windsor gateway offers direct access to Canadian



Figure 2. Huron-Clinton Metropark in Huron Charter Township.

markets and the 3rd largest international trade corridor in the United States. The region's connectivity also affords businesses access to a large, local regional economy of 4,673,950 residents. By investing in the Aerotropolis vision, Metro Detroit can fully leverage its existing transportation infrastructure and position itself as a renowned global commercial hub.

Potential Planning Problems

We have identified four potential planning problems that require special attention: 1) ensuring and promoting equity in economic and workforce development; 2) protecting existing natural features and safeguarding them from pollution; 3) meaningfully engaging Huron Charter Township residents and prioritizing their well-being; and 4) proactively anticipating the impacts of increased traffic.

In regards to economic and workforce development, the Commerce 275 project specifically targets multinational, large-scale corporations. While the presence of such firms promises new jobs for Huron Charter Township residents, it also threatens small businesses within the region. Increased business competition from larger, resource-rich firms can negatively impact and alter the Township's economic landscape if proactive steps aren't taken to support existing businesses and companies. Moreover, workforce training opportunities must be developed with equity in mind.

Development in the region can also lead to major environmental consequences, such as noise

pollution, water contamination, and wetland degradation. These consequences are important to consider in the context of Huron Charter Township, where a regional parks system, large network of wetlands, and river cover the majority of the land area. Environmental considerations are also important within the site: wetlands compromise 40% of Commerce 275.

Without meaningful community engagement, the development poses social risks as well. The governance of the site and overall Aerotropolis development by an outside corporation potentially deprives Huron's local communities of political autonomy. As the development process continues, the proactive engagement of Huron Charter Township's elected officials and the community at large is essential.

Another major concern is the potential increase in traffic volume. The addition of industrial and manufacturing activity in an otherwise rural residential region will add an extra burden on the Township's existing roadways. The lack of reliable regional transit will also increase vehicular traffic as residents and visitors alike are attracted to Commerce 275 for its potential retail and hotel accommodations. Within the site, the sole interior roadway has been poorly maintained and requires significant investment. Additional investment in site specific infrastructure is also required.

These economic, environmental, social, and congestion-related risk factors require a sustainable development plan that preserves Huron Charter Township's existing natural and community assets while also leveraging the potential for industrial and commercial growth. Creating a development plan that accounts for these risk factors will allow businesses, community members, and developers to exploit the transportation advantages of the airports, the expertise and workforce of the Metro Detroit region, and the favorable business environment in the State of Michigan.



Figure 3. Wetlands on the current Commerce 275 site.



Figure 4. Current roadway infrastructure on Commerce 275 site.

Vision, Goals, and Objectives

Vision

As the southern gateway to the Metro Detroit area, the Commerce 275 development plays a central role in the region's economy. This site is uniquely positioned to host industrial, commercial, and recreational development that advances Huron Charter Township's economic base, offers employment and career opportunities, and advances residents' quality of life.

Goals and Objectives

1. Create an inviting environment for international business;
 - a. Invest in and develop site infrastructure to maximize the throughput of goods and services;
 - b. Incentive industrial and commercial development through business-friendly ordinances and tax structures;
2. Preserve Huron Charter Township's natural environmental assets;
 - a. Steward existing wetlands within the Commerce 275 footprint and recognize their importance as an ecosystem;
 - b. Integrate the Township's existing Metroparks into the development;
 - c. Create a new transition zone that acts as a buffer between the development and residential community to the south of the site;
3. Advance residents' economic opportunities and foster a forward-thinking community that prioritizes sustained well-being;
 - a. Prioritize businesses that provide commercial and retail employment opportunities that support local residents and provide them with advancement opportunities and invest in workforce development and training;
 - b. Create a sense of place for community members and visitors by using high quality building materials and generous vegetation throughout the site;
4. Connect the metropolitan region's economy through a world-class transit center;
 - a. Apply for federal and other funding options to increase Southeast Michigan's connectivity; and
 - b. Site a transit hub in or near the development to connect DTW and Willow Run with the rest of Michigan.

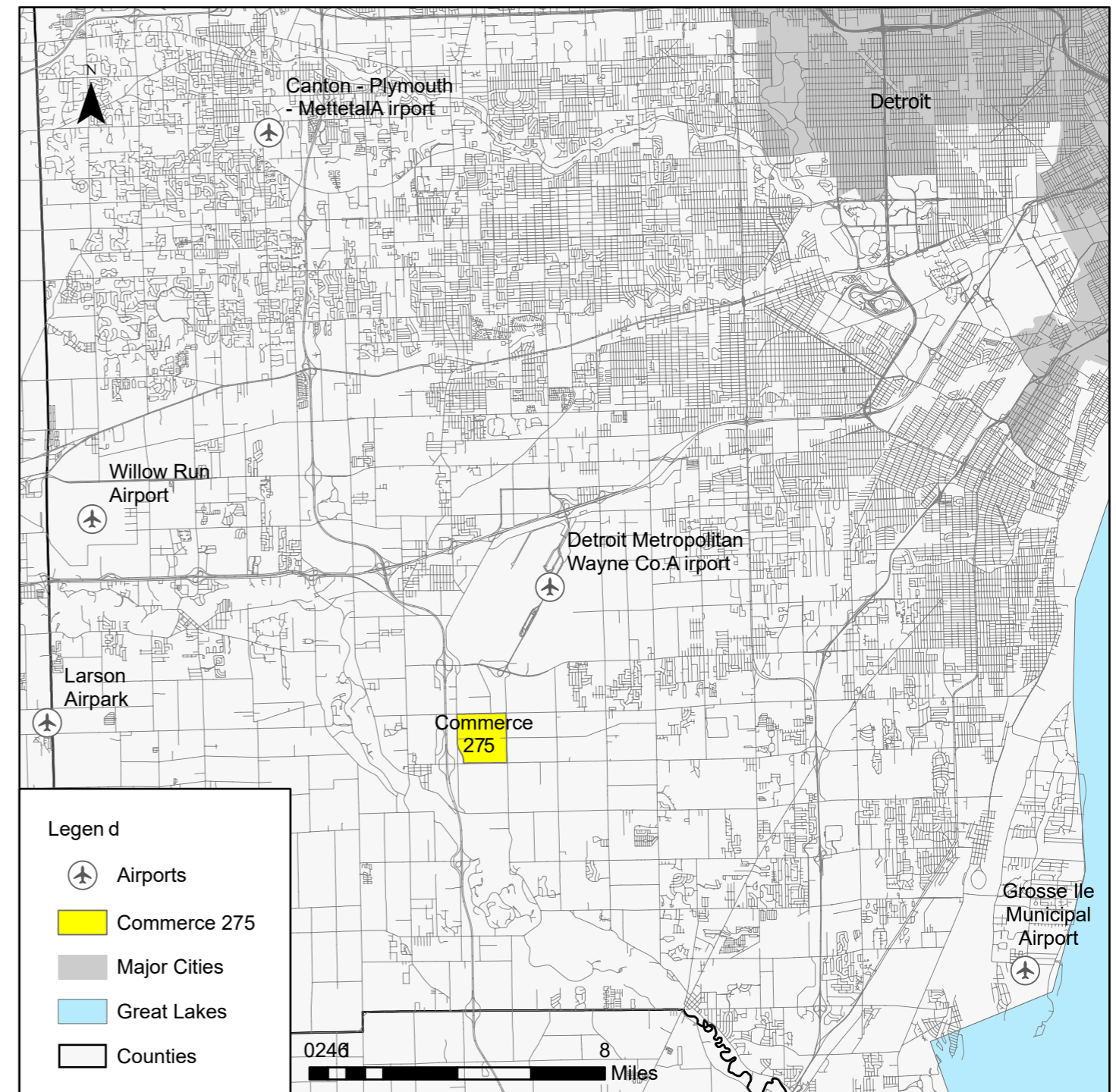


Figure 5. Location of Commerce 275 site within Southeast Michigan.

Site Inventory Analysis and Community Assets

Current Land Use Analysis

As Figure 6 illustrates, agricultural uses and single-family housing comprise the majority of Huron Charter Township's current land use. Vacant land predominately surrounds Commerce 275, the area highlighted in bright yellow on the map. The agricultural land to the south of Commerce 275 contains family farms; however, many are currently for sale and allow for possible rezoning. Commerce 275's surrounding vacant and agricultural land creates ample opportunity for development, and will also connect Commerce 275 with the existing industrialized region spread throughout the Township, with a large cluster of industrial activity in the northern end of the township.

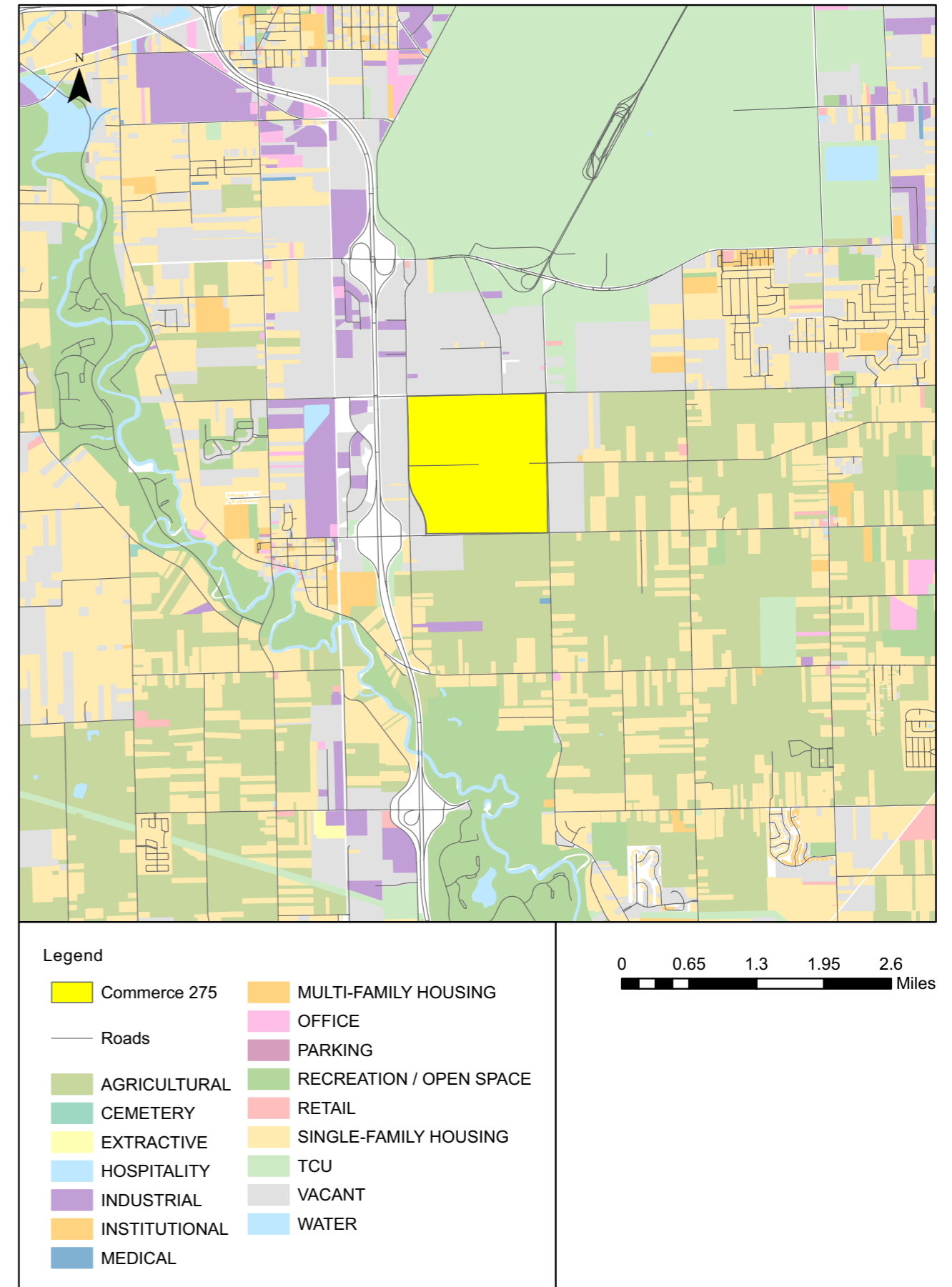


Figure 6. Huron Charter Township's Current Land Use.

Current Retail and Industrial Use Analysis

Proximity to other industrial sites, as highlighted by the purple parcels in Figure 7, would allow the Commerce 275 development to easily connect with the existing regional industrial ecosystem. With DTW directly north, industrial development would allow Huron Charter Township to capitalize on international commercial traffic seeking a regional presence in Southeast Michigan. The lack of substantial retail nearby, illustrated by the minimal red parcels on the map, creates an opportunity for Huron Charter Township to invest in and develop commercial retail options on the Commerce 275 site. This would draw consumers southward from DTW, creating a central economic node for the region.

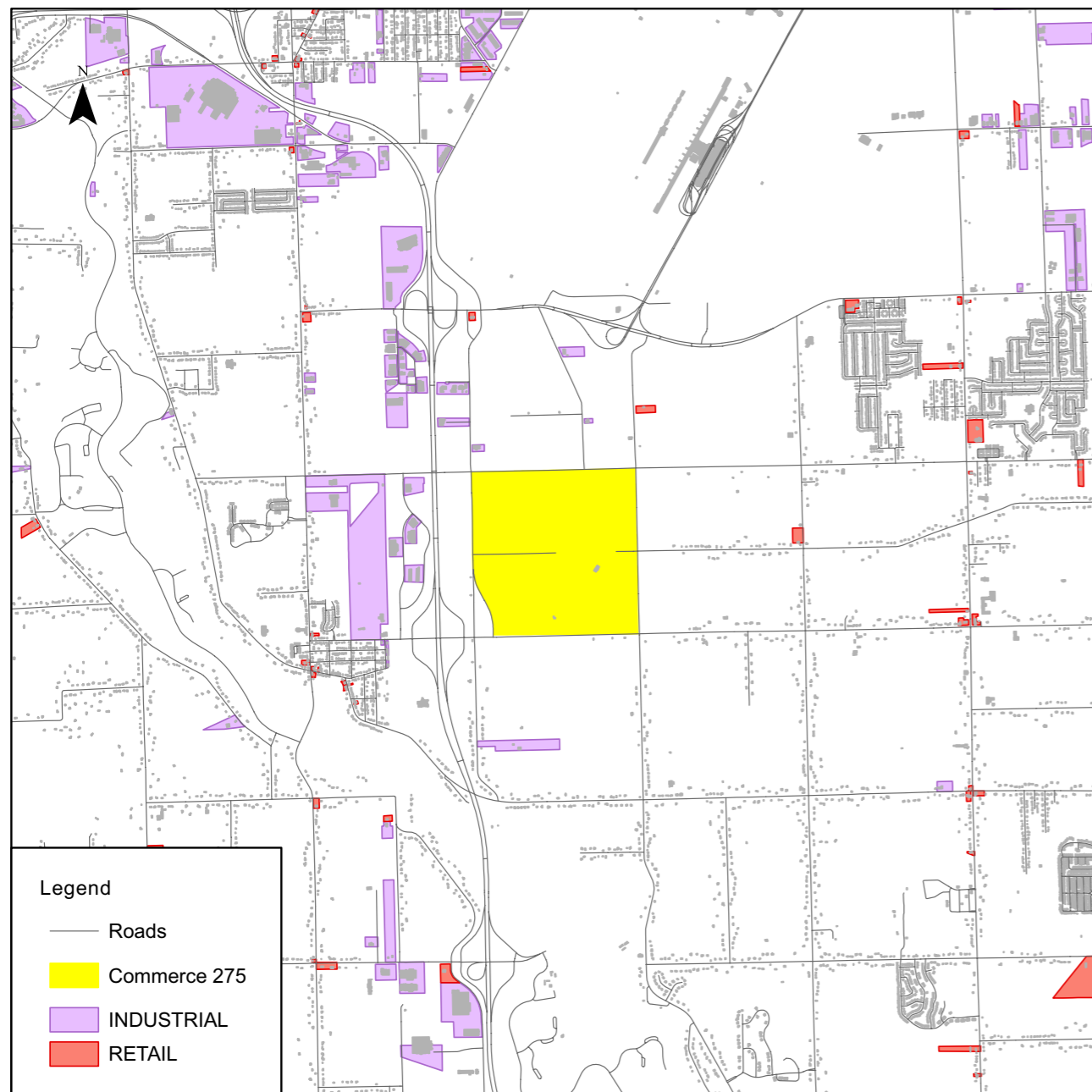


Figure 7. Huron Charter Township's Current Retail and Industrial Use.

Current Recreational Use Analysis

As shown in Figure 8, there is no dedicated recreational use or open space existing on the current site. However, Commerce 275 has an extensive park system to its west that is part of the Huron-Clinton Metropark system. The Metropark system spans across Southeast Michigan, affording many residents open space access and recreational opportunities. 43.7% of Southeast Michigan residents are within ten minutes of a park by car; roughly 40% of Huron Charter Township residents have the same vehicular access. Parks and open space can be integrated into the Commerce 275 site to promote and enhance the Metroparks, an important existing community asset. This would benefit Huron Charter Township residents and increase their quality of life. Moreover, the site has critical wetlands as shown in Figure 10. The siting of parks and open space within Commerce 275 would also aid in the preservation of these wetlands.

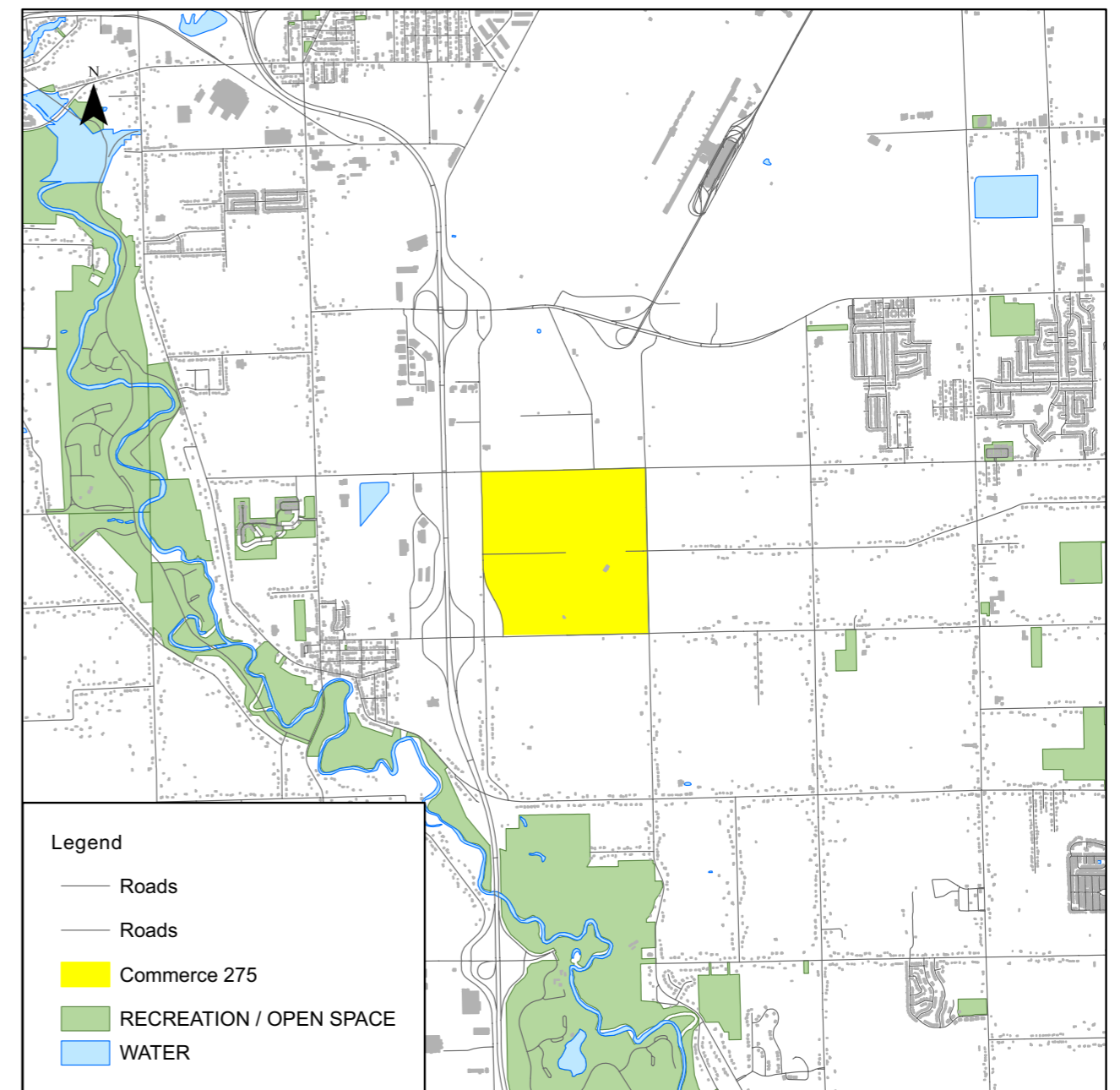


Figure 8. Huron Charter Township's Current Recreational Use.

Current Traffic Analysis

Despite Huron Charter Township's rural character, the area experiences high traffic volumes in select transportation corridors. As shown in Figure 9, Commerce 275's proximity to I-275 creates high traffic volumes along intersections at Sibley and Pennsylvania Roads, respectively. The map measures traffic volume by calculating Annual Average Daily Traffic (AADT), which is the average total volume of vehicle traffic of a highway or road for a year divided by 365 days. Sibley Road features the heaviest traffic around the site, with over 100,000 AADT observed. Both Pennsylvania and Wayne Roads experience high traffic volumes with 15,000 AADT, respectively.

It is important to note that railroad crossings become significant traffic congestion points when trains are passing through town. The traffic congestion caused by trains has become so severe that a

mobile application has been launched that streams a live feed of the train tracks to allow residents to avoid intersections if a train is passing through. There are six railroad crossings in Huron Charter Township. They are located at: Sibley and I-275; Pennsylvania Road; Huron River Drive and Sterling; South Huron and I-275; Willow Road; and Waltz Village. All six of the railroad crossings are to the west of the Commerce 275 site with the closest being the Sibley and I-275 crossing less than a half mile away. The Commerce 275 site's access to I-275 is not impeded by railroad crossings, though it is important to note the potential for congestion if traveling west of I-275 on Sibley Road. The existing high traffic volumes are important to consider when proposing future land uses; the introduction of industrial warehouses and commercial spaces will result in increased traffic volume in the area.

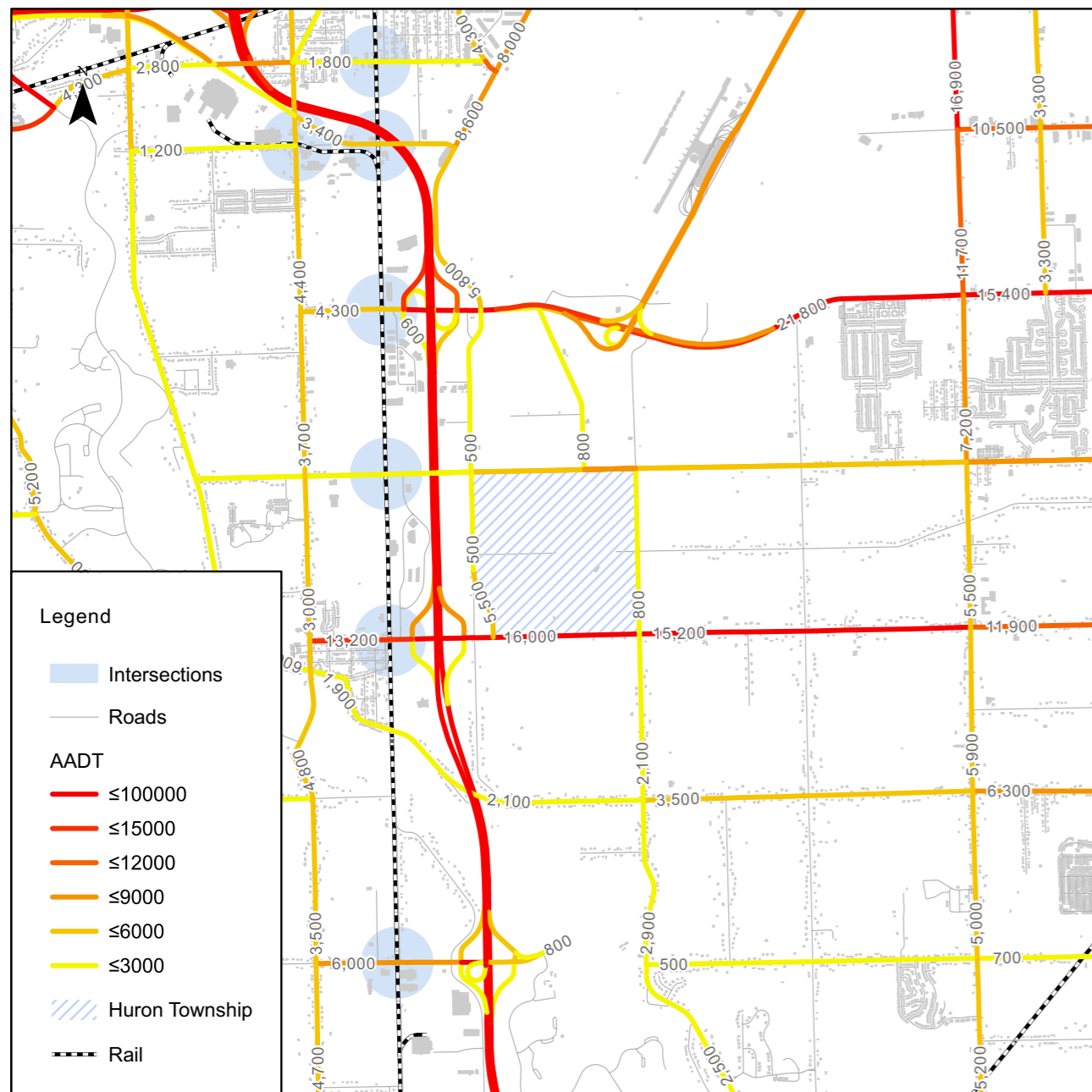
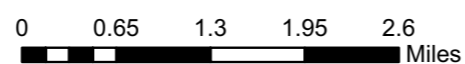
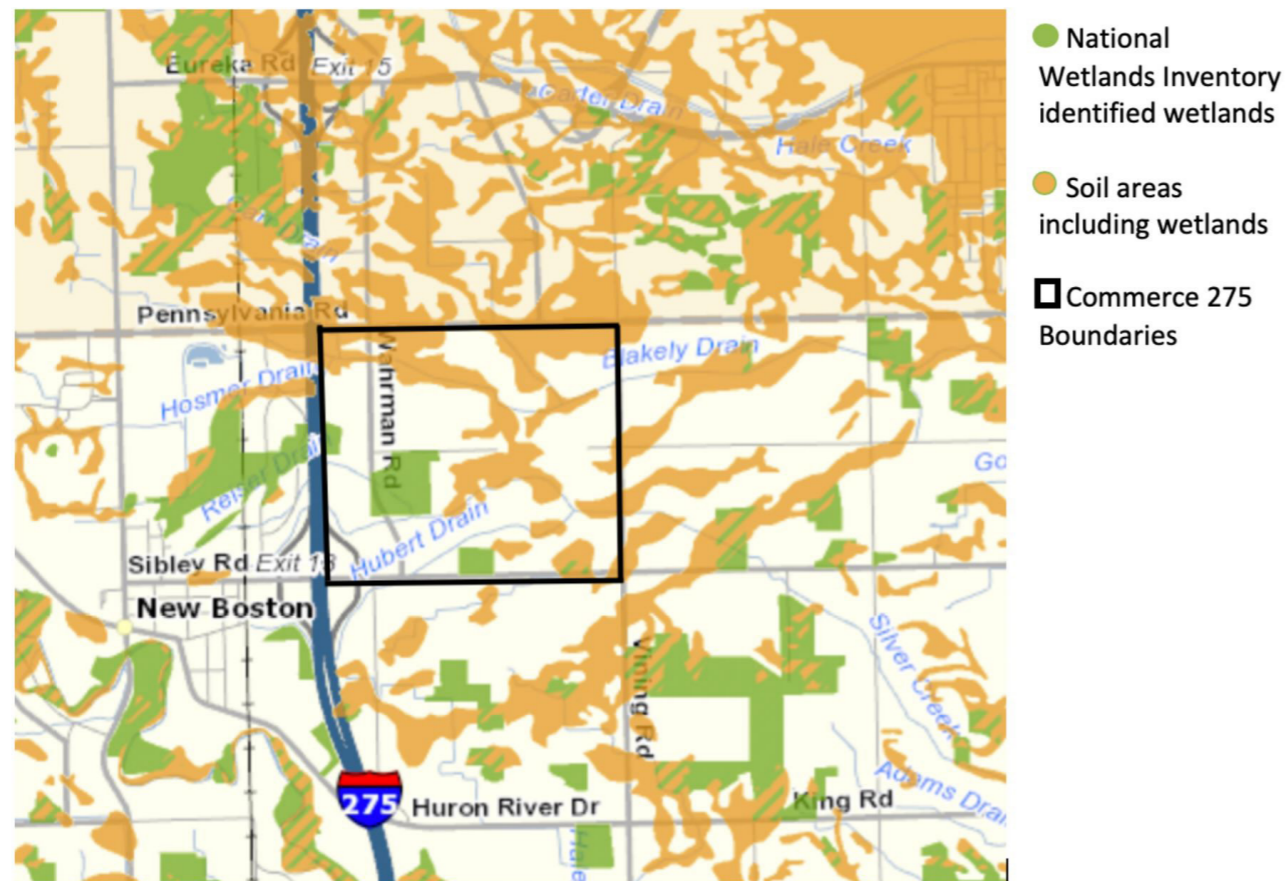


Figure 9. Huron Charter Township's Current Traffic Analysis and Railroad Congestion Points.



Current Wetlands Analysis

Figure 10, from the Michigan Department of Environment, Great Lakes, and Energy, maps the region's wetlands. As illustrated by the map, 40% of the Commerce 275 site features wetlands. Those marked in green have been designated wetlands as part of the National Wetlands Inventory. Such wetlands are a critical natural resource and must be protected. Areas marked in orange feature soil that includes wetland characteristics. If possible, these areas should also be safeguarded; however, if development of these areas is required, appropriate mitigation strategies should be implemented. Mitigation strategies should be decided based on the nature of the development, but can include implementation of vegetative buffers between buildings to reduce nonpoint source pollution or the construction of elevated walking surfaces (i.e., boardwalks) to protect wetlands from foot traffic.



Map Source: Michigan Department of Environment, Great Lakes, and Energy

Figure 10. Huron Charter Township's Current Wetlands.

Case Studies

We conducted five case studies of Aerotropolis-like developments from around the country and globe. These provide DRADC with examples of success and important lessons to consider as they work to achieve Southeast Michigan's own Aerotropolis vision. The case studies have been organized by 1) similarity; and 2) development intensity. In regards to the former element, the case studies start with regions most similar in context to Metro Detroit. As the case studies progress, the variation in the locational context increases. In regards to development intensity, case studies are organized from lightest to heaviest development intensity. Each case study will examine their region's Aerotropolis model according to four main themes:

1. Economic and Workforce Development;
2. Environmental Impact;
3. Community Well-Being; and
4. Transportation.

The case studies include Minneapolis-Saint Paul International Airport, Indianapolis International Airport, Chicago O'Hare International Airport, Dallas/Fort Worth International Airport, and Kempegowda International Airport, located in Bangalore, India. Table 1 below provides a snapshot of the airports and compares them against DTW and Willow Run.

	Annual Enplanements, 2018 (passengers)	Annual Cargo, 2018 (pounds)	Airport Property Size, 2018 (acres)	Distance to Downtown (miles)	Number of Jobs Supported, 2018	Annual Economic Impact (US dollars)	National Ranking: Passengers, 2018	National Ranking: Freight, 2018
BLR	33,300,702	773,698,000	10,000	22	N/A	\$114,392,490	3rd*	N/A
DFW	69,112,607	4,155,362,297	17,207	19.5	228,000	\$37,000,000,000	4th	9th
ORD	39,873,427	6,697,030,276	7,200	15.1	270,000	\$39,000,000,000	3rd	7th
IND	9,418,085	10,784,532,303	7,700	7	32,770	\$5,400,000,000	46th	6th
MSP	18,361,942	1,080,882,463	3,400	15	87,000	\$15,900,000,000	17th	12th
Willow Run	2,527	200,000,000	2,600	35.3	950	\$123,000,000	N/A	N/A
DTW	17,436,837	843,725,711	4,850	18	86,000	\$10,200,000,000	19th	35th

Table 1. Airport Statistics.
*Ranking within India.

Minneapolis-Saint Paul International Airport

The following presents a case study of the Minneapolis-Saint Paul International Airport (MSP) as compared to DTW. The airports share numerous similarities. First, both airports are similarly situated geographically in the Midwest. Second, both airports serve as a major hub for Delta Airlines. Lastly, MSP and DTW have earned the ranks as the 17th and 19th most heavily trafficked airports in the country, respectively. These similarities in location and usage allow for a practical comparison that provides useful lessons for DRADC as it plans to implement its Commerce 275 development.

Overview

MSP is located within Hennepin County, Minnesota. It borders the southeast boundary of Minneapolis, though the airport sits outside the city's limits. Approximately 15 miles from the city center, MSP serves as Minnesota's premier international passenger and cargo airport. 17 commercial airlines fly out of MSP, of which Delta Airlines uses the airport as a hub. Overall, the airport sits on roughly 3,400 acres of land.



Figure 11. MSP with Minneapolis skyline in background.

Demographic and Economic Context

Hennepin County, Minnesota has nearly half a million less residents than Wayne County, Michigan. However, despite differences in population size, the two counties' growth rates tell a different story. Hennepin County's population grew by 1.00% in 2018 while Wayne County experienced a 0.22% decline in population the same year. The 2018 growth estimates are representative of larger historical trends; Hennepin County's population has steadily increased while Wayne County's population has long been in decline. In regards to age demographics, the median age and age distribution of residents in Hennepin and Wayne counties are relatively similar. Concerning racial makeup, Hennepin County has a notably higher white population than Wayne County. (Hennepin County is 72.6% white

compared to Wayne County's 53.2% white population.) Moreover, Hennepin County residents enjoy higher average earnings than Wayne County residents. (Residents earn an average of \$48,465 in Hennepin County compared to \$35,242 in Wayne County.) The poverty rate in Hennepin County is significantly lower than that of Wayne County as well (11.03% compared to 23.05%).

MSP and DTW are both managed and operated by public corporations. The Metropolitan Airports Commission (MAC) manages MSP. Their management helps generate nearly \$16 billion dollars of annual revenue for the Minneapolis-Saint Paul economy. Wayne County Airport Authority (WCAA) manages DTW, which has contributed roughly \$10.2 billion dollars of annual revenue to the Metro Detroit region. Most of the revenue generated by MSP and DTW comes from commercial travel; MSP transports over 18.6 million passengers annually while DTW sees over 17.4 million travelers pass through its airport each year. Freight shipments complement both airports' economic success. In 2018, MSP moved 1.08 billion pounds of cargo; the Federal Aviation Authority (FAA) ranked MSP 28th nationally in terms of weight of cargo moved. By comparison, DTW moved over 840 million pounds of cargo. MSP's combination of commercial travel and freight shipment activity supports 86,900 jobs and generates \$15.9 billion in total economic output. DTW's net effect on the Metro Detroit region is slightly less: the airport supports 86,000 jobs and generates \$10.2 billion dollars of total economic output.

Economic and Workforce Development

In June 2010, MAC published the MSP Airport 2030 Long-Term Comprehensive Plan to serve as a forward-looking planning tool that forecasted future airport facility and infrastructure needs. The document's numerous recommendations included the expansion of terminals, road networks, and runways. Tangible outcomes have resulted from such planning; MSP completed a phased expansion of its Humphrey and Lindbergh terminals to accommodate additional airline passengers. The expansion of the Humphrey and Lindbergh terminals has also enabled MSP to undertake a larger freight load in the last ten years. Thus, forward-thinking planning by MAC officials has allowed MSP to continue its preeminence in the commercial and freight markets.

Environmental Impact

MSP is situated in a densely populated urban area. This setting has substantial environmental implications for airport operations and development. Of the numerous environmental hazards imposed by the airport, noise is the preeminent concern. The FAA mandates that airports conduct noise impact studies whenever they plan to modify or add to their current configuration. This requirement has impacted MSP's ability to grow. For example, the noise hazards mapped in the MSP Airport 2030 Long-Term Comprehensive Plan show significant noise impacts caused by air traffic. To work around these challenges, MSP invested in noise abatement modifications in surrounding buildings. This enabled MSP's further development and growth. Fortunately, since DTW is located in a more rural setting, noise pollution concerns will not impact the airport's long-term development plans to the same degree.



Figure 12. Projected noise impact caused by the capital improvements proposed in the MSP Airport 2030 Long-Term Comprehensive Plan.

Air pollution also impacts the environmental health and safety of MSP’s surrounding communities. Aircraft produce the highest emissions rates related to airport operations; however, automotive traffic to and from MSP also contributes to air pollution. Water quality is another important environmental consideration. Large quantities of deicer used on MSP runways during freezing weather run-off into the stormwater system and degrade overall water quality. DTW must equally consider issues related to air pollution and water quality in their planning.

Community Well-Being

MAC has taken deliberate steps in its planning and operations to improve the well-being of Hennepin County residents, MAC employees, and travelers. In 2013, MAC developed an organization-wide sustainability management plan that sought to reduce emissions and water use while increasing recycling and composting at the airport. As part of the plan, officials involved MAC employees in the visioning and decision-making processes to cultivate genuine buy-in for the program.

Additionally, MAC has administered one of the most advanced residential noise mitigation programs in the world for the communities surrounding MSP. Since 1992, MAC has spent approximately \$482.9 million on noise mitigation programs. This includes insulating over 15,100 single-family homes, 3,300 multi-family units, and 18 schools, as well as acquiring over 400 residential properties affected by MSP aircraft activity.

To address water pollution from deicing sprays, MAC also operates an extensive airport glycol recovery program that allows aircraft deicing run-off to be captured and removed from the stormwater

system. This elaborate system centralizes deicing activity. The captured deicing fluid is either sent for treatment or recycled for use in other commercial and consumer applications.

For travelers, MSP has implemented a robust Arts and Cultures program to bring art to the airport. The program enhances the travel experience and creates a unique sense of place at MSP.

Transportation

MSP offers two modes of public transportation to, from, and around the airport. Local public transportation options include light rail stations that connect travelers to downtown Minneapolis and surrounding suburbs within a half-hour ride. Light rail stations, located within both MSP terminals, also serve as inter-terminal transportation. Public bus service is also available to and from MSP. “Local” bus routes service the Minneapolis-Saint Paul region, while “Jefferson Line” buses transport travelers to and from surrounding counties and states.



Figure 13. MSP light rail stations provide for ease of travel.

Lessons Learned

MAC’s business and sustainability practices offer valuable lessons for WCAA and DRADC given the similarities in the two airports’ regional prominence, capacity, and location. While current transportation options at DTW do not match the connectivity of MSP’s light rail system, the proximity of DTW to downtown Detroit and Ann Arbor offers opportunities for significant regional transit expansion, and thus a more connected Southeast Michigan. Additionally, as the 19th most heavily trafficked airport in the United States and Delta Airline’s 3rd busiest hub, DTW already has strong

commercial and freight airline markets. Investment in infrastructure similar to MSP would allow these markets to expand, especially if Willow Run's existing and potential future infrastructure was also taken advantage of.

Whereas much of the land surrounding MSP is developed, DTW has a significant amount of undeveloped area in its vicinity, including the Commerce 275 site. DRADC is in a unique position to capitalize on the need for increased commercial amenities and freight operations by developing Commerce 275. As the Detroit Region Wayne County Airport Master Plan highlights, Southeast Michigan needs to "identify opportunities for airport-related collateral development, such as hotels, offices, retail, and other commercial development that enhance economic development in the region and are compatible with airport operations."

DRADC can fulfill many of DTW's stated needs through its development of Commerce 275. Concerning freight, Commerce 275's location 20 minutes south of DTW makes it an ideal venue for commercial warehouses, like those surrounding MSP. While DTW currently ships less freight than MSP, the capacity and partnerships required to increase operations at DTW already exist.

Furthermore, Commerce 275 can capitalize on DTW's commercial airline market by providing hotel and retail development, which is currently lacking near DTW. While concerns surrounding noise pollution should still guide DTW's development patterns, the need for noise abatement will be less intense than what is required at MSP; DTW's location in a lower density area safeguards WCAA from having to make similar noise abatement investments. The abundance of developable land surrounding DTW, such as the Commerce 275 site, provides a premiere location to support the multitude of needs expressed in the Detroit Region Wayne County Airport Master Plan and contribute to the region's economic health - just as MSP has done for its region.

Indianapolis International Airport

The following will provide a case study of the Indianapolis International Airport (IND) as compared to DTW. IND and DTW have various similarities. First, both IND and DTW are located in the same geographic region: the Midwest, and specifically the Great Lakes Region. In addition, both airports are top ranked based on customer satisfaction. According to JD Power, DTW was ranked highest in the nation among mega-airports in terms of traveler satisfaction while IND was ranked highest for medium-size airports. IND is a useful airport to study as an example due to its long-running streak as the "Best Airport in North America" among midsize airports for eight consecutive years. Though the airports do not share similarities in size, a comparison between the two airports will provide useful lessons for DRADC as it plans to implement its Commerce 275 development.

Overview

IND is located in Marion County, Indiana, approximately seven miles southwest of downtown Indianapolis. It is owned and operated by the Indianapolis Airport Authority (IAA). The airport occupies around 7,700 acres and is home to the second largest FedEx Express hub in the world. IND is also home to the Colonel Harvey Weir Cook Terminal, which contains two concourses and 40 gates, connecting to 50 non-stop domestic and international destinations and averaging around 145 daily departures.



Figure 14. Colonel Harvey Weir Cook Terminal at IND.

Demographic and Economic Context

The major industries for the regions surrounding both IND and DTW are manufacturing, retail trade, and transportation, warehouse, and utilities. In regards to IND, 60% of the working population within a 10 mile radius of the airport is at the working age of 30-54. 83% of these workers are middle class, and 83% of the working population is white. There are approximately 324,000 jobs in the area. Compared to Wayne County, where DTW is located, Marion County has nearly half the population.

The unemployment rate in Marion County is roughly 4% lower than Wayne County's unemployment rate. Marion County also has a higher percentage of individuals who are 25 or older with a bachelor's degree.

Economic and Workforce Development

In 2011, the IAA Board approved a 30-year land use and development strategic plan for its airport system. The plan focuses on leveraging land assets for increased revenue as well as integrating the airport with multi-jurisdictional economic development efforts around IND and its reliever airport properties, including the former Speedway Airport. The approval came nearly two years after the authority entered into a contract with aviation planning consultants, Landrum & Brown, on March 19, 2009. The plan developed by Landrum & Brown (L&B) includes IAA's property in and near IND as well as its five general aviation facilities in the greater Indianapolis area. The plan identifies seven development zones at IND, with 50 distinct development sites. Revenue projections for 2040, the year the L&B development is expected to be complete, range from \$30 to \$63 million annually.

Environmental Impact

As a member of the global aviation community, IAA is actively supporting environmental sustainability efforts. IAA is committed to engaging in environmentally responsible, sustainable operations, and minimizing any adverse environmental impacts. The progressive authority has identified three main focus areas for sustainable management: 1) environmental management; 2) conservation management; and 3) wildlife management. IAA has published several standards vital to the success of these sustainability efforts. In all aspects of its airport management and operations, IAA strives to:

1. Encourage and apply sustainable development principles in planning, designing, building, operating, decommissioning facilities and services, and in managing airport properties. This includes minimizing the use of environmentally sensitive materials;
2. Implement efforts to reduce waste, recycle, conserve energy, and pursue alternative energy sources;
3. Comply with all local, state, and federal laws, regulations, and permitting processes controlling airport noise, water and air quality, fuel storage, waste disposal, and wildlife management, and regularly assessing performance to achieve the highest standards;
4. Clearly and consistently communicate environmental policies to stakeholders;
5. Respond to the environmental concerns of personnel, passengers, business partners, local homeowners, and the general public;
6. Encourage employee involvement in meeting environmental standards, providing appropriate training on the latest environmental advancements, and serving as a catalyst for the adoption and integration of new technologies into airport operations;
7. Monitor proposed and pending regulation and legislation, partnering with appropriate professional associations, community groups, and academic institutions; and
8. Conduct and engage in environmental education and outreach efforts targeting airport

personnel, members of the general public, students of all ages, and community groups.

DTW and WCAA can use these standards as a guideline in their own environmental efforts.

Community Well-Being

IND is dedicated to promoting the well-being of each and every individual that passes through the airport, from employee to traveler. For example, all IND employees have access to an Employee Assistance Program, which provides confidential counseling and referral services at no extra cost. Travelers also have various wellness options within the comfort of the airport. IND offers amenities such as a spa, meditation room, barbershop, as well as nursing mother rooms.

Transportation

IND offers a variety of transportation modes to and from the airport. For example, they have hourly and daily parking in three locations, including the terminal garage, park and walk lot, and economy lot. Each of these options offers incentives to earn free parking through the parkIND Plus Program, a parking rewards program. However, the most affordable transportation option is the IndyGo public transit system, which costs \$1.75 one-way. IndyGo offers 29 fixed daily bus routes to all Marion County townships, major Indianapolis attractions, shopping malls, and hospitals, the downtown area, and other locations. Unfortunately, the Metro Detroit area does not have a similarly affordable local city bus to get to DTW.



Figure 15. IndyGo bus service to and from IND.

Lessons Learned

IND and IAA's practices offer many valuable lessons for DTW, WCAA, and DRADC. The proactive environmental standards outlined by IAA are important in the context of Commerce 275. The Commerce 275 site has a vast wetlands system that is crucially important to the environmental well-being of the region. Wetlands provide erosion control, act as natural filters for pollutants, help recharge groundwater tables, and serve as natural habitats for many wildlife species. Thus, the sustainability practices implemented at IND, such as providing overflow areas for flood water and storing moisture to nourish rich plant and tree communities, can and should be implemented by WCAA and DRADC. Overall, IND's environmental plan can serve as a guiding light for wetland protection and mitigation strategies to help safeguard the wetlands that exist in the Metro Detroit region around DTW and Willow Run. Additionally, Commerce 275 can capitalize on its proximity to the airports and major cities such as Detroit and Ann Arbor by making its location more accessible via affordable public transit. The IndyGo bus model provides a useful case study.

Chicago O'Hare International Airport

As two of the nation's largest commercial airports, Chicago O'Hare International Airport (ORD) and DTW are similarly situated in the Great Lakes Region and serve two of the nation's top 11 largest metropolitan areas. As a significantly larger commercial hub with a history of extensive expansion and development projects, ORD provides a useful exemplary case study from which we can draw a number of lessons for DTW as it plans for the Commerce 275 development.

Overview

ORD is the nation's 3rd-largest commercial airport based on total enplanements and 7th largest based on total cargo mass. Situated within the census-designated O'Hare Community Area of Chicago, ORD is located 15.1 miles away from the city's Central Business District (CBD). Although ORD is located roughly five miles closer to Chicago's CBD than DTW is to Detroit's, the commute time for private vehicles from ORD into the central city is nearly twice as long depending on traffic. Development and expansion over the past two decades have allowed Chicago's Department of Aviation (CDA) to create coordinated regional public transit that connects ORD's Airport Transit System to the city's broader Metra Commuter Rail system.

Demographic and Economic Context

Compared to DTW's surrounding census-designated area - the City of Romulus, the O'Hare Community Area is nearly identical in geographic size, with roughly half the number of residents. In regards to age demographics, O'Hare Community Area's median age and median household income are both only slightly higher than those of Romulus. The populations of each census-designated area differ significantly in both racial makeup and educational attainment. The O'Hare region contains a much higher proportion of Non-Hispanic White residents and residents with a bachelor's degree.

In both areas, the top three employment industries for residents are identical: health care and social assistance, manufacturing, and retail trade. However, the top three industries for employees working within each area significantly differ. For the O'Hare region, the vast majority of employees working within the area are employed within the transportation sector, with the next two highest sectors being accommodation and food service and professional. This employment base consists largely of commuters living outside of city limits. The three largest industries for employees working within Romulus are identical to those of Romulus' residents, with the majority of workers also commuting in from outside the city. In contrast, the vast majority of residents living within the airport-adjacent areas commute elsewhere for work.

Economic and Workforce Development

With a base of over 37,000 employees making an annual average salary of \$36,000, nearly \$10,000 less than the surrounding O'Hare Community Area, ORD's focus on socioeconomic inclusion policies will become more important as the airport continues to expand. These wage concerns are further compounded by the airport's need to increase diversity in middle and upper management positions,

as well as the lack of diversity within the surrounding business context. As part of the Chicago Development Authority's O'Hare 2021 Terminal Area Plan, ORD has committed to socioeconomic inclusion policies that address each of these major concerns. These policies include planned outreach initiatives, workforce training programs, and targeted bid packages that are all directed toward minority communities, employees, and subcontractors within the surrounding region.

Environmental Impact

Similar to DTW's surrounding context, the majority of land surrounding ORD is either industrial or wildlife preserve. As ORD has continued to expand, the surrounding wetlands have been put at risk of destruction. This has led the CDA to implement a policy that requires the airport development authority to dedicate funds to wetland mitigation in nearby areas that are ecologically optimal for wetland restoration and development. Although natural wetlands are considered more viable than constructed wetlands, this mitigation strategy is a necessary alternative for a fast-expanding airport campus.

Community Well-Being

ORD's economic and workforce development socioeconomic inclusion policies highlight a best practice that also contributes to community well-being. These policies include targeted community outreach, workforce training opportunities, and targeted contract bidding for locally-owned and minority-owned businesses.

Transportation

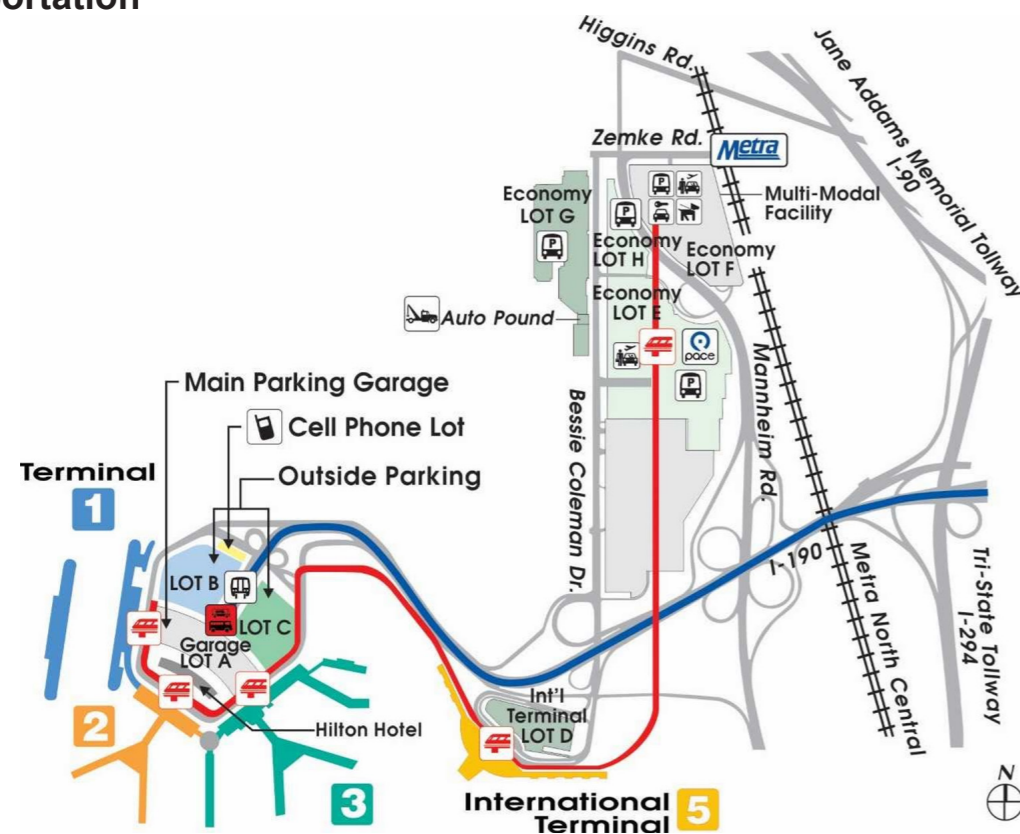


Figure 16. Chicago O'Hare Transit Map.

The integrated transit system between ORD and the City of Chicago provides an excellent template for other large metropolitan areas that lack a regional transit system. Regional transit can help reduce emissions from private vehicular traffic, increase accessibility for individuals without a private vehicle, and further integrate local economies. Chicago's integrated, multi-modal transit system was made possible partly through a 2015 loan program offered by the United States Department of Transportation that totaled over \$120 million. Acknowledging the importance of ORD's role in the regional transit system, the federal government made a clear connection between the importance of major airport development and viable regional transit.

Lessons Learned

The policies implemented by ORD in the areas of environmental preservation, socioeconomic inclusion, and the expansion of regional transit provide a great framework for DTW's future development plans. A robust wetland preservation and mitigation policy is essential to preserving the Metro Detroit region's wealth of natural assets. DTW's comparatively smaller size and access to open land uniquely position the airport to develop a wildlife preservation policy even more optimal than that of ORD. O'Hare's 2020 Terminal Area Plan provides an excellent template for DTW in this regard. The Plan also includes socioeconomic inclusion policies for minority individuals, which are particularly relevant given the demographics of the surrounding DTW community.

Considering Southeast Michigan's current lack of a regional transit system, the City of Detroit and the WCAA could be well-positioned to apply for a federal grant program under the current administration similar to that of ORD. As DTW is advantageously located between Ann Arbor and the City of Detroit, the development of a regional transit system centered on the airport could mutually reinforce economic development and workforce access between each of the locales.

Dallas/Fort Worth International Airport

The following case study reviews Dallas/Fort Worth International Airport (DFW) and compares it to DTW. As the 4th busiest airport by passenger enplanements, DFW has become a hub for travel across the globe. Recent development projects around DFW illustrate how an airport-centered region can be developed into a transportation and distribution center. Its development strategies provide practical lessons to the ongoing Commerce 275 development and the DTW region overall.

Overview

DFW serves the Dallas-Fort Worth metro area, which encompasses 13 counties in Texas. Located in both Dallas and Tarrant Counties, the Cities of Dallas and Fort Worth co-own the airport. American Airlines uses DFW as its primary hub, making it the 2nd-largest single airline hub in the world. DFW currently offers flights to 67 international and 193 domestic destinations. Occupying 18,000 acres of land and over 6,000 acres of airport commercial development opportunities, DFW has attracted a lot of developers, such as Perot Development Co. and Trammell Crow Co., to invest hundreds of millions of dollars into warehouse, commercial, and hotel projects.

Demographic and Economic Context

Retail trade, waste management, transportation warehousing, and utilities comprise the major industries in the DFW area. All of these industries and the airport itself have become the biggest economic drivers in the Dallas-Fort Worth region. Since DFW straddles two counties, the population in the DFW area is double the population of the DTW region. In regards to educational attainment, the education rates in the two Texas counties are around 8% higher than the education rates in Wayne County. This potentially contributes to the hub of knowledge-based professions located in the DFW region, as compared to Detroit. Additionally, over 20 colleges and universities with over 330,000 students are located near DFW, providing the region with a large, highly-educated workforce. The median household income in Dallas and Tarrant Counties is higher than Wayne County. The lack of corporate and personal income taxes in Texas further bolsters the higher median household income. This policy boosts economic success by providing a business-friendly environment. Compared to the DFW region, Wayne County has a much higher vacancy and unemployment rate. This provides Wayne County with space and incentives to develop Commerce 275.

Economic and Workforce Development

Commercial development stands as one of the essential components of the DFW development plan. To encourage employment and capital investment, the federal government designated areas within DFW as Foreign Trade Zones (FTZ) in 1979. Today, the FTZ has 73 buildings, containing 20 million square feet of warehouse and distribution space. A benefit of the FTZ designation is that there is no duty on both imported and exported goods. This policy effectively drove international trade, as well as passenger and cargo air traffic. For example, in 2016, DFW's FTZ received over \$2.4 billion in merchandise.

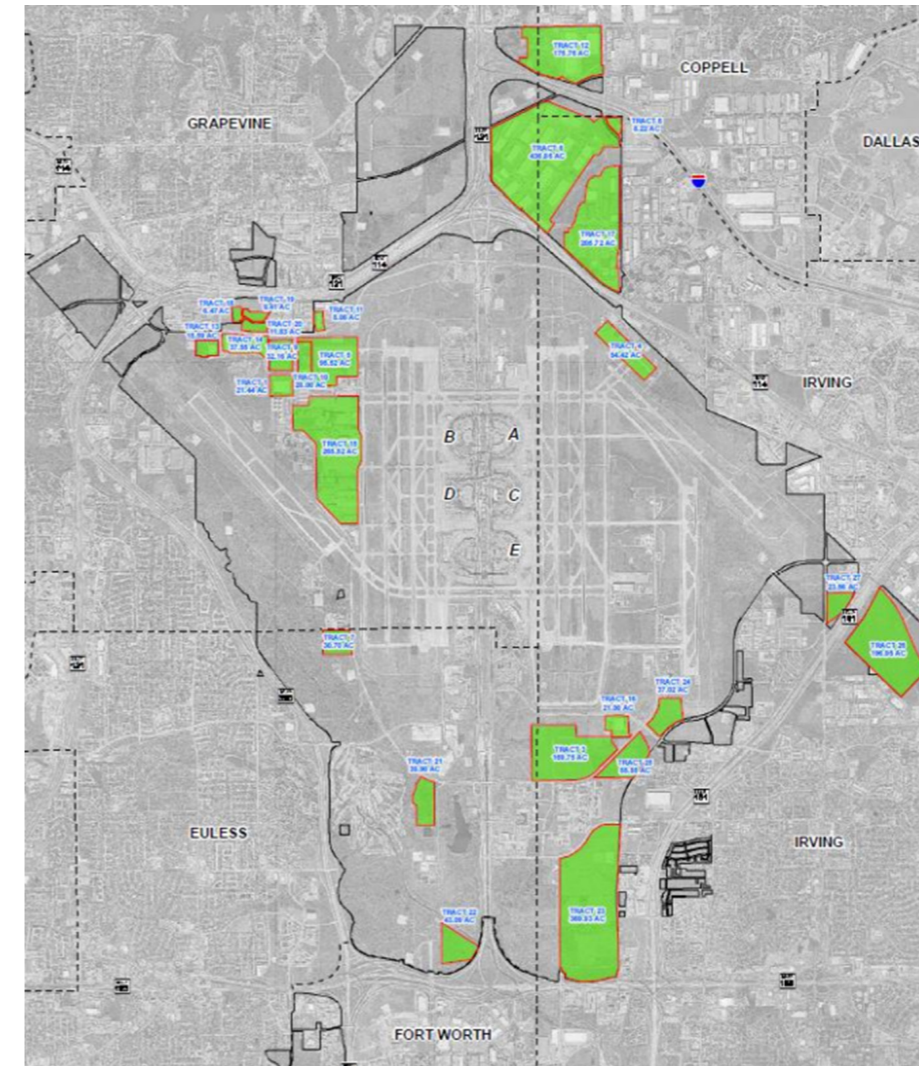


Figure 17. FTZ-designated areas at DFW.

Within this business-friendly commercial environment, DFW has successfully leased more than 6,000 acres of land to developers, which has been developed into industrial and business parks. Office buildings and logistics facilities built on those sites have attracted diverse businesses, including Amazon, Aviall, American Airlines, FedEx, UPS, DHL, Hyatt, and Dallas Cowboys Merchandising. Thanks to these businesses, DFW has become a global e-commerce hub.

The industrial parks include:

International Commerce Park by Perot Development Co.

International Commerce Park (ICP) is a 376-acre master-planned logistics park with more than 6 million square feet of warehouse space. Accessible to multiple transportation services for optimal intermodal operations, Perot designed the industrial park to provide unmatched economic benefits and synergy for industrial warehouse and logistics businesses.

Located within DFW's FTZ, ICP's imports and exports facilitate increased international trade, further develop DFW's air freight logistics, and expand world air cargo growth. ICP bolstered

Dallas/Fort Worth's economy with an estimated 3,880 jobs and \$329 million annual revenues in 2016.



Figure 18. International Commerce Park at DFW.

Irving Industrial Park by Perot Development Co.

The almost 200-acre business park will include four buildings with about 2.4 million square feet of space, according to details provided by the airport. Perot Development has built about 2.5 million square feet of warehouses over the last five years. Two of the buildings, with almost 1 million square feet each, have been leased to digital retailing giant Amazon.

Passport Business Park by Trammell Crow Co.

Passport Business Park (PBP) is a development district located at the south end of the airport. It features a 598-acre master-planned, mixed-use development with a combination of industrial, office, research, hospitality, restaurant, and specialized retail uses. According to documents filed with the DFW board's investment committee, Trammell Crow Co. plans to construct a four-building warehouse and office park on the property valued at more than \$80 million. Given

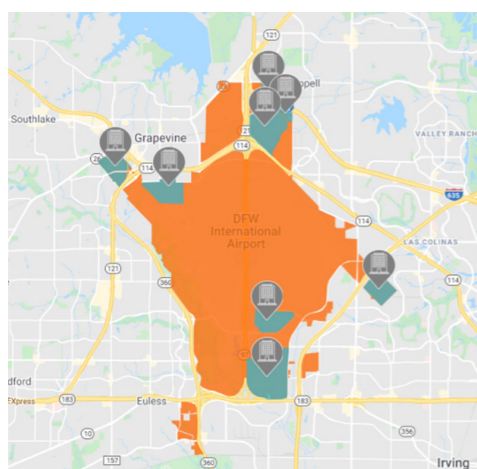


Figure 19 (left). Industrial Parks at DFW.

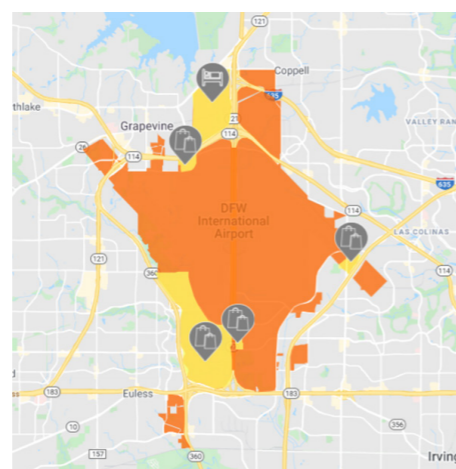


Figure 20 (right). Business Parks at DFW.

DFW's location in the center of the North Texas region, PBP is well-positioned for increased growth. It also benefits from the nearby state Highways: 183, 161, and 114.

Other industrial parks include 635 Industrial, Northwest Logistics, Walnut Hill Industrial, and 121 West Business Park. Other business parks include Bear Creek Business Park, Destination District, Bear Creek Golf Course, Southgate Plaza, and Founders' Plaza.

Environmental Impact

Rapid growth in North Texas, one of the fastest growing regions in the United States, brings competition for natural resources. A balance between economic development and environmental sustainability is important for the region's long-term planning. In August 2008, DFW launched an airport-wide sustainability policy and program. Furthermore, DFW authorities produced the Green Building Standards guidelines to ensure sustainable design for infrastructure, renovations, and new facilities. In addition, laws such as the Joint Airport Zoning Board Ordinance and the airport's legally required Environmental Impact Statement also help safeguard surrounding communities from potentially adverse environmental impacts. DFW has implemented innovative programs to promote active natural resource protection ranging from water conservation and material management to waste recycling and biodiversity. DFW also updates their Environmental Social Governance Report annually. Such reports outline a process to actively engage stakeholders and consider the community's desires in regards to environmental protection.

Additionally, DFW proactively invests in and develops operations that positively impact the environment. For example, the airport has electric vehicle stations, a carbon management and renewable energy program, LED lighting upgrades, and dynamic glass, among other environmental amenities. According to statistics provided by the 2018 Environmental Social Governance Report, the airport's greenhouse gas emissions dropped from around 150,000 e to around 40,000 e in the last eight years. However, the report also reflects that energy directly consumed by passengers has not decreased.

Community Well-Being

DFW's focus on economic and workforce development and environmental impact directly and indirectly benefit the surrounding communities and their well-being.

Transportation

DFW's central location makes it easily accessible. Moreover, DFW provides and prioritizes opportunities for transit-oriented development. For example, the Dallas Area Rapid Transit (DART) rail serves DFW and can also bring visitors to Dallas sights and landmarks. Trinity Railway Express also offers service to and from Downtown Fort Worth and surrounding landmarks. The extensive network of DART light rail, Trinity Railway Express commuter rail, bus routes, and paratransit services

in DFW moves more than 220,000 passengers per day. These public transit services enable compact and walkable communities around the airport.

Lessons Learned

DFW provides a valuable example of creating and developing a transportation-focused Aerotropolis. With the rapid growth of e-commerce and online business, more logistics facilities are needed in all metropolitan areas. Under this circumstance, municipalities currently compete with one another for businesses, with the hopes they will create jobs, boost the local economy, and promote long-term growth. DTW could apply the same strategies as DFW, and further capitalize on its regional assets to achieve DFW's Aerotropolis success. Wayne County has ample undeveloped land, which could be used for industrial and business parks such as those present at DFW. The relatively cheaper land prices and more cost-effective labor force can attract companies to Michigan once the region has invested in required infrastructure. Lastly, the colleges and universities in DTW's surrounding areas could provide future business parks with a well-educated workforce. The network created by universities such as the University of Michigan in Ann Arbor, Wayne State University in Detroit, and Michigan State University in East Lansing will help facilitate business growth and success.

Kempegowda International Airport

Airports flank the journey to a destination; they are rarely the destination. In its ultimate vision, DRADC imagines an airport ecosystem that not only transports passengers and commercial goods from one destination to the next, but also welcomes visitors, as well as local residents, and invites them to stay awhile. The idea of the Aerotropolis has shaped the development and growth of Asia's modern cities for several decades. Conversely, across the American urban landscape, airports have been banished to our cities' edges. While the handful of domestic airports studied above have begun to redevelop around the Aerotropolis model, they have almost exclusively focused their efforts on the business and industry components of Aerotropolis design, contributing to the "geography of nowhere" ubiquitous with the American airport form. While such emphasis supports a region's economic development, it fails to produce the social benefits and sense of place fostered by the mixed-use development model popular across Asia and its Aerotropolises.

Overview

This case study considers a far-away Aerotropolis - Kempegowda International Airport located in Bangalore, India - to identify its recent development strategies, understand its opportunities, challenges, and solutions, and provide lessons learned from its development as a globally industrial and locally commercial Aerotropolis. Despite a distance of almost 8,500 miles between Bangalore and Detroit, Kempegowda in South India can serve as a model for DRADC's Commerce 275 development and Southeast Michigan due to the similar economic, environmental, community, and transportation goals embedded within both Aerotropolis developments.

Demographic and Economic Context

The Indian government's investment into Kempegowda stems from Bangalore's continuously growing information technology sector. The South Indian city is home to many prominent Fortune 500 companies and a large concentration of software and bio-technology firms. While Bangalore aims to build an airport city to bolster this sector and globally connect its various products and services, Detroit wants to capitalize on the Aerotropolis trend to strengthen and support its historical presence as a transportation and mobility leader. Although different sectors motivate Aerotropolis investment and construction in South India and Southeast Michigan, both regions have strong industry clusters to economically support and benefit from an Aerotropolis.

Economic and Workforce Development

Bangalore International Airport Limited (BIAL), the private arm of Kempegowda's governmental public-private partnership, constructed "Cargo Village" in January 2013. This 11-acre facility helped strengthen "Bangalore's position as a trade and commercial hub," and features office space, a workforce development center, employee dining facility, and additional logistics and distribution infrastructure. The inclusion of office and industrial parks within Kempegowda builds upon Bangalore's strong information technology sector and allows for its future growth. However, although the information technology sector creates many well-paying jobs that afford benefits and improved quality of life,

such jobs are only available to highly educated classes and castes. Aerotropolis developments must consider and prioritize economic and workforce development opportunities for individuals from all socioeconomic backgrounds. To achieve this, Kempegowda has established a workforce training center that offers cargo management, airport ground operations, and other training for entry-level employment.

Environmental Impact



Figure 21. Rendering of Kempegowda's Future Terminal 2 Showing Green Amenities.

Bangalore residents affectionately refer to it as India's "Garden City;" it is known for its many green spaces. BIAL can honor the city's heritage by incorporating green, environmentally-friendly elements into Kempegowda's Aerotropolis design. As India's first greenfield airport development built under an emerging public-private partnership model, the development of natural and agricultural resources into airport and related industrial and commercial space has obvious negative environmental consequences, including decreased green space and increased pollution. However, BIAL has attempted to honor the "Garden City" name by incorporating green elements into Bangalore Aerotropolis' terminals, office and industrial space, and public commercial facilities. For example, the use of plants and green space complement many of the Aerotropolis' facilities. Additionally, Kempegowda is the first solar airport in Karnataka, Bangalore's home state.

Community Well-Being

A visioning study conducted by the Colorado Department of Transportation in 2016 identified several successful models of Aerotropolises from around the world. The inclusion of employee-

focused and consumer-facing amenities separates the study's selected international models from its chosen domestic examples. Mixed-use development within and around airports helps international Aerotropolises foster local economic opportunities and increased quality of life. Such models integrate luxury hotels, versatile exhibition and conference centers, state-of-the-art office space, experiential retail, unique restaurants, and vibrant streetscapes as not only part of, but quintessential to Aerotropolis design. Kempegowda's recent development strategies lean into this model, as well as enhance them.

"The Quad by BLR" officially launched on February 19, 2019. It features over ten food and beverage vendors, including sit-down restaurants and to-go windows for airport travelers rushing to catch a plane. The dining options also integrate International and Indian chains amidst local establishments. Haagen-Dazs ice cream and Café Coffee Day serve as familiar options for global travelers, while Bangalore favorites, including the immensely popular brewery Windmill Craftworks, introduce guests to the city's local flavor. Nine retail stores, which also include a mix of international and local brands and offer different price points, intermix with the dining options. The space also accommodates flea markets, rotating food trucks, live music, and sport watch events, all of which add to the commercial development's unique sense of place. However, what truly makes The Quad unique among airport dining, shopping, and entertainment options is that it is completely open to the public; shoppers do not require an airline ticket to access the space. BIAL intentionally designed The Quad as a privately-owned public space with the aim of transforming the typical airport experience into a vibrant and social one - for travelers and Bangalore residents alike. The ambience and amenities provided at



Figure 22. Travelers and Locals Watch Live Music at The Quad outside Kempegowda Airport.

The Quad have earned it the title of Bangalore’s “new fave night-out spot.” This description illustrates The Quad’s success as a buzzing, social hub.

By investing in employee and consumer-facing amenities, such as a cafeteria for industrial workers and The Quad for travelers and locals, Kempegowda creates a sense of place for employees and visitors alike. However, although the airport has become a destination within the city, it is not well-integrated within the existing Bangalore urban settlement pattern; residents must suffer through a sometimes multi-hour drive to reach the airport from the traditional city center. The current residential development of Devanahalli, a former suburb of Bangalore, will better connect and integrate the airport to the broader city and complete the mixed-use development goal of “live, work, play.”

Transportation

Bangalore’s central location amidst South Indian megacities and connectivity to India’s “Golden Quadrilateral Highway Network” makes it an ideal transportation hub. However, although Bangalore and the airport are well-connected nationally and globally, its local transportation network is lacking. Currently, only private vehicles and a few buses (of which predominantly locals use) provide access between the main city and Aerotropolis. To enhance Kempegowda’s connectivity, Bangalore has invested in a metro rail with plans to connect the public transportation system to the airport. Once completed, the train system will provide better transit options between the city and Aerotropolis.

Lessons Learned

By identifying Kempegowda’s opportunities, challenges and solutions, and considering its recent successful development strategies, a myriad of lessons learned can be applied to DTW’s Aerotropolis development. DRADC can develop a similar workforce training center (and include an onsite cafeteria) to complement its existing logistics and distribution center plans. This will bolster the region’s economic and workforce development and provide opportunities to individuals from all socioeconomic backgrounds. In regards to environmental impact, DRADC should prioritize green design as BIAL has done in Kempegowda. Wetlands make up 40% of Commerce 275’s land; the incorporation of green space can protect this vital natural feature. The well-being of Commerce 275’s adjacent communities can be safeguarded and enhanced by ensuring consumer-facing commercial opportunities exist within the Aerotropolis development. Currently, DRADC’s plans focus on the industrial components of Aerotropolis design. Kempegowda offers important lessons for how and why locally-facing commercial development fosters sense of place and community well-being. Lastly, a lack of public transportation options similarly constrains Bangalore and Detroit. Although Bangalore’s metro rail is still developing, the fact that the region is proactively planning for public transit places it ahead of the Metro Detroit area. DRADC should advocate for public transportation options and connectivity to ensure its Aerotropolis is well-integrated and best serves the region. Overall, the lessons learned from South India prove useful for Southeast Michigan’s future as a global Aerotropolis region.

Overall Lessons Learned

Each case study provides distinct examples of how regions around the world have leveraged the unique opportunities an international airport provides to improve their surrounding community’s respective economic, environmental, and social well-being. Due to Commerce 275’s proximity to DTW and Willow Run, several of these lessons learned can be applied to Commerce 275’s land use pattern, environmental protection scheme, cultural positioning, and transportation planning. MSP, ORD, and DFW, for example, have consistently generated significant passenger and cargo traffic by developing interconnected transportation systems and promoting industrial development within the vicinity of their operations. IND has implemented progressive sustainability practices, such as innovative flood mitigation strategies and targeted-water conservation efforts. Lastly, Kempegowda has established itself as a unique economic and cultural institution by providing a workforce training center onsite and creating a sense of place for travelers and residents alike. Combined, the five case studies illustrate how the Commerce 275 site can leverage its proximity to DTW and Willow Run to create an economically and socially vibrant development while also stewarding the region’s natural resources.

Review of Current Hillwood Site Plan

Since purchasing the Commerce 275 site, Hillwood has prepared a site plan outlining potential land use patterns for the development. Although the Hillwood site plan features a mix of distribution and light industrial uses, commercial spaces, and potential residential uses, and also considers Commerce 275's wetlands by providing easements and mitigation zones, we believe the site plan fails to fulfill all the needs of the site, DRADC's Aerotropolis vision, and the Huron Charter Township community.

In regards to economic and workforce development, the site plan prioritizes distribution and manufacturing uses. Although the siting of these uses matches the needs of the site and surrounding area - the northern positioning naturally connects to Huron Charter Township's existing industrial clusters to the northwest of Commerce 275, the site plan does not include workforce training centers. Such centers are an important component to ensuring inclusive, equitable economic development for Huron Charter Township residents. Additionally, our community engagement with Huron Charter Township elected officials revealed the desire for hotel accommodations on the site to promote tourism to the region and create additional job opportunities. The same officials were also skeptical of residential uses within Commerce 275. Thus, the Hillwood site plan fails to fulfill this community vision and also goes against community wishes.

Environmentally, the Hillwood site plan does protect Commerce 275's most important wetlands, located in the southwest portion of the site. However, it does not consider using these spaces for recreational purposes and connecting them to Huron Charter Township's existing Metroparks. While the Hillwood site plan meets the obligations of federal and state environmental protection laws, the plan fails to innovatively imagine how such natural features can also benefit the community and promote Huron Charter Township's existing assets.

In terms of community well-being, beyond the economic benefits created by job opportunities and retail options, the Hillwood site plan does not provide any community-oriented amenities. Additionally, our community engagement efforts revealed the desire for a buffer between the residential community to the south of Commerce 275 and any retail uses on the site. The Hillwood site plan places all retail options directly across the street from this community with no buffer.

Lastly, the Hillwood site plan does not provide for any transportation options. This is concerning given the forecasted impacts of increased traffic as well as the site's relatively distant location from DTW and Willow Run. For travelers without a private vehicle, Commerce 275 is currently impossible to reach. Transit options are needed to promote the economic vitality of Commerce 275.

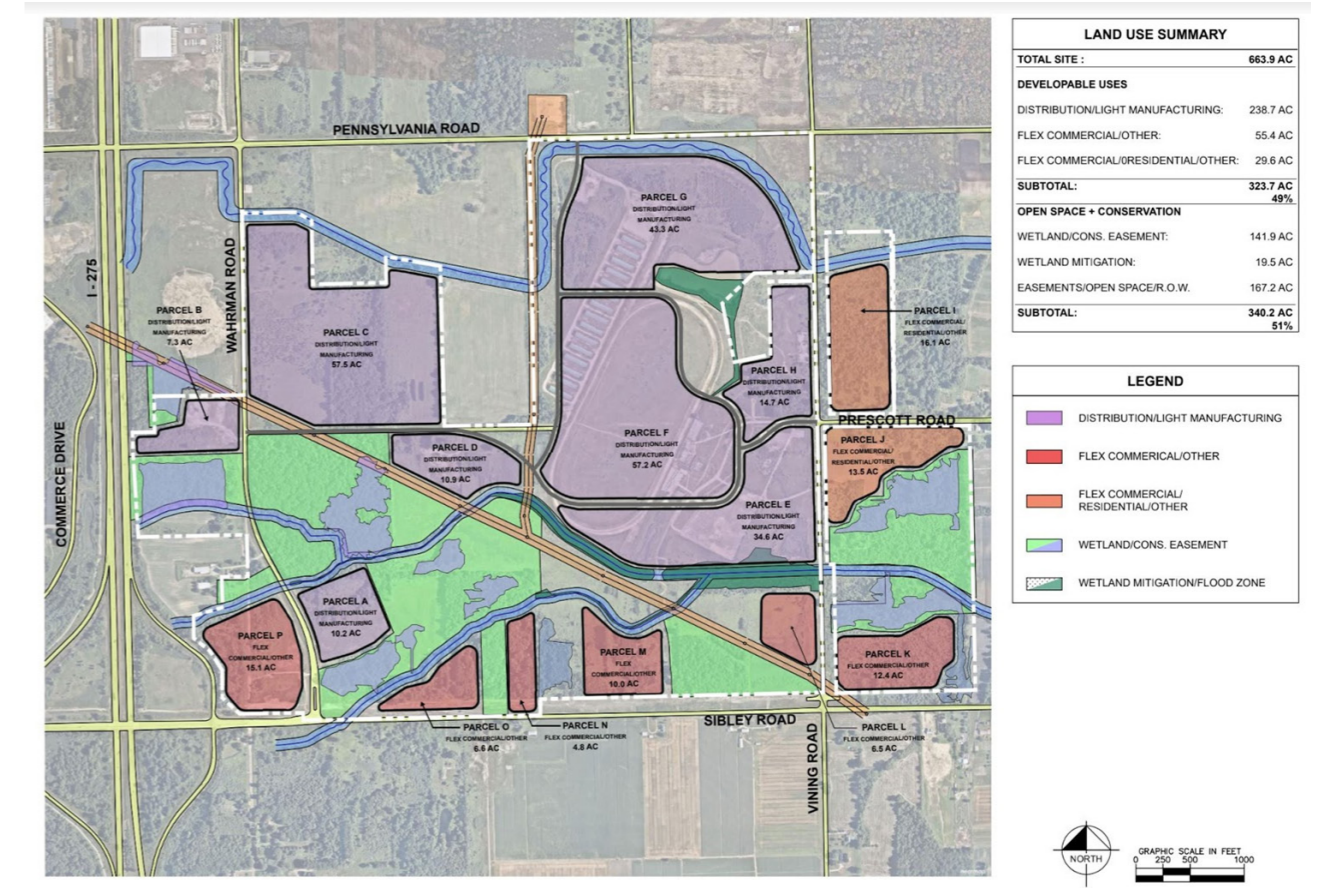


Figure 23. Hillwood Site Plan for Commerce 275.

Urban Footprint Analysis

To thoroughly analyze the impacts of development on the site, scenario-based models representing the three proposed design concepts were run on Urban Footprint. By changing the current land use patterns on the site to the proposed land use patterns designated by the design concepts, valuable economic, environmental, and transportation data were forecasted. The data returned from each scenario were synthesized into readable tables to allow for straightforward comparisons by decision makers.

The following analysis is based on complex, software-based calculations. Pertinent assumptions and definitions for this analysis are listed below:

1. Baseline population and housing data come from the Decennial Census and American Community Survey; Employment data come from the Longitudinal Employer-Household Dynamics (LEHD) program; and parcel data are provided by CoreLogic;
2. Land Use Characteristics:
 - a. Open Space
 - 0.0 Dwelling Units/Acre
 - 0.0 Employees Supported/Acre
 - b. Industrial/Warehouse
 - 0.0 Dwelling Units/Acre
 - 14.8 Employees Supported/Acre
 - c. Commercial
 - 0.0 Dwelling Units/Acre
 - 0.9 Employees Supported/Acre;
3. Analysis modules calculate the land use operating at full dwelling unit and employment capacity;
4. Vehicle miles traveled (VMT) per capita is calculated as the total annual miles of vehicle travel divided by the total population in the area; and
5. Mixed-use vehicle miles travelled is calculated based on the observed relationships between characteristics known as “D” factors and travel behavior in cities and regions across the United States. The eight “D” factors are:
 - Density – residential and employment concentrations;
 - Diversity – jobs/housing, jobs mix, retail/housing;
 - Design – connectivity, walkability of local streets, and non-motorized circulation;
 - Destination – accessibility to regional activities;
 - Distance to transit – proximity to high quality rail or bus service;
 - Development scale – critical mass and magnitude of compatible uses;
 - Demographics – household size, income level, and auto ownership; and
 - Demand Management – pricing and travel disincentives.

For a comprehensive explanation of the methodology used in each analysis module, refer to the Urban Footprint website (<https://help.urbanfootprint.com/features/analysis-modules>).

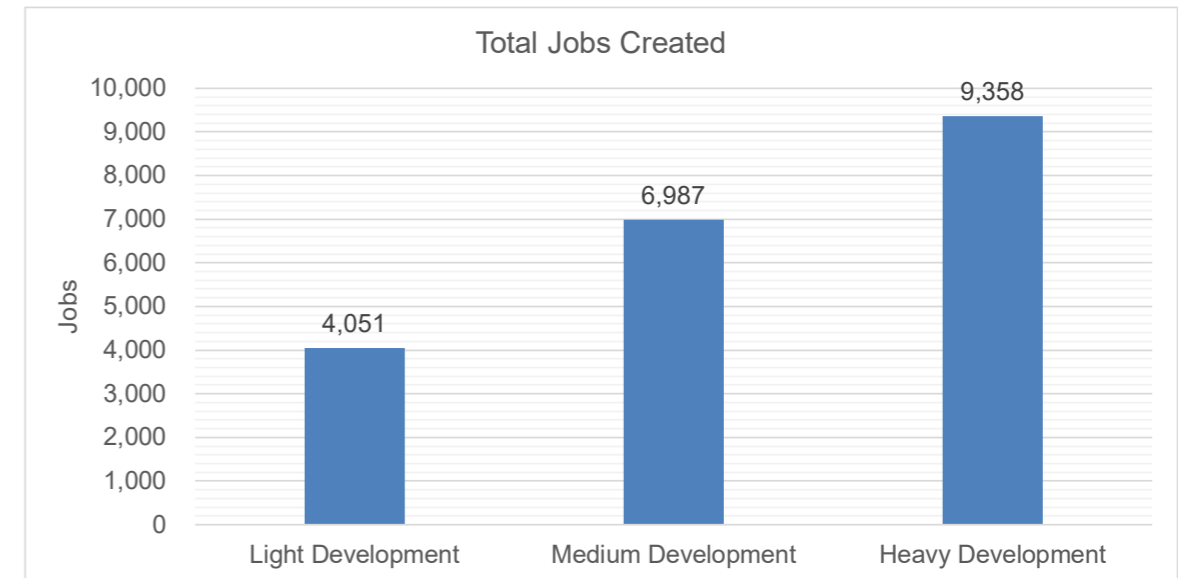


Figure 24. Comparison of Jobs Created through each Land Uses Scenario Model.

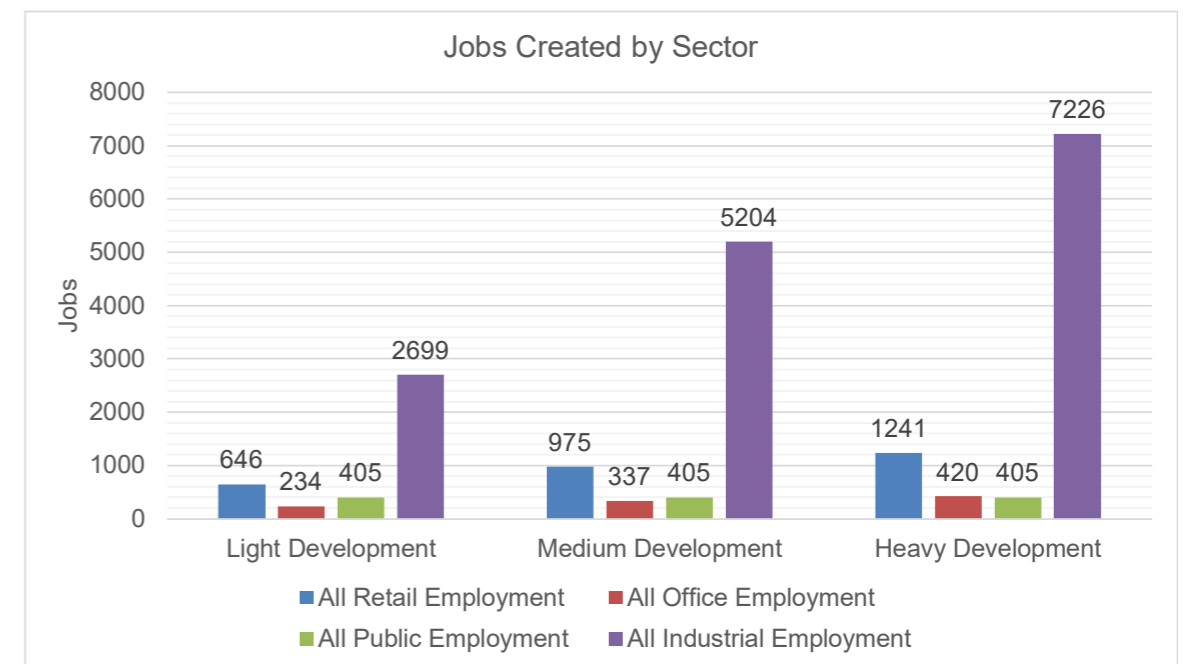


Figure 25. Comparison of Jobs Created by Sector through each Land Use Scenario Model.



Figure 26. Comparison of Greenfield Land Consumed in each Land Use Scenario Model.

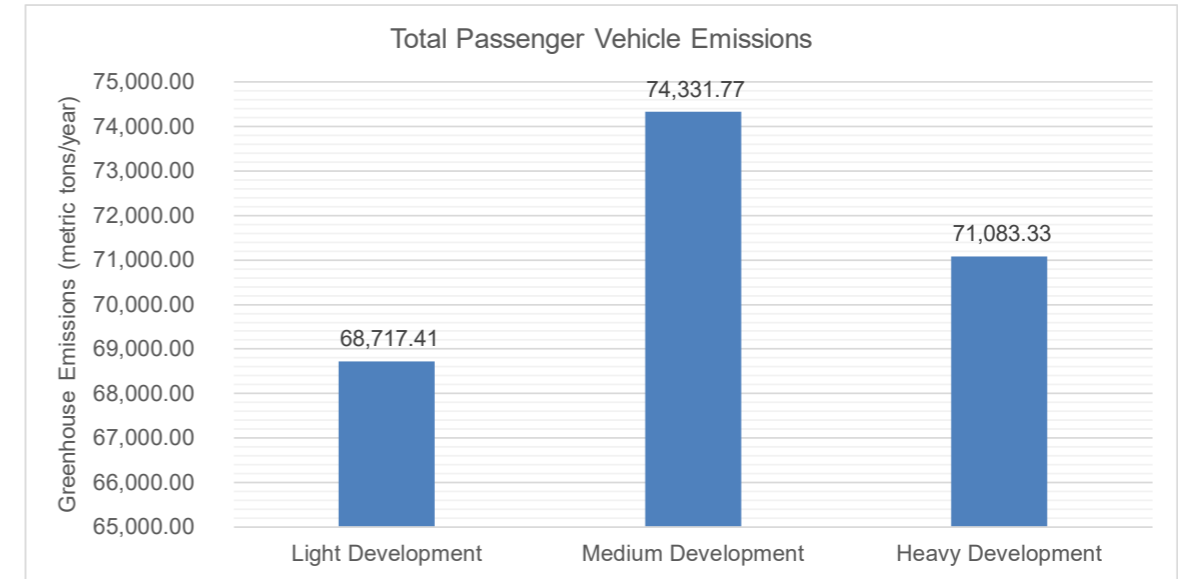


Figure 28. Comparison of Passenger Vehicle Emissions Generated in each Land Use Scenario Model.

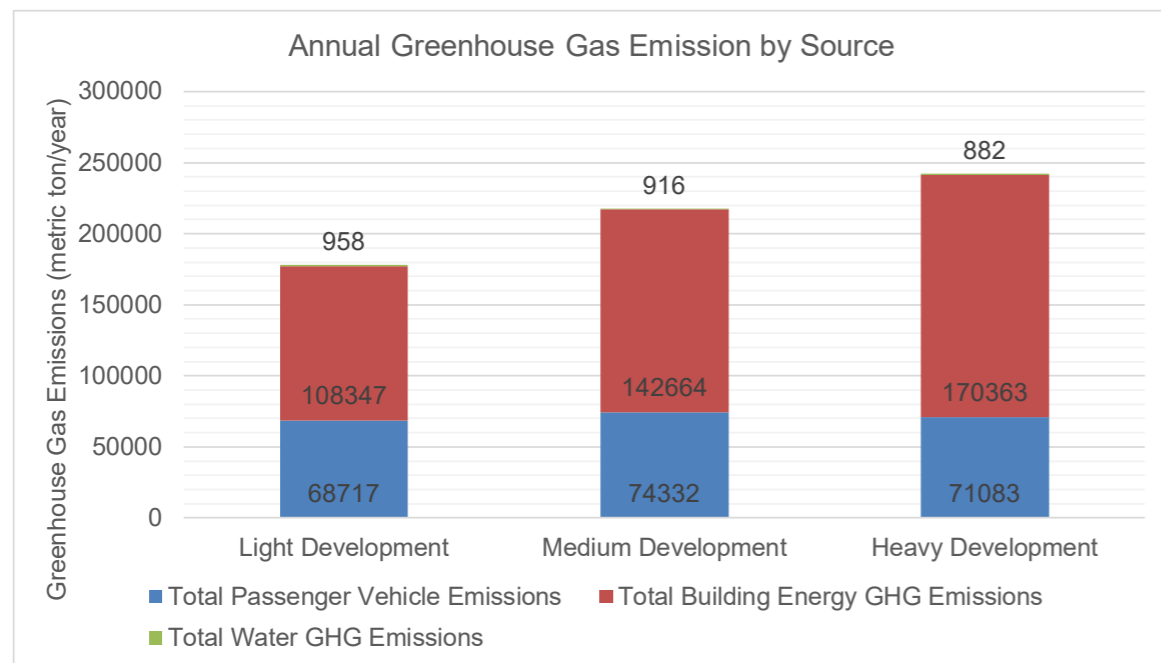


Figure 27. Comparison of Annual Greenhouse Gas Emissions Generated in each Land Use Scenario Model.

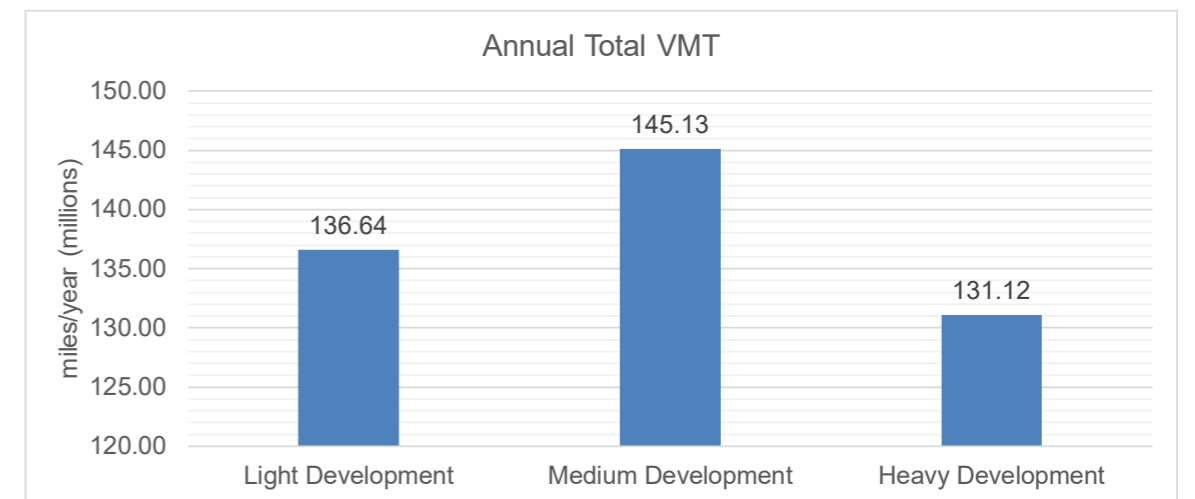


Figure 29. Comparison of Annual VMT in each Land Use Scenario Model.

Light Development

The light development scenario was designed to mirror the already scheduled development of two sizable warehouses on the northwest corner of the Commerce 275 site. We analyzed the economic, environmental, and transportation outcomes if the rest of the site is conserved as open space. We found sizable economic impacts result from the inclusion of the two warehouses, as shown in Figure 24. The light development scenario supports roughly 4,000 new jobs. By sector, this land use pattern primarily supports employment in the industrial sector; the retail, office, and public sectors also observe moderate gains in employment, as shown in Figure 25. As a whole, this influx of development represents a 64% increase in employment in Huron Charter Township.

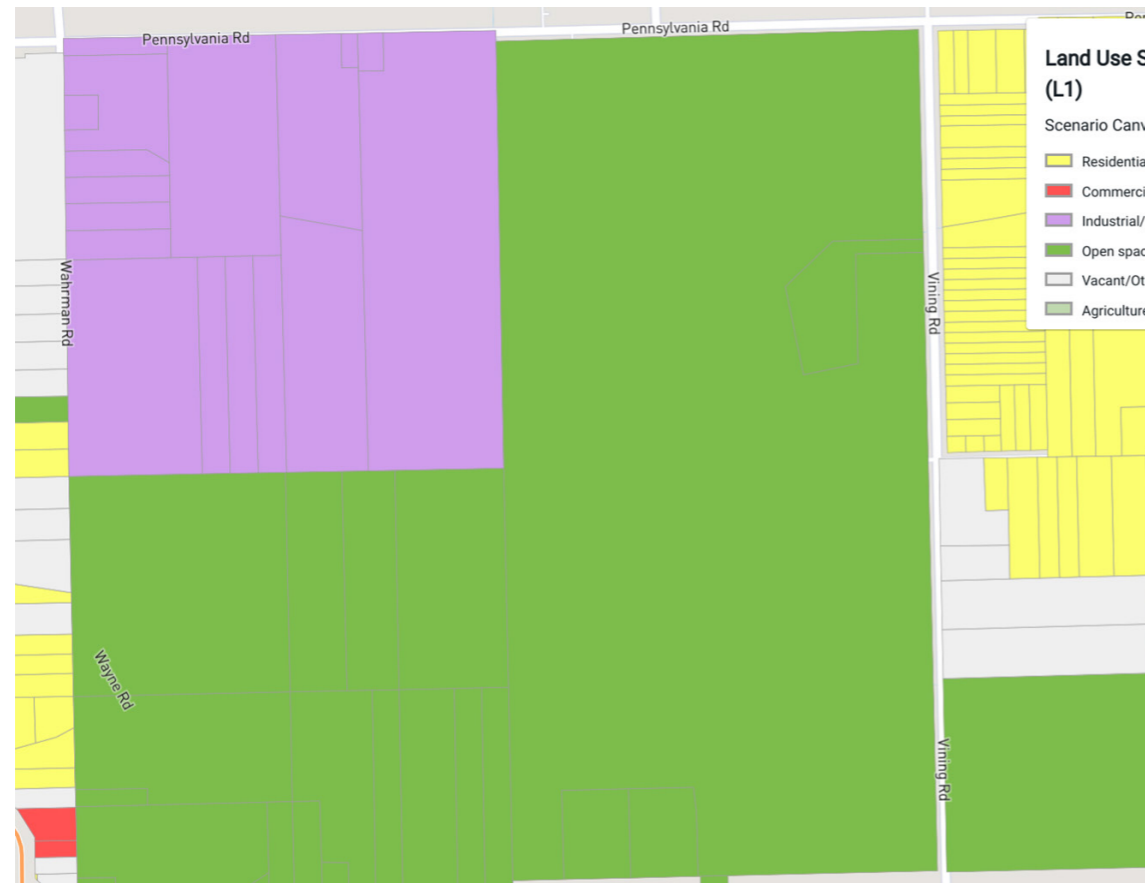


Figure 30. Light Development Design Concept Land Use Scenario.

Though the light development scenario is the least intensive land use scenario proposed, it still has a sizable environmental impact. The development consumes approximately 140 acres of greenfield, as shown in Figure 26. An estimated 178,022 metric tons/year of greenhouse gas emissions caused by vehicular traffic traveling to and from the site and emissions generated from building and water energy is also produced, as shown in Figure 27. For context, the City of Detroit produced over 10.6 million tons in 2012.

The siting of industrial and warehouse uses on the northwest corner of the site provides sufficient access to I-275 while also providing a buffer from residential uses on Sibley Road. Moreover, the conservation of the rest of the site stewards the critical wetlands and open space in the area. However,

the light development scenario may be too liberal in the application of conserved open space. As shown in Figure 30, this scenario conserves more open space than there are critical wetland areas. Despite this, the balance between sizeable increases to employment and environmental protection are the greatest strengths of this land use pattern.

The increase in industrial activity around the site also contributes to the number of vehicle emissions and VMT, as shown in Figures 28 and 29.

Medium Development

The medium development scenario was designed to model a more intense commercial and industrial land use than the light development. We allocated roughly 50% of the site to industrial and warehouse uses, 20% to commercial uses, and the remaining 30% to conserved open space. With this land allocation, we analyzed the economic, environmental, and transportation outcomes. This land use pattern returns even greater economic benefits than the light development, as shown in Figure 24. The medium development scenario supports roughly 7,000 new jobs. By sector, this land use pattern primarily supports employment in the industrial sector; the retail, office, and public sectors also observe moderate gains in employment, as shown in Figure 25. As a whole, this influx of development represents a 182% increase in employment in Huron Charter Township.

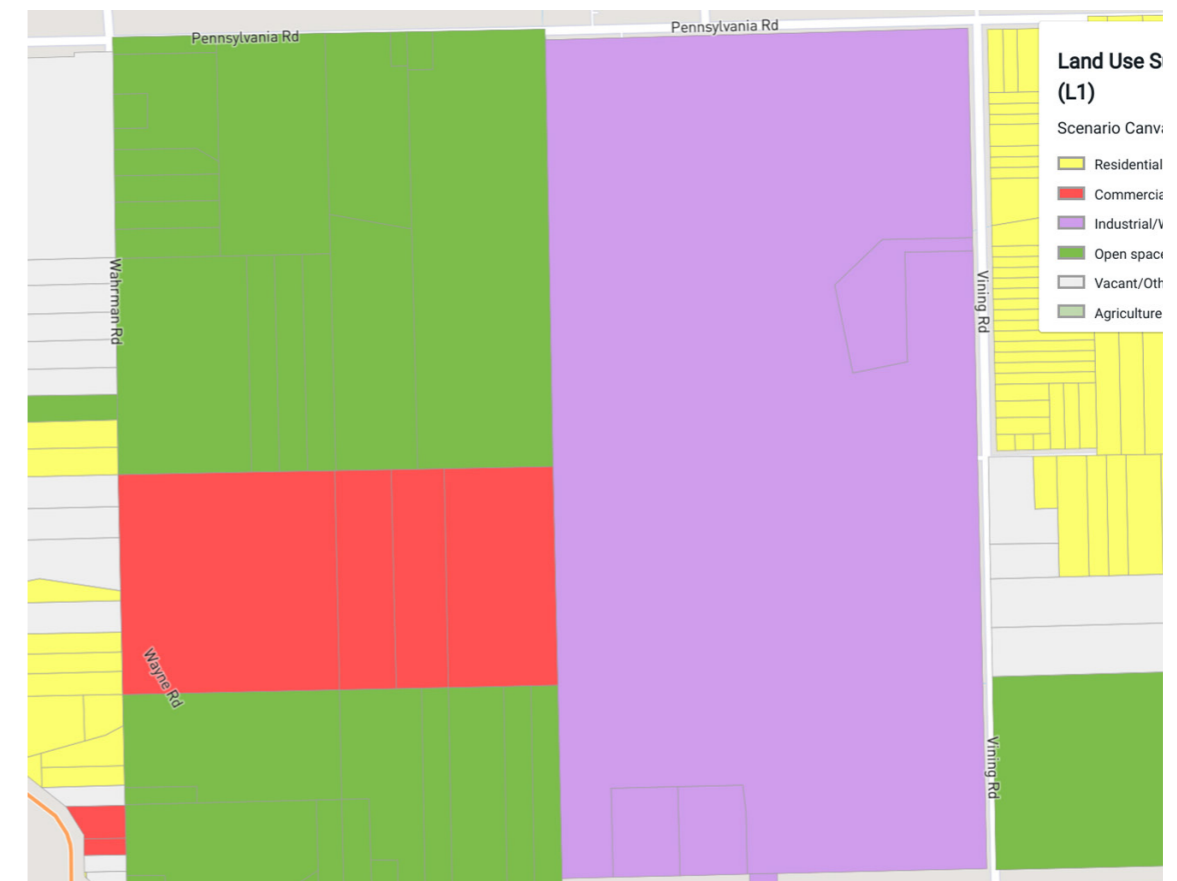


Figure 31. Medium Development Design Concept Land Use Scenario.

However, the medium development design concept is a relatively intensive land use scenario, and consequently has a measurable environmental impact. The development consumes approximately 208 acres of greenfield, as shown in Figure 26. An estimated 217,912 metric tons/year of greenhouse gas emissions from vehicular traffic traveling to and from the site and emissions generated from building and water energy is also produced, as shown in Figure 27. Notably, the medium development scenario produces more vehicle gas emissions and VMT than the heavy scenario, as shown in Figures 28 and 29. This increase appears to be related to the siting of the industrial facilities on the east side of the site, which would result in a further distance to I-275. (Note the industrial land use was sited on the eastern portion of the site because the imported parcel boundaries in Urban Footprint would not allow for 50% of the site to be allocated as such elsewhere.) While we acknowledge the land use siting is incorrect due to these constraints, we believe the scenario still has merit due to its economic and environmental outputs.

The medium development provides insight into a more heavily developed site. The siting of industrial and warehouse and commercial uses on 70% of the site provides greater economic potential than the light development. The trade-off is the loss of open space and critical wetland areas. This more dense land use would likely alter the rural character of Huron Charter Township. That being said, the potential of economic development while still maintaining some open space creates an attractive development pattern.

Heavy Development

The heavy development scenario was designed to be the most dense development pattern of the three scenarios. We allocated roughly 70% of the site to industrial and warehouse uses, 20% to commercial uses, and the remaining 10% to conserved open space. This land use pattern returns the greatest economic benefit of the three scenarios, as shown in Figure 24. The heavy development scenario supports roughly 9,400 new jobs. By sector, this land use pattern primarily supports employment in the industrial sector; the retail, office, and public sectors also observe moderate gains in employment, as shown in Figure 25. As a whole, this influx of development represents a 278% increase in employment in Huron Charter Township. As shown in Figure 32, this scenario also supports the inclusion of a hotel and transit center, which provides further economic benefits. It is important to note, though, that this heavy land use pattern results in destruction of critical wetlands.

As the most intensive land use scenario, the heavy development design concept results in the most sizable environmental impacts. The development consumes approximately 365 acres of greenfield, as shown in Figure 26. An estimated 242,328 metric tons/year of greenhouse gas emissions from vehicular traffic traveling to and from the site and emissions generated from building and water energy is also produced, as shown in Figure 27.

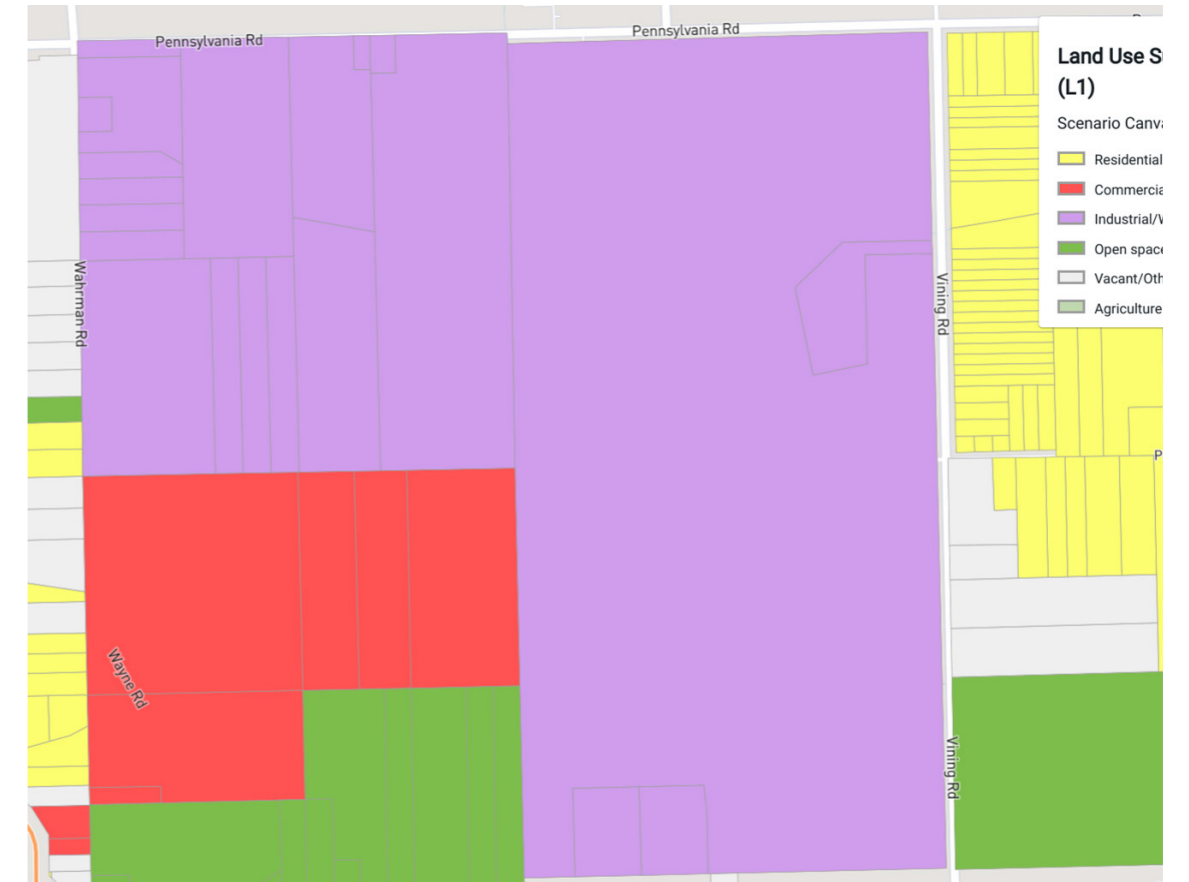


Figure 32. Heavy Development Design Concept Land Use Scenario.

The increase in industrial activity around the site also contributes to vehicle emissions and the number of VMT, as shown in Figures 28 and 29; however, these are lower than in the medium development design concept.

Design Concepts and Policy Recommendations

Design Concept 1: Light Development Intensity

For our lightest intensity option, we propose three main land uses: industrial, commercial, and environmental. In regards to industrial land use, this design concept prioritizes the development of the already planned transportation logistics and distribution center. Located in the northwest corner, the center connects Commerce 275 to Huron Charter Township's existing industrial ecosystem. Moreover, by attracting both national and international corporations seeking a regional manufacturing and distribution base in Southeast Michigan, the center creates economic development opportunities for DTW, Willow Run, and the region. For the adjacent commercial retail development, we propose dining options, fueling stations, and other amenities that would attract local residents, airport users, and those traveling along I-275 and I-94. Lastly, we have dedicated the southern and eastern areas of Commerce 275 to retaining the site's most critical natural and environmental assets.

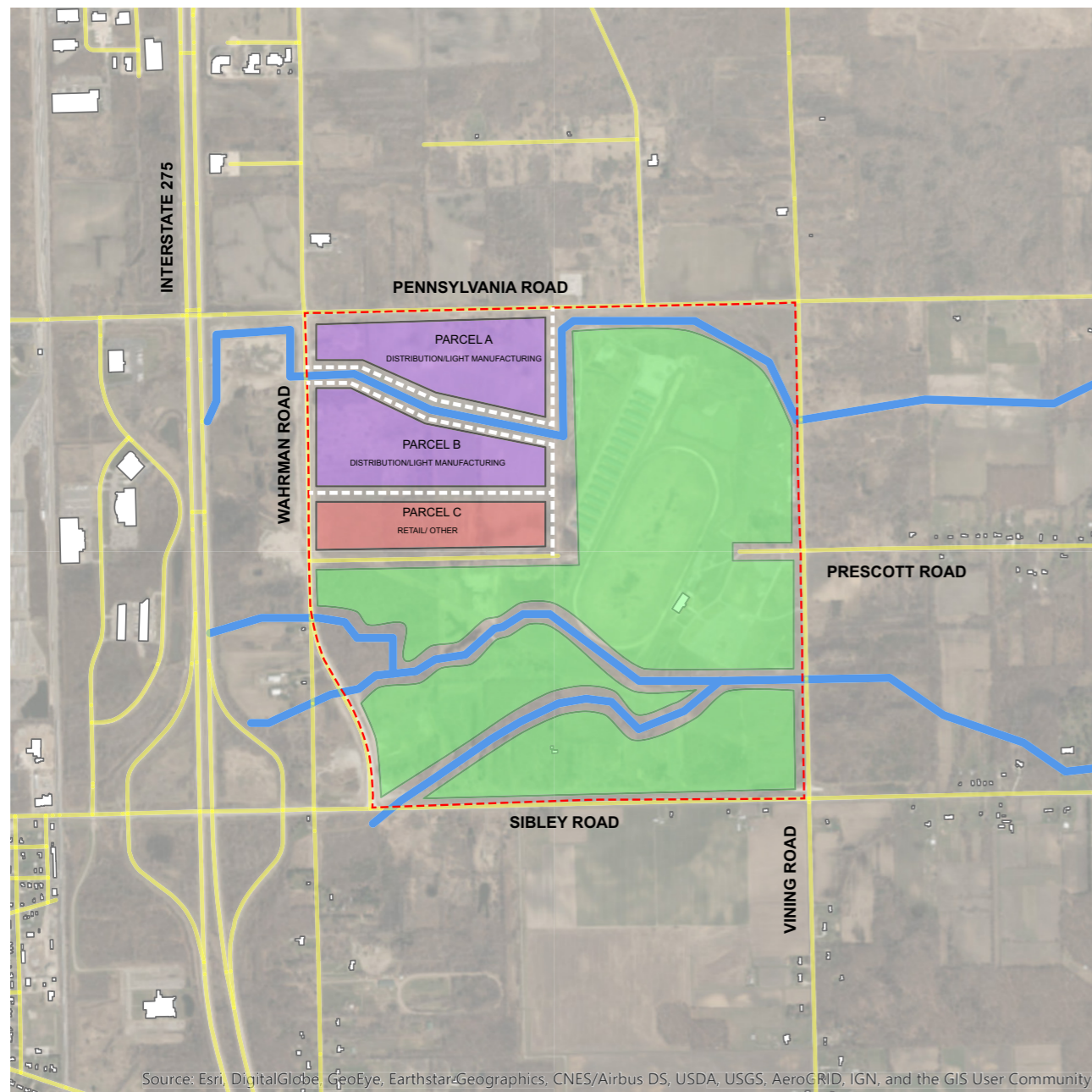


Figure 33. Light Development Intensity Design Concept.

Policy Recommendations

1. Preserve all federally-recognized wetlands onsite, and prioritize safeguarding areas containing wetland soils and tree coverage; and
2. Create a workforce development program that employs teenage and young adult residents.

Design Concept 2: Medium Development Intensity

For our medium intensity option, we propose an expansion of industrial uses along the site's northern portion to better accommodate the national and international corporations using DTW and Willow Run as commercial hubs. Additionally, we propose a mix of retail options at the corner of Vining and Prescott Roads that will cater to a mix of consumers from the local community, the airport, and those traveling along I-275 and I-94. We also dedicate the southern end of the site to environmental conservation to both protect two large wetlands and to provide a buffer between the site and the majority of Huron Charter Township's residents.

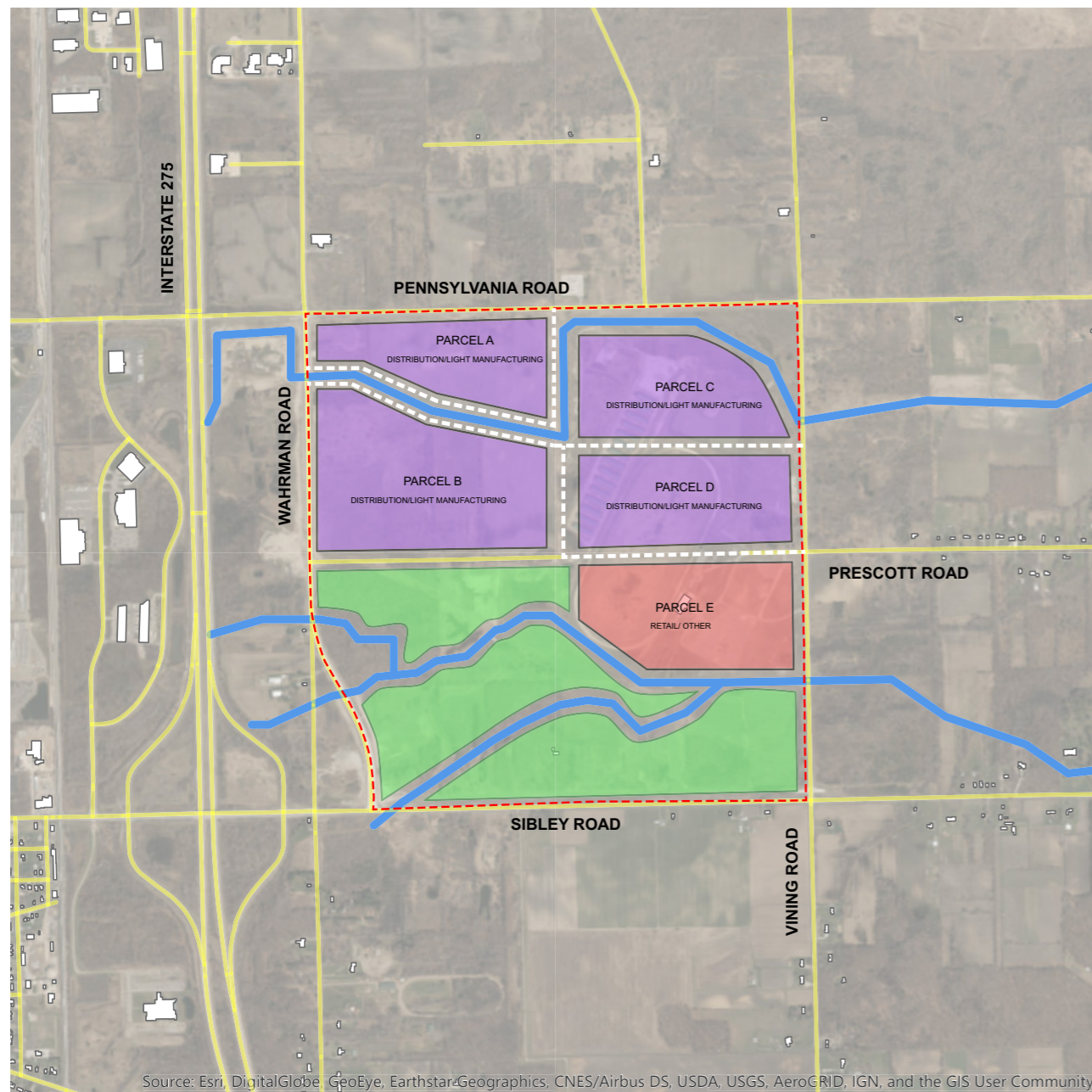


Figure 34. Medium Development Intensity Design Concept.

Policy Recommendations

1. Preserve all federally-recognized wetlands onsite, and prioritize safeguarding areas containing wetland soils and tree coverage;
2. Create a workforce development program that employs teenage and young adult residents;
3. Maximize street frontage for retail development along Vining and Prescott Roads; and
4. Create an outreach program to recruit local business owners and entrepreneurs to occupy retail space.

Design Concept 3: Heavy Development Intensity

For our most intensive option, we propose land uses that would cater to a diversity of industrial, commercial, retail, lodging, community, and transit uses. While retaining the planned transportation logistics and distribution center on the northwest corner of the site, we also propose a large commercial shopping area, hotel, and regional transit center. The highlight of this design option is the community space, which can accommodate local farmers and flea markets, temporary outdoor art exhibitions, summer concerts, and other events. Beyond providing recreational opportunities, by incorporating green elements and open space into its design, the community space can also help safeguard Commerce 275's environmental assets. (The community space is integrated among the site's second largest wetland.) Collectively, such amenities, including the industrial and retail land uses, will collectively attract a diversity of local, regional, and international users.

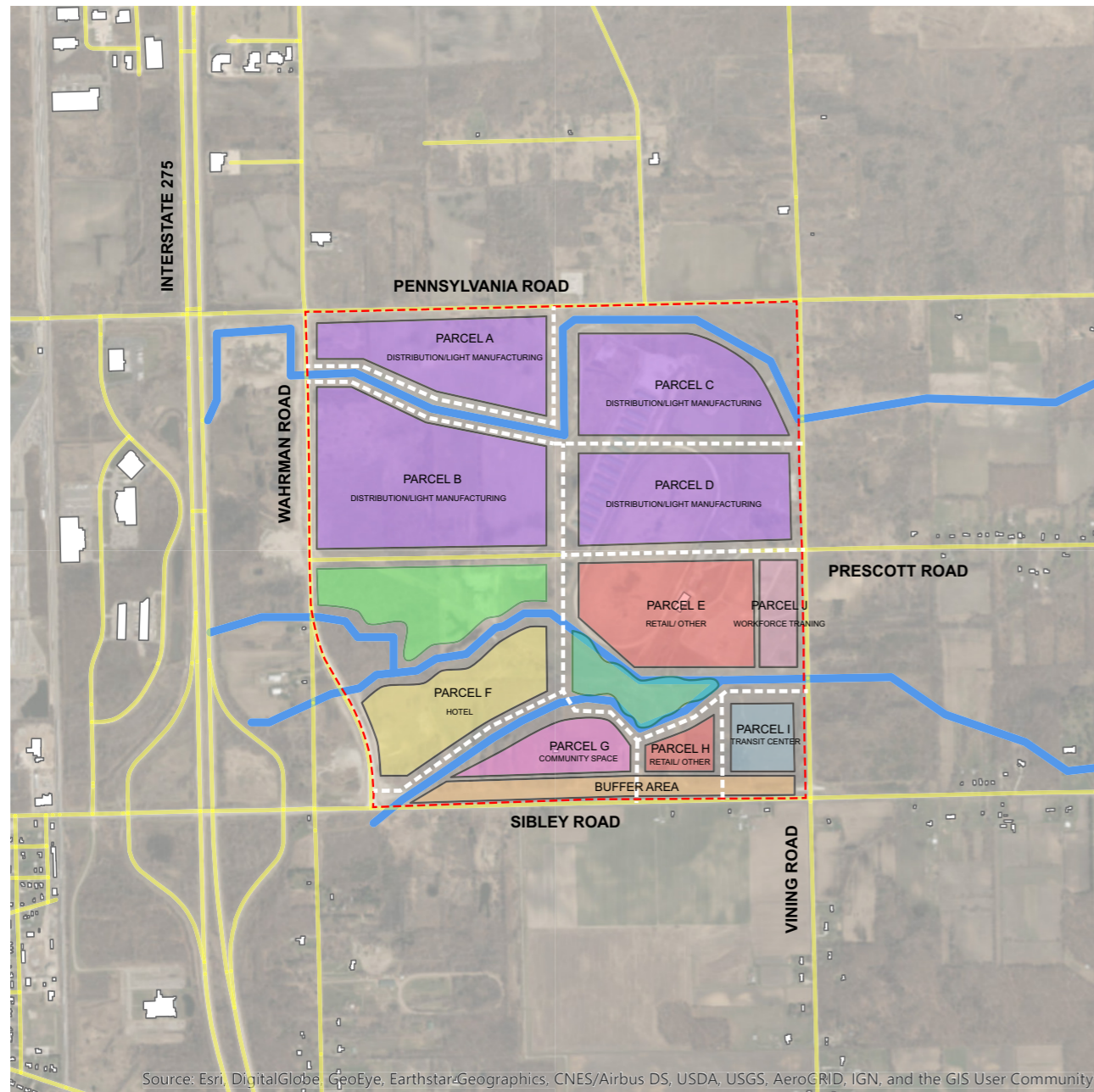


Figure 35. Heavy Development Intensity Design Concept.

Policy Recommendations

1. Prioritize wetland mitigation onsite for federally-recognized wetlands and implement detailed wetland policy for offsite mitigation, including fee structure for local environmental preservation fund;
2. Build a workforce training center that recruits and trains local residents for high-skilled, high-wage jobs onsite;
3. Maximize street frontage for all commercial development and community space;
4. Create outreach program to recruit local business owners and entrepreneurs to occupy retail space;
5. Apply for FTZ designation; and
6. Create Regional Transit Integration Plan*

*See Implementation Matrix for details.

SWOT Analysis

Strengths	Weaknesses
Abundance of developable land	Over-reliance on private vehicles
Flexible zoning ordinances	Potential environmental contamination and clean-up required
Large, diverse workforce pool in Huron Charter Township, Romulus, and other nearby communities	Lack of existing infrastructure (street lighting, garbage system, and updated roadways)
Proximity to I-275, I-94, nearby railway lines, and both DTW and Willow Run Airports	Congestion points on nearby roads crossing railway lines
Opportunities	Threats
Teenage and young adult residents looking for work closer to home	40% of site covered by wetlands requiring state-mandated mitigation
Ability to connect wetlands onsite to existing Metropark network	Noise pollution from nearby airport traffic
Potential to integrate existing SMART and AirRide transportation systems into regional transit system extending to Huron Charter Township	Potential business development may only provide limited opportunities for high-wage employment for local residents
Employment opportunities for minority residents in nearby communities	Potential diseconomies of scale for retail and hotel developments

Table 2. SWOT Analysis.

Implementation Matrix

The following table outlines the implementation strategies DRADC should follow when developing Commerce 275. This implementation matrix summarizes the:

1. Required action items;
2. Lead – the party primarily responsible for the action item;
3. Partners – the parties that can and should support the lead in the specific action item;
4. Resources needed;
5. Performance measures; and
6. Timeframe.

The implementation strategies have been broken down for each design concept.

Design Concept 1: Light Development Intensity

Applicable Design Concept	Action Items	Lead	Partners	Resources Needed	Performance Measures	Timeframe
1, 2, 3	Enforce wetland preservation policy	DRADC	Huron Charter Township Planning Commission, Huron Charter Township Department of Parks and Recreation	Huron Charter Township Master Plan, Environmental Policy Advisory Committee	Number of wetlands retained on and offsite	Ongoing
1, 2, 3	Abide by any and all height regulations put in place by the state and FAA	DRADC	DRADC, Huron Charter Township Planning Commission	Huron Charter Township Master Plan	Review regulations	Ongoing

Table 3. Light Development Design Concept Implementation Matrix.

Design Concept 2: Medium Development Intensity

Applicable Design Concept	Action Items	Lead	Partners	Resources Needed	Performance Measures	Timeframe
2, 3	Develop a sustainability action plan	DRADC	Huron Charter Township Planning Commission	Planning team, sustainability capacity	Sustainability planning approval	5-7 years
2, 3	Recruit companies for retail	DRADC, Huron Charter Township Chamber of Commerce	Huron Charter Township local businesses	FTC designation, Business friendly zoning policies, Staff, Infrastructure	Zoning designation, number of businesses recruited	Ongoing
2	Create and expand active engagement programs with universities	DRADC	University of Michigan, Wayne State University, Eastern Michigan University, Wayne County Community College, Washtenaw Community College, etc.	Connections with university staff, faculty, and student populations, tech incubator spaces	Collaborative programs with the different universities	Ongoing

Table 4. Medium Development Design Concept Implementation Matrix.

Design Concept 3: Heavy Development Intensity

Applicable Design Concept	Action Items	Lead	Partners	Resources Needed	Performance Measures	Timeframe
2, 3	Recruit companies for industrial development	DRADC	Huron Charter Township Board of Trustees	FTZ designation, Staff, Infrastructure	Zoning designation, Number of corporations recruited	Ongoing
3	Create regional transit integration plan	DRADC, Huron Charter Township Chamber of Commerce	WCAA, Huron Charter Township Board of Trustees, Ann Arbor Area Transportation Authority (AirRide), and Suburban Mobility Authority for Regional Transportation (SMART), Regional Transit Authority of Southeast Michigan, Michigan Department of Transportation	Transportation Infrastructure Finance and Innovation Act Loan (TIFIA), ride fare sharing structure, Tax sharing structure	Loan Approvals	7-10 years
3	Apply for Foreign Trade Zone Designation	DRADC	WCAA	Public and private sponsors, Funding to pay fee to enter an FTZ	License received through the U.S. Customs and Border Protection	1-3 year(s)

Table 5. Heavy Development Design Concept Implementation Matrix.

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Appendices

Appendix A: Community Engagement Plan



Figure A1. Welcome to Huron Charter Township Sign.

Gaining public feedback is an essential component of any planning process. The American Planning Association (APA) identifies five distinct public engagement techniques to elicit public feedback: inform, consult, involve, elaborate, and empower. To assure the Commerce 275 development provides benefits to Huron Charter Township and its communities, Maize Associates proposes an extensive community engagement plan that employs the relevant APA techniques, in order to answer the following questions:

1. How can this development best enhance the existing assets of Huron Charter Township and its communities?
2. How will this development impact Huron Charter Township economically, environmentally, and socially?
3. How will this development address the needs and concerns of all Huron Charter Township residents?

We recommend a number of research-supported strategies to engage the fullest range of community members in a timely and meaningful manner. Included within this plan is a set of recommendations regarding which community members to engage, strategies for recruitment and engagement,

required resources, and other important considerations. Furthermore, our plan provides a step-by-step process for analyzing and reviewing community input to best inform DRADC’s plans and actions. By implementing the recommended community engagement plan, Maize Associates is confident that Commerce 275 will become an economic, environmental, and social asset — not only benefitting the region’s global manufacturing industry, but also Huron Charter Township’s residents.

Stakeholder Analysis

Conducting a precursory stakeholder analysis is vital for planning processes; it identifies “who needs to be consulted or brought to the table,” and “how to get them there.” To identify who will be impacted by Commerce 275, we have adopted the stakeholder assessment methodology espoused by Lawrence Susskind and Jeffrey L. Cruikshank in *Breaking Robert’s Rules*. Below is Susskind and Cruikshank’s recommended table for mapping the “key stakeholders” and “key issues.” Key stakeholders include DRADC, Hillwood, local and state institutions, and groups of community members who will be affected by Commerce 275. We have ranked each key issue on a scale of 1-4,

Key Stakeholders	Key Issues			
	Economic and Workforce Development	Environmental Impact	Community Well-Being	Transportation
Detroit Region Aerotropolis Development Corporation	XXXX	XXX	XX	XX
Wayne County Airport Authority	XXXX	XX	X	XX
Huron Board of Trustees	XXXX	XXXX	XXXX	XXXX
Huron Charter Township Planning Commission	XXXX	XXXX	XXXX	XXXX
Huron Charter Township Parks and Recreation Commission	X	XXXX	XXXX	XXX
Huron Charter Township Historical Society	X	XXX	XXXX	XX
Huron Charter Township Business Community	XXXX	X	XXX	XXXX
Huron Charter Township Job Seekers	XXXX	XX	XXXX	XXXX
Huron Charter Township Adjacent Property Owners	XXX	XXX	XXXX	XXXX
Huron Charter Township Families with Children	XXX	XXX	XXXX	XXXX
Southeast Michigan Council of Governments	XX	XXX	XX	XX

Table A1. Stakeholder Analysis.

represented by Xs, with one X representing low importance, and 4 Xs representing high importance. We have identified these key issues for each stakeholder group through the community engagement and research we have conducted thus far.

This list of key stakeholders and issues can and should be adapted as the planning process continues and new stakeholders are identified and concerns become more specific or nuanced. Out of this preliminary list, we recommend that DRADC and Hillwood identify one main contact person for each stakeholder group, as possible and appropriate. This person will act as the stakeholder liaison between DRADC, Hillwood, and their represented community. Working together, DRADC, Hillwood, and the liaison should attempt to engage a representative number of community members from each stakeholder group.



Figure A2. Huron Charter Township Residents Enjoying the Metroparks.

Community Engagement Strategies

The Commerce 275 development involves a diverse group of stakeholders with varying visions and concerns for their Township, region, and state. A comprehensive community engagement strategy will need to be implemented by DRADC and Hillwood to effectively capture the opinions of the public as well as private interests. Specific questions that the community engagement should seek to answer are as follows:

Economic and Workforce Development

1. What do you know about the Commerce 275 development in Huron Charter Township?
2. What types of businesses do residents feel are needed in Huron Charter Township?
3. Do you work in Huron Charter Township? If not, where do you work? What is your profession?
4. What types of jobs do young professionals have in Huron Charter Township? What types of job opportunities are they seeking?

Environmental Impact

1. What environmental features are the strengths of the community?
2. Do you have any specific environmental concerns?
3. How can the Commerce 275 development preserve or enhance Huron Charter Township's natural assets?

Community Well-Being

1. Do you visit the MetroParks in the vicinity of Huron Charter Township? If so, how often?
2. Are there enough recreational opportunities in Huron Charter Township?
3. What sort of amenities would you seek in a new development?

Transportation

1. If reliable mass transit was available in Huron Charter Township, would you use it?
2. What are the existing traffic challenges in Huron Charter Township, specifically near Sibley Road? Where are the current congestion points?
3. Do you have any proposals on how to reduce congestion now or in the future?

The below community engagement and recruitment strategies have been specifically curated for the Commerce 275 development to build upon the community engagement efforts DRADC and Hillwood have already conducted and answer the aforementioned questions.

Focus/Working Groups

Definition and Purpose: The focus/working groups will employ the consult technique of the APA guidelines for community engagement. Focus/working groups are planned discussions with a small group of stakeholders facilitated by a skilled moderator. They are designed to obtain information about preferences and opinions in a relaxed, non-threatening environment. The topic of discussion is introduced by the moderator, and then responded to by community members. The moderator may use some predetermined questions as prompts to encourage discussion or to return the conversation to the intended focus of discussion. Focus/working groups will be shaped around the following topics: 1) economic and workforce development; 2) environmental impact; 3) community well-being; and 4) transportation.

Time and Place: There should be multiple focus/working groups held on both weekdays and weekends and throughout different times of the day. This ensures diverse work schedules and caregiving obligations are accommodated. Focus/working groups should not be conducted in institutional locations, such as corporate offices or government buildings. Ideal locations include established community gathering spaces, such as schools, public libraries, or recreational centers. Such locations increase accessibility and ensure community member comfort.

Type and Number of Participants: Focus groups will be open to the public, however, recruiting efforts should be focused on community members with explicit knowledge of the focus group's subject area. For example, for the environmental impact focus group, DRADC and Hillwood should recruit representatives from the Metroparks, the state natural resources commission, the Michigan Department of Environment, Great Lakes, and Energy (EGLE), and the watershed authority - as well as others

tied to community recreation. Each focus/working group should have around 15 participants, and have an appropriate mix of expert stakeholders and Huron Charter Township residents.

Recruitment Techniques: To advertise focus/working groups, DRADC and Hillwood should provide information on their website, send out personalized email invitations, and hang posters and flyers around Huron Charter Township. These advertisements should clarify dates, times, locations, and contact information. To recruit representatives from local and state agencies, the DRADC and Hillwood teams should consult with Huron Charter Township officials to leverage their connections. We also recommend incentivizing participation in focus/working groups by rewarding participants with points, which can be entered into a raffle to redeem prizes such as gift cards to local restaurants and retailers or airline mile vouchers.

Welcoming/Hosting Needs: For the focus/working groups, DRADC and Hillwood's community engagement team will need name tags, a sign-in sheet (to collect names and email addresses from participants), pens and markers, and maps of the site. (The stakeholders will engage in conversation about problems and opportunities in the area and use markers to indicate these issues on a map.) Food, beverages, and utensils should also be provided.

Follow-Up Tasks: After each focus/working group, a thank you note and summary of the discussion should be forwarded to all participants via email. The summary should include key themes that emerged in the meeting, anonymous quotes from participants, and recommended next steps.



Figure A3. Huron Charter Township Youth Enjoy the Metroparks.

Data Analysis

Interpretation of data generated by the focus/working groups should conform to the following steps:

1. Review the data - Prior to evaluating the data, reviewers should familiarize themselves with its content;

2. Organize the data - Depending on turnout, data from the community engagement events may be lengthy. Organizing data in a logical sequence will allow data to be more manageable;
3. Code the data - Coding is the process of identifying and labeling themes within your data that correspond with the evaluation questions you want to answer. Themes are common trends or ideas that appear repeatedly throughout the data; and
4. Interpret the data - Interpretation involves attaching meaning and significance to your data. Start by making a list of key themes.

After each community engagement activity, the planning team should also engage in an after-action review to improve their community engagement techniques and processes. Though the review is informal, it should generally follow the structure below:

1. Introduction and rules;
2. Review of community engagement objectives (what was supposed to happen);
3. Summary of subject community engagement activity (what happened);
4. Discussion of key issues (why it happened and how to improve);
 - Were the right community members at the table?
 - Did the process and structure of meetings allow for all voices to be valued and heard equally?
 - How will we keep community members involved in the planning process as we move forward?
5. Discussion of issues; and
6. Closing comments (summary).

After this analysis is completed, final conclusions should be shared with all participants for preliminary review. Once this review takes place, the findings should be shared broadly with all stakeholders and the wider community.

Appendix B: Team Biographies



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Damian Arnaiz, Environment and Sustainability Associate - Damian is a first year Master of Urban and Regional Planning student at the University of Michigan. Concurrent to his studies, he works as a Graduate research assistant conducting coastal resilience research for coastal communities throughout Michigan. He is also an officer in the Army Reserves where he serves as a battalion assistant plans officer and intelligence officer. He worked as a Project Engineer with the U.S. Army Corps of Engineers, Chicago District. In this role, he was responsible for the management and execution of civil works projects throughout the Chicago region. Damian received his Bachelor of Science in Civil and Environmental Engineering from the Virginia Military Institute.

Lauren Week, Law and Finance Associate - Lauren is currently pursuing a dual JD-Master of Urban and Regional Planning at the University of Michigan. At the University she conducts research on residential eviction, commercial vacancy, and equitable development financing and teaches a class on urban inequality. Prior to graduate school, Lauren researched entrepreneurship policy and gender in Hyderabad, India as a Fulbright-Nehru Scholar. She has also worked as a legal analyst at a global financial institution in New York City and in venture capital in Silicon Valley. Lauren holds a Bachelor of Arts in Legal Studies and Political Economy from the University of California, Berkeley.

Nathan McBurnett, Economic Development and Housing Associate - Nathan is a first year Master of Urban and Regional Planning student at the University of Michigan. At Michigan, Nathan has been a Graduate Student Instructor for ENV 408: Land Use Policy, Law, and the Environment. Prior to the University of Michigan, Nathan completed a Bachelor of Arts in Anthropology and Philosophy at Purdue University, where he performed research on community well-being as part of the Ware Research Group. Between his degree programs, Nathan was an AmeriCorps Member-Fellow, where he worked as a program developer at HomesteadCS, a HUD-certified nonprofit housing counseling agency.

Roland Gainer, Community Engagement Associate - Roland is a first year Master of Urban and Regional Planning and Certificate in Real Estate Development student at the University of Michigan. At Michigan, he focuses on housing and community and economic development. Roland completed a Bachelor of Arts in Psychology with a minor in Entrepreneurial Studies at the University of Michigan.

Ziqian Yin, Transportation Associate - Ziqian is a first year Master of Urban and Regional Planning student at the University of Michigan. At the University of Michigan, he focuses on economic, transportation, and environmental analysis based on Geographic Information Systems. He completed his Bachelor of Arts in Architecture at China Central Academy of Fine Arts, where he researched China's housing market and urban and rural development.

