Strategic Transportation & Development Analysis

APPENDIX C

Dayton-Cincinnati Focus Corridor

Ohio Department of Transportation

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Executive Summary

INTRODUCTION

While the Strategic Transportation and Development Analysis analyzes statewide and regional trends, forecasts, current and future needs, and risks across the state, focus corridor needs assessments take a deeper dive into six individual corridors identified based on risks associated with reliable and safe interregional mobility. Each focus corridor needs assessment examines outputs around population change, development, congestion, and statewide travel at the corridor level. This condensed review is paired with an examination of the facility's status, including traffic composition, origin-destination data, geometric conditions, access control, safety statistics, and other study areas, including existing and programmed Ohio Department of Transportation (ODOT) projects.

This effort contributes to identifying transportation system projects to support statewide economic growth, as stated in House Bill 23 (H.B. 23). In addition to two focus corridors specified by H.B. 23, Toledo-Columbus and Sandusky-Columbus, four other corridors were elevated through analysis of 33 markets and 38 corridors on the Study network by assessing economic value, performance risk, and risk of potential barriers to the interregional movement of people and goods. **Chapter 3** of the Study Report provides more information on this process. This Study Report appendix details the needs assessment process and findings for the Dayton-Cincinnati (I-75) focus corridor.

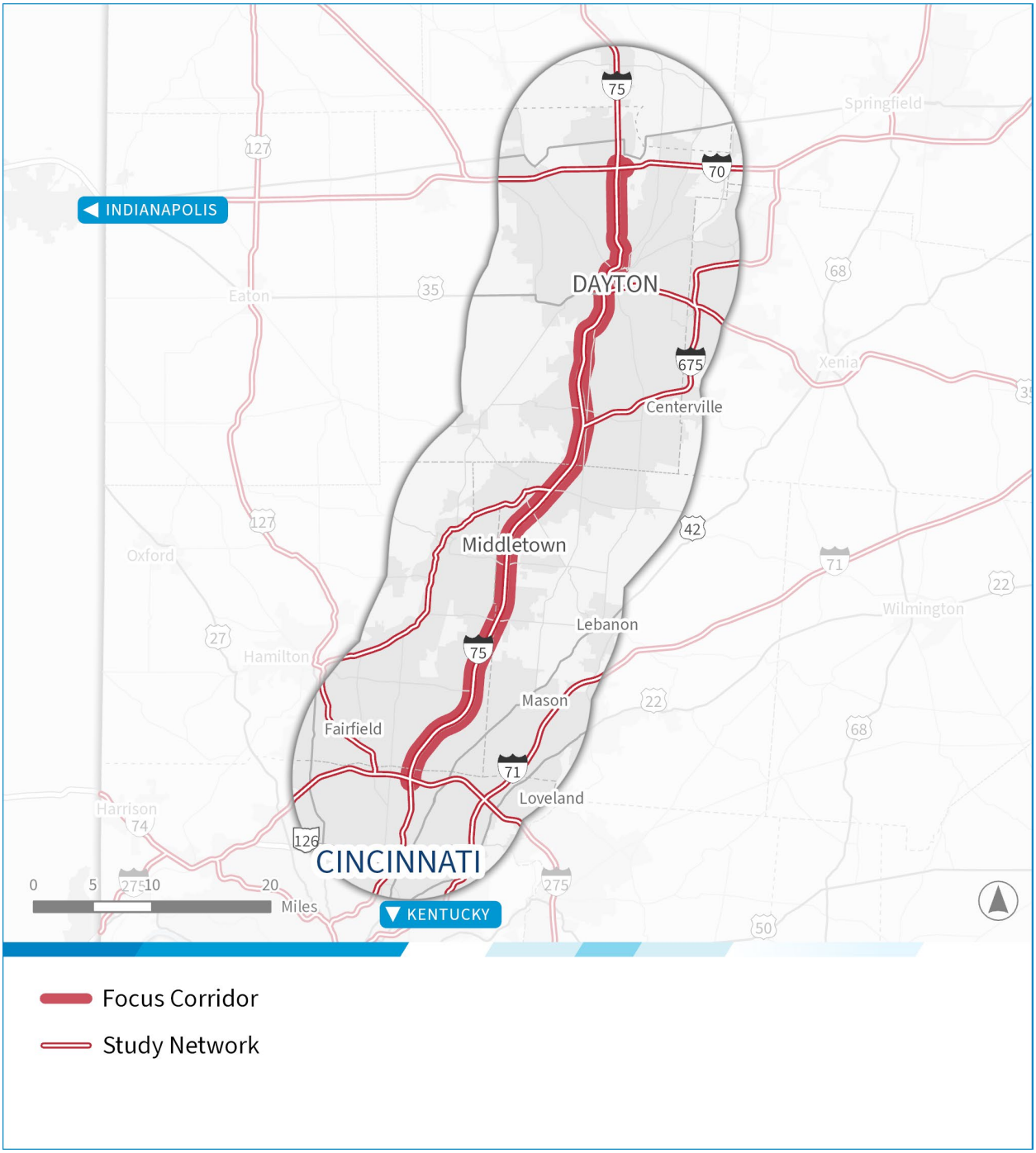
CONTEXT AND TRENDS

Transportation

The Dayton-Cincinnati focus corridor includes I-75 between I-70 just north of Dayton and I-275, the northern Cincinnati outerbelt. **Figure 1** presents the extent of the corridor, the Study network, and the primary cities. The facility is 45 miles of urban interstate with 26 interchanges, including I-675, US35, SR4, and SR129. Data from StreetLight, a transportation "big data" analytics platform that utilizes GPS trace data from vehicles, mobile devices, and other sources to generate vehicle trip flows, indicates that 11,100 of the total 130,000 Annual Average Daily Traffic (AADT) on I-75 are traveling the complete corridor length between the Dayton and Cincinnati markets. Truck percentages between Dayton and Cincinnati average 14% to 17%, which indicates that 1,500 to 1,900 trucks travel the length of the corridor daily.

Beginning at the I-70 interchange near Dayton, the I-75 corridor extends south through a varied landscape that includes suburban, rural, and urban core development contexts, with residential, commercial, and industrial areas along the way. Notable changes in land use occur from industrial zones to moderate-density residential areas, particularly as the corridor approaches and moves through Dayton before continuing south toward I-275 and the Cincinnati metro area. I-75 serves multiple intermodal points in Dayton, such as the Dayton International Airport, the CSX Needmore Yard, Kinder Morgan, and the NS Moraine Auto Ramp, and in Cincinnati, the NS Sharon Intermodal Yard. It also has three transit agencies that utilize I-75: the Greater Dayton Regional Transit Authority (GDRTA), the Butler County Regional Transit Authority (BCRTA), and the Southwest Ohio Regional Transit Authority (SORTA). This corridor is located in the West and Southwest JobsOhio regions which are served by the Dayton Development Coalition and REDI Cincinnati, respectively.

FIGURE 1—DAYTON-CINCINNATI FOCUS CORRIDOR



Beginning at the north end (I-70), the corridor is a six-lane freeway serving the Dayton International Airport, the City of Vandalia, and the City of Huber Heights, a large, fast-growing suburb of Dayton. The corridor then travels through sections of north Dayton, serving a mix of residential and commercial areas before reaching downtown. I-75 travels along downtown's north and west edges and intersects SR4, US35, and I-675, serving downtown Dayton, the Wright-Patterson Air Force Base, and the University of Dayton. South of the Greater Dayton area at SR73, I-75 widens to eight lanes and serves several employment centers and various small- to moderate-sized suburbs in Butler and Warren counties. The corridor travels through the large commercial and office area north of the I-275 interchange, which includes a diverse mix of warehousing, logistics, manufacturing, and retail businesses.

The north-south corridor connects Dayton with Cincinnati; it continues north to Wapakoneta, Lima, Findlay, Bowling Green, Toledo, Detroit, and various Michigan cities before terminating at the Canadian border in Sault Ste. Marie, Michigan. To the south, I-75 connects Ohio to Lexington, Knoxville, Atlanta, and Tampa before crossing Florida to terminate in Miami. This corridor includes:

- 27 existing grade-separated interchanges
- Good interchange spacing and horizontal and vertical alignment in the southern portion of the corridor
- Poor interchange spacing and some horizontal and vertical alignment issues in the northern portion of the corridor
- Nine priority urban freeway segments and nine priority intersections in the Highway Safety Improvement Program's (HSIP) top 100 locations

Development

At the north end of the corridor, Dayton is known for high-tech industries that played important historic roles in aviation, business machines, automotive parts, and national defense but have experienced downturns over the last two decades. The Dayton area's location at the crossroads of national east-west, I-70, and north-south, I-75, trucking corridors positions it well for future growth to support supply chain and logistics industries. Despite the projected population declines in Dayton, the region retains a diverse employment base, and there are key development opportunities along I-75 and downtown.

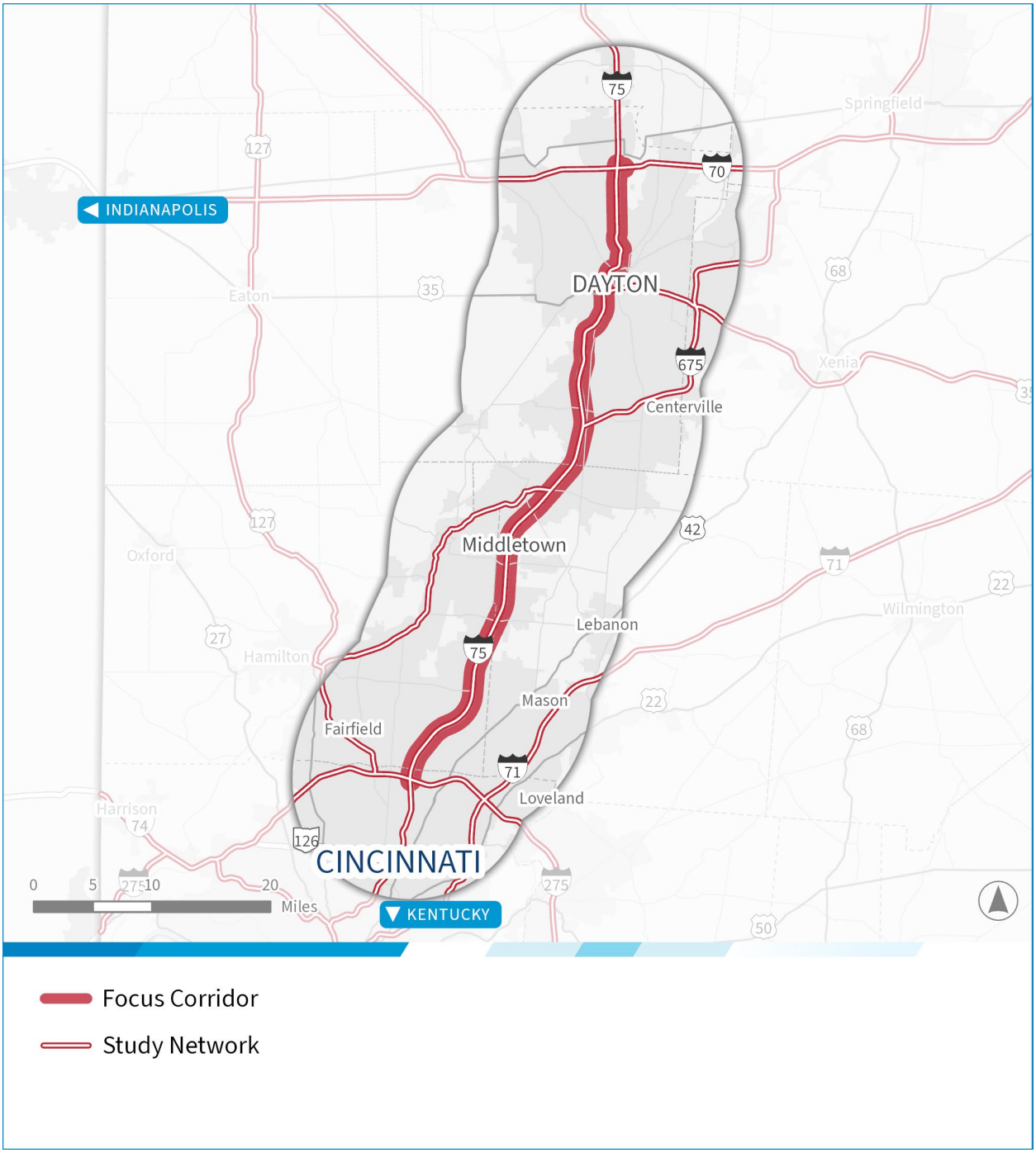
At the south end of the corridor, Cincinnati has a strong manufacturing base and serves as a regional cultural and entertainment center. It also benefits from a diverse economy with a strong service sector. Southwest Ohio is the primary economic driver of demand along the corridor, primarily due to the region's role as an intermodal freight hub and diverse economy. The Port of Cincinnati, which expanded in 2015, is a major intermodal freight hub that stretches over 200 miles of riverfront along the Ohio River in Ohio and Kentucky. The Port greatly expands opportunities in warehousing, distribution, and e-commerce.

Corridor context and trend insights are summarized in **Table 1** with a map of the locations in **Figure 2**.

TABLE 1—CORRIDOR INSIGHT SUMMARY

Map Key	Corridor Insight
1	• Dayton International Airport is a major passenger and air freight hub. • The Union Global Logistics Airpark at the Dayton airport is a JobsOhio site with a "high" readiness rating.
2	• Wright-Patterson Air Force Base is a major military installation that focuses on air intelligence, logistics, and aerospace research. It is also an important military logistics hub for the Air Force Materiel Command. • The base has over 27,000 military and civilian personnel.
3	• Downtown Dayton has experienced significant urban redevelopment in recent years, which is expected to continue.
4	• Moraine is home to several large manufacturing employers, which primarily use I-75 for freight shipments.
5	• Major commercial and office development has occurred around the I-75/I-675 interchange in south Dayton.
6	• Residential development and population growth have been strong in suburbs northeast and southwest of Middletown. • These areas have grown as workers move south from Dayton and north from Cincinnati in search of affordable housing.
7	• Major commercial and office parks with warehousing and distribution facilities are accessed via a new diverging diamond interchange on I-75.
8	• I-75/I-275 interchange is surrounded by significant commercial and industrial land uses that leverage the area's freeway access.
9	• I-75 serves major manufacturing employers such as GE Aerospace and other businesses.
10	• Downtown Cincinnati and the Port of Cincinnati are home to large employers and logistics-related businesses. • The Port of Cincinnati has recently expanded and is now the largest inland port in the country.

FIGURE 2—CORRIDOR INSIGHTS MAP



CONDITIONS AND INVESTMENT

Corridor Conditions

Initial observations of the 45-mile Dayton-Cincinnati focus corridor include two distinct sections: the six-lane northern half and the eight-lane southern half. Below is a description of the northern half, from I-70 to I-675:

- Congested six-lane section with 120,000 AADT and volume-to-capacity (v/c) ratios over 1.0
- 18 interchanges including four system interchanges, I-70, SR4, US35, and I-675
- Inadequate interchange spacing leading to excessive lane merging and changing, weaving
- Some substandard horizontal and vertical alignment
- Six structures with sub-standard overhead clearance
- Narrow lanes and shoulders on some bridges
- Four to five foot inside shoulders
- Seven priority urban freeway segments in ODOT's HSIP top 100 locations

The southern half of the corridor, from I-675 to I-275, has a more uniform design:

- Eight-lane section with 132,000 AADT and v/c ratios under one overall
- Current congestion and future risk of congestion at I-275 and spreading north
- Ten interchanges with adequate spacing and excellent horizontal and vertical alignment
- Two priority urban freeway segments in the HSIP top 100 locations, both in the I-275 area

Corridor Investments

The North-South Transportation Initiative (NSTI), undertaken by the Ohio-Kentucky-Indiana Regional Council of Governments (OKI) and the Miami Valley Regional Planning Commission (MVRPC) and completed in 2004, developed recommendations to improve the safety, efficiency, and reliability of the I-75 corridor through Ohio and into Kentucky. Since 2004, ODOT has initiated and completed many of the recommendations from the study, including the Brent Spence Bridge Corridor Project, the Through-the-Valley Project, and the Dayton Subcorridor Project.

In 2017, ODOT District 7 completed the Dayton Subcorridor Project, a three-phase NSTI initiative which spanned 10 years of construction. The project removed left-hand entrances and exits, consolidated ramps, and added a third continuous lane to I-75. These improvements significantly helped mitigate traffic complications.

Since 2015, completed and in construction projects have totaled $226 million in the corridor. An additional $195 million is proposed for projects in development. ODOT has identified an additional $99 million in proposed projects. A quarter of the 24 identified projects are in the ODOT proposed phase.

The scope of projects along the corridor varies widely. Interchange improvements and expansions account for $259 million, major rehabilitation and roadway improvements, including capacity/operations upgrades constitute $221 million, and intersection improvements account for $19 million. The cost of the projects ranges from $317,000 to $155 million. Funding has been committed for projects completed and in construction, and 41% of the necessary funding for projects in development has been committed.

NEEDS ASSESSMENT

The needs assessment considers congestion-related risk "hotspots" along the corridor. It expands on key takeaways summarized in the Corridor Conditions section related to development growth pressures, safety, access and geometric issues, and other considerations such as railroad crossings. These findings are summarized in **Figure 3**.

Congestion

The Dayton-Cincinnati I-75 corridor is marked by eight congestion risk hotspots, with seven currently existing and an additional hotspot projected. All 2025 hotspots are predicted to continue to be congested over the next 30 years with a risk of spread and intensity by 2055. The hotspots within the Dayton-Cincinnati corridor are in two grouped areas:

- **Greater Dayton Area** spans a 23-mile six-lane segment from I-70 to SR73. This section includes five segments delineated by 2055 risk hotspots. Segments through this corridor have overall TOAST scores of 0.375 or lower.
- **Northern Cincinnati** covers the southernmost 4.5 miles of the Dayton-Cincinnati corridor. This section includes three interchanges at Cincinnati Dayton Road, Union Centre Boulevard, and I-275, marking it a critical congestion hotspot. The highest risk of congestion occurs between Union Centre Boulevard and I-275.

Roadway Geometry and Operations

The northern half of the corridor, from US40 to SR73, has design exceptions for shoulder width, horizontal alignment, vertical alignment, and bridge width. This segment has a typical cross-section of six travel lanes. No design exceptions were found for the southern 22 miles of the corridor, which has a typical cross-section of eight lanes.

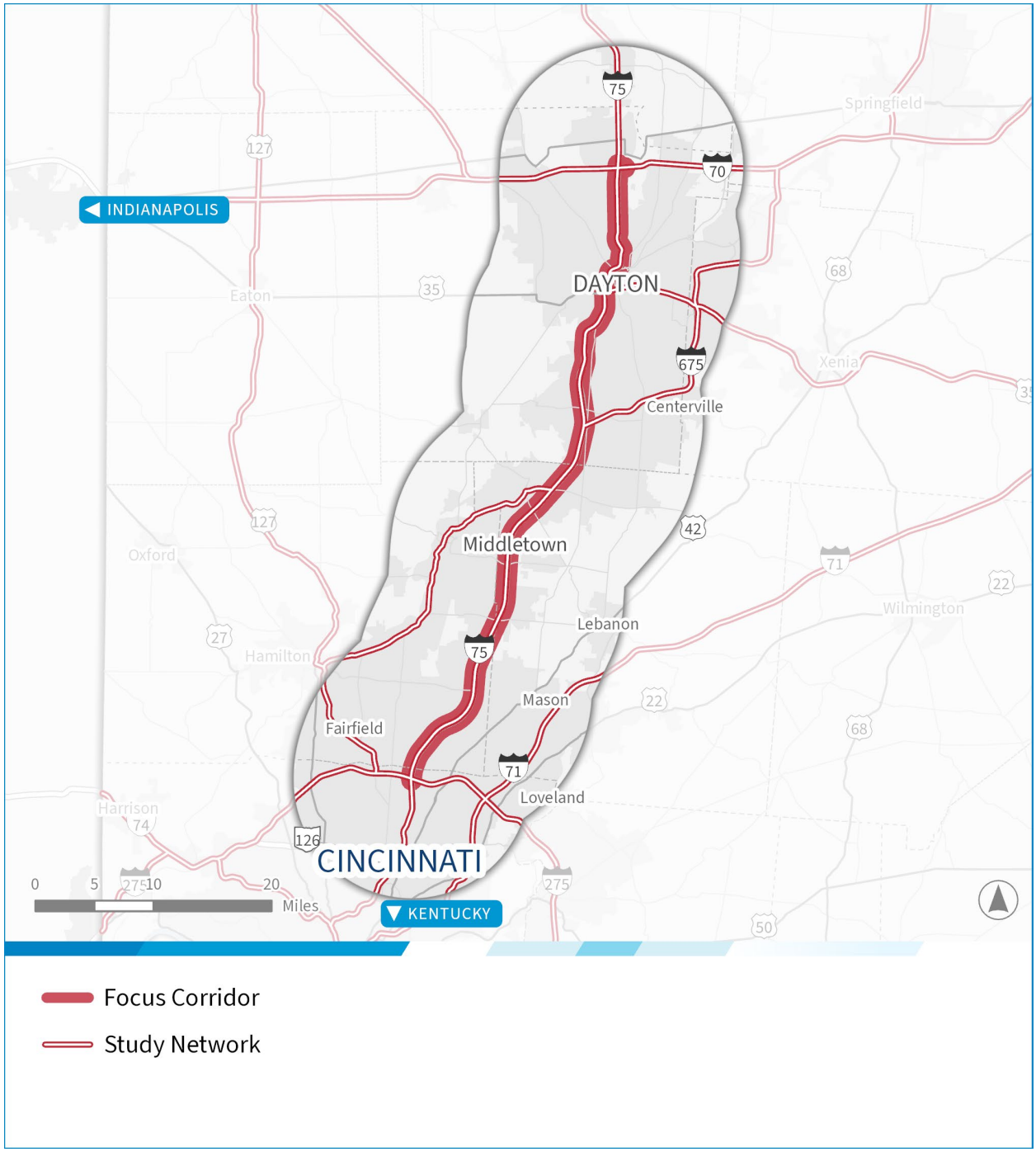
Safety

The corridor has 18 HSIP locations, nine segments, and nine intersections. Seven segments and six intersections are in Montgomery County, mainly between Needmore and Dryden roads. The remainder are in Butler and Hamilton counties.

Access Control and Development

The corridor is fully access controlled. However, there are development pressures on facilities that interchange with I-75, especially south of its interchange with I-675.

FIGURE 3 – CORRIDOR NEEDS SUMMARY



Corridor Findings

The corridor needs presented in the previous section were compared with ODOT-sponsored projects to assess how the existing projects address these needs. Corridor congestion risk in 2055 is in the same areas identified with operational and geometric challenges as today, with some minor differences in the geographic extents and the level of risk.

75A. Greater Dayton Area Hotspot

In Dayton, the existing and projected hotspots create a 22-mile hotspot cluster, referred to as 75A, containing segments of varying risk severity, extending from I-70 to SR73, one interchange south of the Montgomery County line. The greatest risk within this hotspot cluster is located within the following segments:

- Stanley Avenue interchange to SR48 (Main Street) interchange
- Edwin C. Moses Boulevard interchange to Dixie Drive interchange

This hotspot features high v/c ratios, seven top 100 HSIP urban freeway segments, average interchange spacing under one mile, and geometric deficiencies.

ODOT has been implementing safety countermeasures in this corridor and initiating projects at interchanges with safety needs, including Needmore Road, Wagner Ford Road, Edwin C. Moses Boulevard, and SR741 (Springboro Pike). The upcoming focus areas are Stanley Avenue, Dryden Road, and East Dixie Drive interchanges.

In addition, ODOT has incorporated geometric, capacity, and operational improvements into major rehabilitation projects as funding became available, adhering to Performance-Based Practical Design principles during feasibility studies. For instance, the major rehabilitation project WAR/MOT-75-11.56/0.00 (PID 113579) will expand the capacity of I-75, extending the eight-lane section from SR73 northward to I-675.

Currently, six proposed projects from Dayton to Cincinnati have not been funded. Resolving all the needs through the 22-mile section will require additional investment.

75B. North Cincinnati Hotspot

Section 75B covers the I-75/I-275 Interchange Project (PID 120804), which will address the North Cincinnati hotspot. It is fully funded for preliminary engineering and right-of-way acquisition, $7 million. However, there is a $51 million funding gap for construction. ODOT District 8 will apply for Transportation Review Advisory Council (TRAC) funding for this TRAC Tier 2 project in the 2026 cycle.

Introduction

OBJECTIVES

Context and Report Purpose

The Strategic Transportation and Development Analysis analyzes statewide economic, demographic, and transportation trends, forecasts travel needs, identifies transportation links and future potential risks to the transportation system, and develops actionable recommendations.

H.B. 23 requires the Ohio Department of Transportation (ODOT) to critically evaluate both the Sandusky-Columbus and Toledo-Columbus corridors. ODOT refers to evaluating these corridors as focus corridor needs assessments. Additional focus corridors were identified through an analytical process relying on assessing economic value, performance risk, corridor volume growth, and access control. This analysis was conducted across 33 markets and 38 corridors on the statewide network to identify the corridors with the highest performance risk and economic value. Additional analysis was performed to identify interregional corridors at risk of becoming barriers to the efficient and safe interregional movement of people and goods.

Based on the focus corridor analysis, four additional market-to-market connections were selected for the Study: Columbus-KY/WV, US23 South; Columbus-WV, US33 South; Dayton-Cincinnati, I-75; and Canton/Youngstown-WV/PA, US30/SR11. The focus corridor needs assessments to identify current and conceptual projects to address congestion risks and hotspots creating potential barriers to economic growth. This document synthesizes findings for the **Dayton-Cincinnati corridor**.

Report Organization

This report presents corridor-level perspectives on the transportation facilities, travel characteristics, existing and future conditions between Dayton and Cincinnati, and the communities those markets serve. Additionally, it outlines current and proposed ODOT project investments in the corridor, future performance risks, and actionable recommendations for addressing those risks in the next 10, 20, and 30 years.

H.B. 23 Language

A statewide study of the Ohio transportation system, in collaboration with the Department of Development and the Governor's Office of Workforce Transformation. The study shall:

- *Analyze **statewide and regional demographics**, investigate **economic development growth opportunities**, examine **current transportation systems and capacities**.*
- *Forecast **passenger and freight travel needs** over a ten-, twenty-, and thirty-year timeframe.*
- *Identify **current and future transportation links**, evaluate and rank **current and potential risks of future system congestion**.*
- *Make **actionable recommendations** for **transportation system projects** to **support statewide economic growth**, including improving links between Toledo and Columbus and between Sandusky and Columbus.*

At any time, individual hotspot locations may receive advanced analysis of conceptual remedies with planning level costs.

The study shall be completed by December 31, 2024.

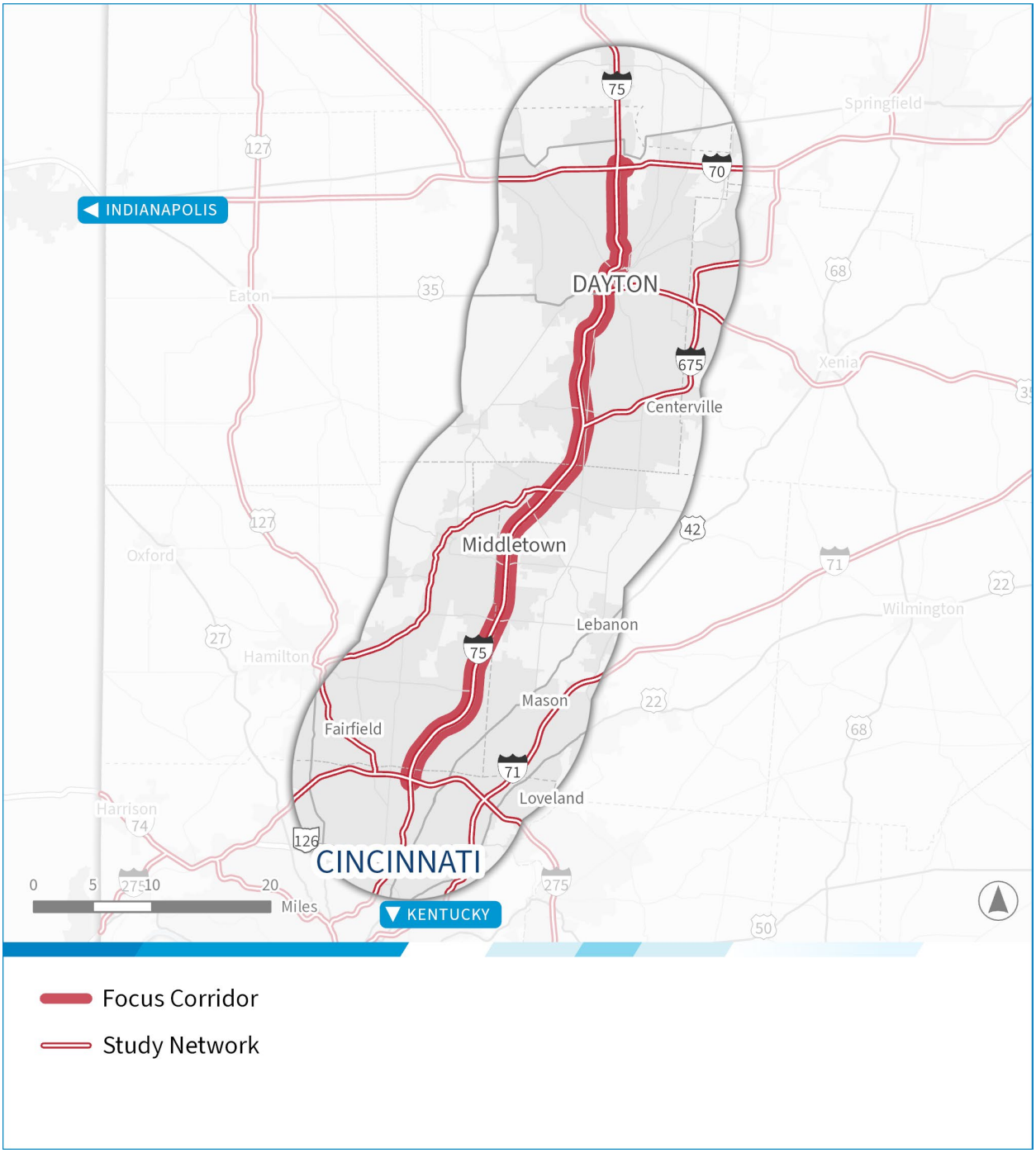
This analysis is **Appendix C** of the Study Report, and **Chapter 5** includes recommendations for this focus corridor.

CORRIDOR DESCRIPTION

The Dayton-Cincinnati focus corridor includes I-75 from I-70 north of Dayton, through Dayton, to I-275 on the northern end of the Cincinnati metro area. **Figure 4** presents the length of the corridor, the Study network, and the primary cities. I-75 is a six- to eight-lane freeway with full access control that connects these two large, diverse metro areas. The following summarizes the corridor's path:

- At the north end, the corridor begins at I-70 near the Dayton International Airport, the City of Vandalia, and the City of Huber Heights, a large, fast-growing suburb of Dayton.
- I-75 travels through sections of north Dayton, serving a mix of residential and commercial areas before reaching downtown.
- The corridor travels along downtown's north and west edges and intersects US35, an east-west connection serving downtown and the University of Dayton.
- The corridor continues south of downtown and serves several employment centers and various small- to moderate-sized suburbs in Butler and Warren counties.
- The corridor travels through the large commercial and office area north of the I-275 interchange, which includes a diverse mix of warehousing and logistics, manufacturing, and retail businesses.

FIGURE 4—DAYTON-CINCINNATI CORRIDOR



Corridor Context

This section summarizes demographic, economic, land use, and development trends driving transportation demand and performance along the Dayton-Cincinnati focus corridor. This assessment builds from the statewide and regional analysis in **Chapter 2** and **Chapter 3** of the Study Report and localized research tied to system opportunities, trends, and forecasts specific to the corridor.

POPULATION, DEMOGRAPHIC, AND ECONOMIC TRENDS

The Dayton-Cincinnati focus corridor traverses a range of communities with various demographic and economic strengths and challenges. **Figure 5** presents population change along the corridor since 1990. **Figure 6** shows employment locations in 2021. **Figure 7** shows the change in employment since 2002. **Table 2** summarizes the population, employment, major industries, and large employers with significant operations for each city along the corridor.

TABLE 2—POPULATION, EMPLOYMENT, MAJOR EMPLOYERS

City	Population (2022)	Employment (2021)	Major Industries/Employers
Huber Heights	43,100	13,500	Warehousing and logistics, manufacturing, education
Dayton	137,600	80,600	Wright-Patterson Air Force Base, healthcare, city, county government, University of Dayton, manufacturing
Moraine	6,500	12,500	Automotive manufacturing, manufacturing
West Carrollton	13,100	6,400	Manufacturing
Miamisburg	19,900	12,100	Manufacturing, healthcare
Franklin	11,700	5,400	Manufacturing, education
Springboro	19,200	8,700	Manufacturing, warehouse and distribution, healthcare
Middletown	50,500	17,900	Cleveland-Cliffs Steel, healthcare, Miami University campus
Monroe	15,200	11,900	Manufacturing, logistics, and construction
Springdale	11,000	16,600	Manufacturing, logistics
Sharonville	14,000	27,600	Ford, aerospace, manufacturing
Mason	35,516	22,210	Procter & Gamble, Luxottica, L3, Mitsubishi Electric Automotive America, Cintas, high-tech companies, corporate headquarters, and light industries
Cincinnati	308,900	225,900	Kroger, Procter & Gamble, GE Aerospace, manufacturing, logistics, healthcare

Source: US Census American Community Survey, LEHD, Ohio Major Employers Report (2022)

At the north end of the corridor, Dayton is known for high-tech industries that played important historic roles in aviation, business machines, automotive parts, and national defense but have experienced downturns over the last two decades. The Dayton area's location at the crossroads of national east-west, I-70, and north-south, I-75, trucking corridors positions it well for future growth to support supply chain and logistics industries. In 2022, the Dayton-Kettering Metropolitan Statistical Area (MSA) generated $53 billion in Gross Domestic Product (GDP), making it the 75th largest metropolitan economy among MSAs in the US. The Dayton MSA ranked fourth among MSAs in Ohio in GDP, population, total employment, and wage and salary employment. Growth in the Greater Dayton area has been primarily to the north and east. Miami County to the north along the I-75 corridor added 4,000 new residents, 4%, between 2017 and 2022, ranking it 10th among Ohio counties in population growth.

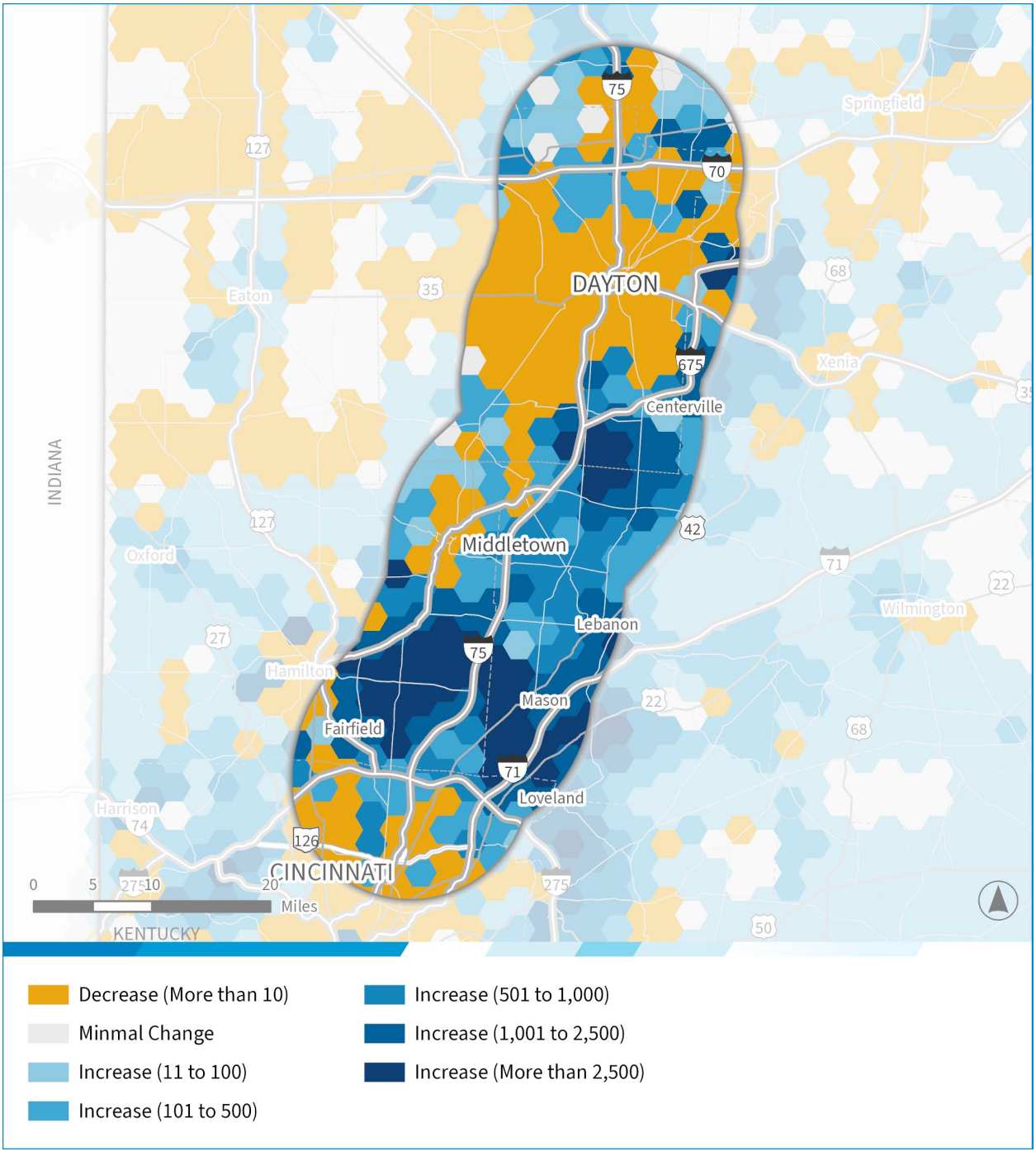
At the south end of the corridor, Cincinnati has a strong manufacturing base, most notable for producing jet engines, machinery, and consumer packaged goods, and as a regional cultural and entertainment center. Today, Greater Cincinnati also benefits from a diverse economy with a strong service sector. As an economic center, Cincinnati is inextricably linked to communities across the Ohio River in Northern Kentucky, which is home to Cincinnati/Northern Kentucky International Airport, the sixth largest air cargo airport in North America and the 12th largest globally.[1] In 2022, the Cincinnati OH-KY-IN MSA, which includes counties in Northern Kentucky and Southeast Indiana, generated $186 billion in GDP, making it the 28th largest metropolitan economy among MSAs in the US. The Cincinnati MSA ranked first among Ohio MSAs in GDP, including Real GDP, population, total employment, and employment growth.

Between Dayton and Cincinnati, the corridor travels through several small- to medium-sized communities with residential and employment destinations. Development pressures within the Cincinnati metropolitan area have been most acute in Warren County, which straddles I-71 in the northeastern part of the region and has experienced steady growth in office parks, light industry, and entertainment centered around Kings Island amusement park. From 2017 to 2022, Warren County added more than 17,000 residents, a 7.4% increase and the third largest gain in absolute population among Ohio counties. Warren County was also third among Ohio counties in wage and salary jobs growth, which increased by almost 10,000 jobs (10%), and fifth in Real GDP growth, adding $2.4 billion, 21%. Two other counties in the Cincinnati region—Clermont, US50, SR32, US52 east of Cincinnati, and Butler, I-75, SR4 north of Cincinnati—also rank in the top 10 counties in Ohio for population growth and for adding wage and salary jobs between 2017 and 2022. As the Cincinnati region's core, Hamilton County experienced flat growth in population and wage and salary jobs, less than 1%, during this period while remaining a strong economic force by adding $5.5 billion in Real GDP, 7%, third most among Ohio counties for growth in monetary value.

Along the corridor, population and workforce demographics from the 2022 American Community Survey generally mirror the state overall. The population's median age is the lowest in Hamilton County at 36.8 years and higher in Montgomery, 39 years, and Warren counties at 39.5 years. Workforce participation rates are highest in Hamilton County, at 66.7%, and lower in Montgomery, 63.4%, and Warren, 65.1%, counties.

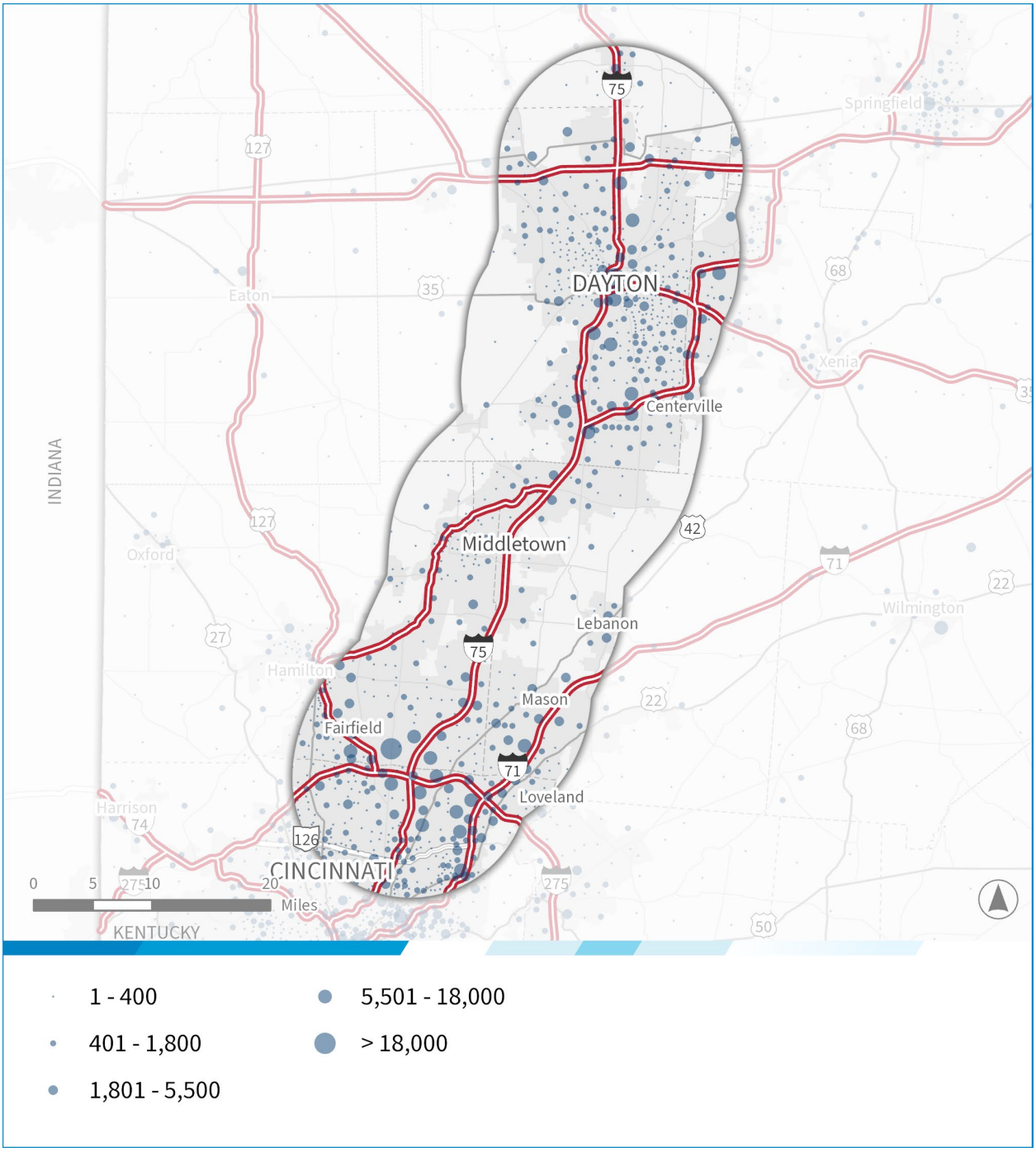
[1] https://www.cvgairport.com/business/business-opportunities/air-service/air-cargo/

FIGURE 5—POPULATION CHANGE, 1990 TO 2020



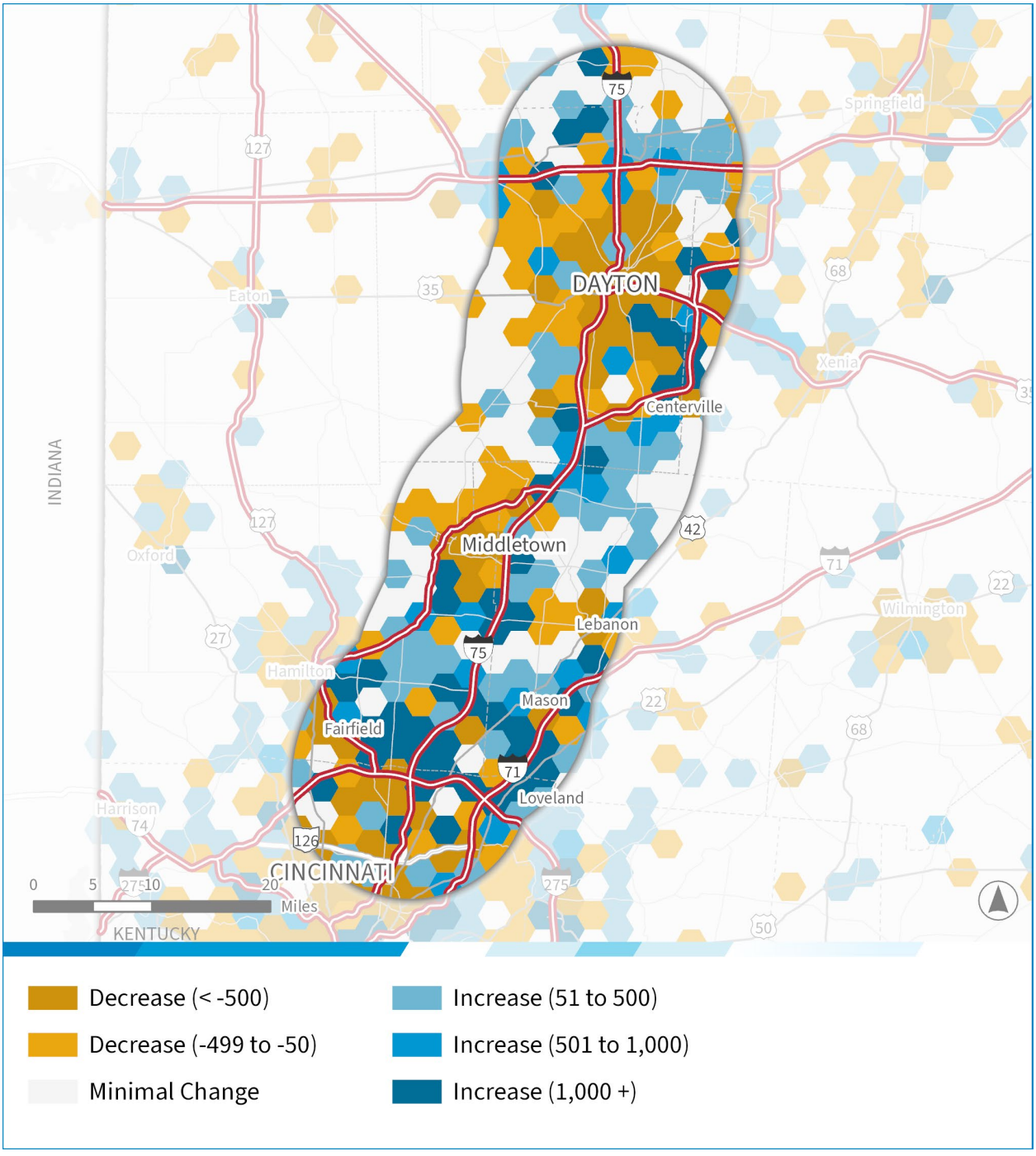
Source: IPUMS NHGIS, University of Minnesota, www.nhgis.org. US Decennial Census, 1990, 2020

FIGURE 6—TOTAL JOBS BY WORK LOCATION, 2021



Source: US Census Bureau, Longitudinal Employer-Household Dynamics (LEHD) OnTheMap https://onthemap.ces.census.gov/

FIGURE 7—EMPLOYMENT CHANGE, 2002 TO 2021



Source: US Census Bureau, Longitudinal Employer-Household Dynamics (LEHD) OnTheMap https://onthemap.ces.census.gov/

LAND USE AND DEVELOPMENT TRENDS

Land use and development trends are crucial to Ohio's transportation needs. The patterns of how, where, and to what extent Ohio's land develops impact the types and levels of economic activity, which translates to travel demand. Existing and future development activity can influence choices about the suitability and need for future transportation system investments. Since 1990, widespread land use changes in Ohio have occurred primarily in urban and suburban counties, particularly around Columbus and Cincinnati.

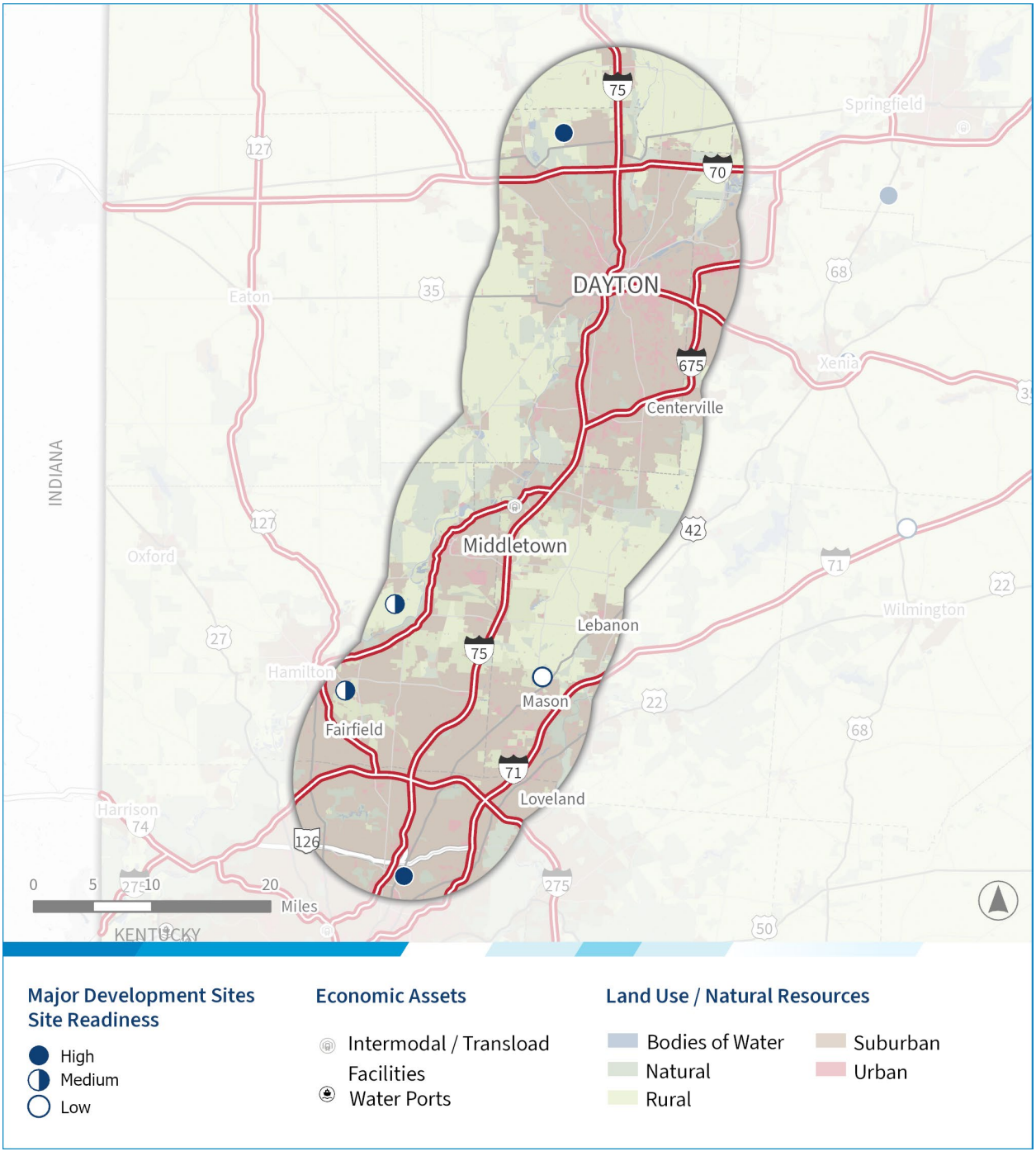
Land use and development patterns within the Dayton-Cincinnati focus corridor are influenced by residential growth extending north from Cincinnati and south from Dayton. This development pattern is driven by residents who work in both cities seeking affordable housing. This local migration from both cities converges in the middle of smaller cities, such as Middletown on I-75. The corridor mainly remains suburban, with low to moderate density communities throughout. These communities are home to a diverse mix of employers in manufacturing and logistics that benefit from the proximity to I-75 and other regional transportation infrastructure. **Figure 8** presents the development context along the corridor and includes the location of significant land use destinations and development sites identified in the Study Report.

Figure 9 presents a bivariate analysis comparing the changes in two variables: the change in impervious surface since 2011 and the change in population and jobs since 2010. Growth in population, employment, and impervious surface, which increase as development occurs, are represented by five-square-mile colored hexagons. Understanding changes in impervious surface areas relative to population and employment growth can provide insight into development patterns and pressures, economic vitality, and environmental sustainability.

Where population and employment growth increase faster than the impervious surface, denser development could occur. Areas with greater impervious surface growth relative to population and jobs may be a leading indicator of future growth pressures or lower-density urban sprawl. Areas in north and southwest Dayton and southeast of Middletown have high impervious surface growth and low population and employment growth. Many areas along the I-75 corridor have experienced high population, job growth, and impervious surface change, an indicator that these areas have experienced strong development rates and are high trip generators for passenger and truck traffic.

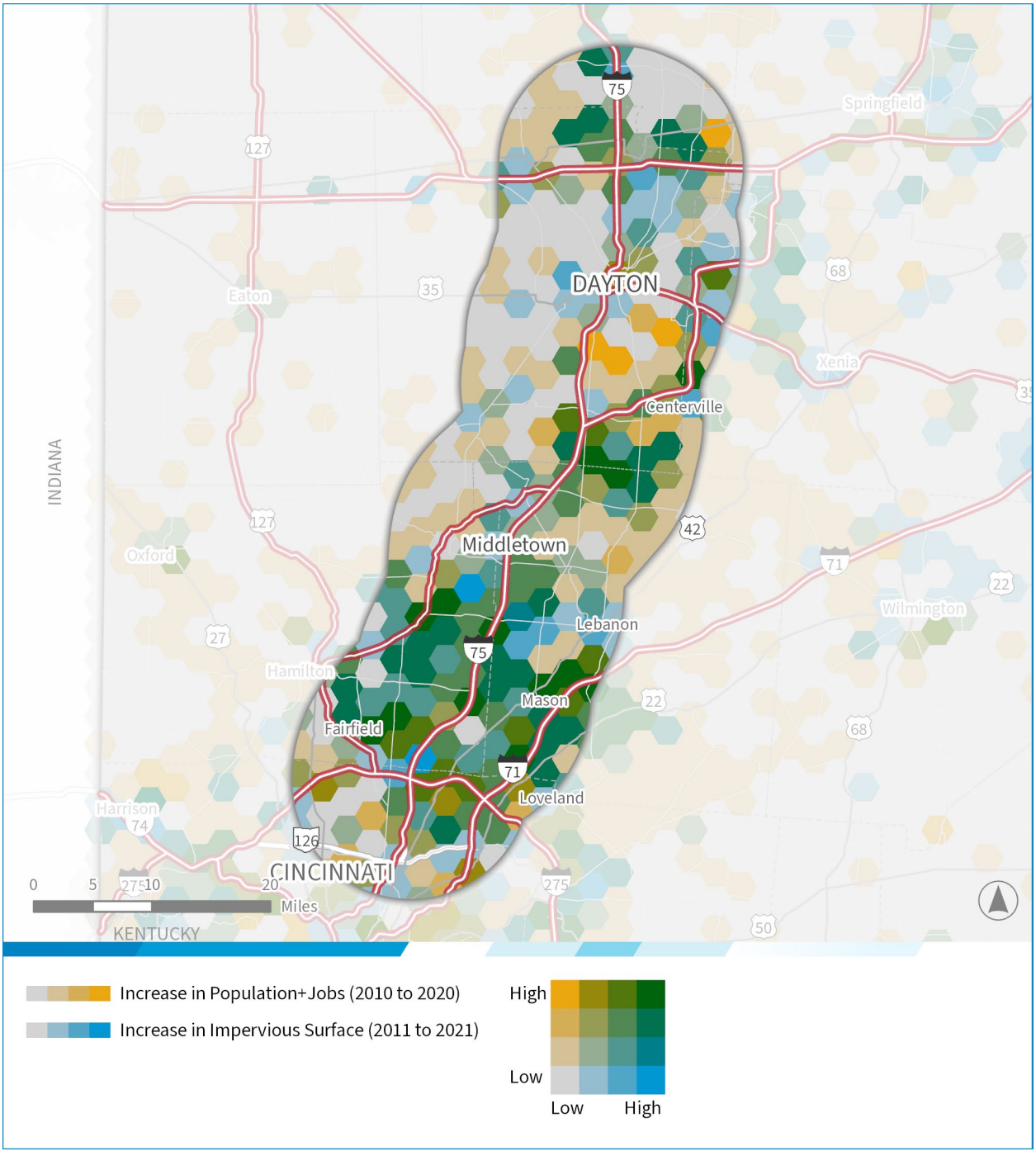
This information on land use change and development provides a critical context for where Ohio is projected to continue to change in the coming decades and the impact of that development change on travel demand and transportation system performance. **Chapter 2** and **Chapter 3** of the Study Report provide a comprehensive land use and development assessment that identifies future development trends and site development readiness across Ohio. The evaluation incorporated the Ohio Department of Development's (ODOD) population growth forecasts, ODOT's land use and transportation models, perspectives on on-site development readiness across 78 priority development sites tracked by ODOT's Office of Jobs and Commerce, and insights on priority development locations from local comprehensive plans and stakeholders participating in Study engagement during January through March 2024.

FIGURE 8—DEVELOPMENT CONTEXT



Source: Study Team, SiteOhio, ODOT

FIGURE 9—INCREASE IN POPULATION AND JOBS AND IMPERVIOUS SURFACE



Source: Study Team, National Land Cover Database, US Census Bureau, Longitudinal Employer-Household Dynamics (LEHD) OnTheMap https://onthemap.ces.census.gov/

FUTURE CHANGE

Future conditions along the Dayton-Cincinnati focus corridor will be influenced primarily by how development patterns and employment continue to move south from Dayton and north from Cincinnati along the I-75 corridor. **Figure 10** shows the projected future population change from ODOD's baseline scenario, which assumes current fertility, mortality, and migration rates remain unchanged. Population is predicted to decline in Montgomery County, where Dayton is located. By contrast, the population continues to grow strongly in Warren and Hamilton counties at the corridor's southern end near Cincinnati and areas adjacent to the Ohio River.

Table 3 presents the population changes for counties along the corridor. The forecasts indicate that areas around Dayton are expected to lose population. Still, the population along the corridor is expected to remain unchanged as growth in Cincinnati and its suburbs offset those losses.

TABLE 3—POPULATION PROJECTIONS 2025 TO 2055, BASELINE SCENARIO

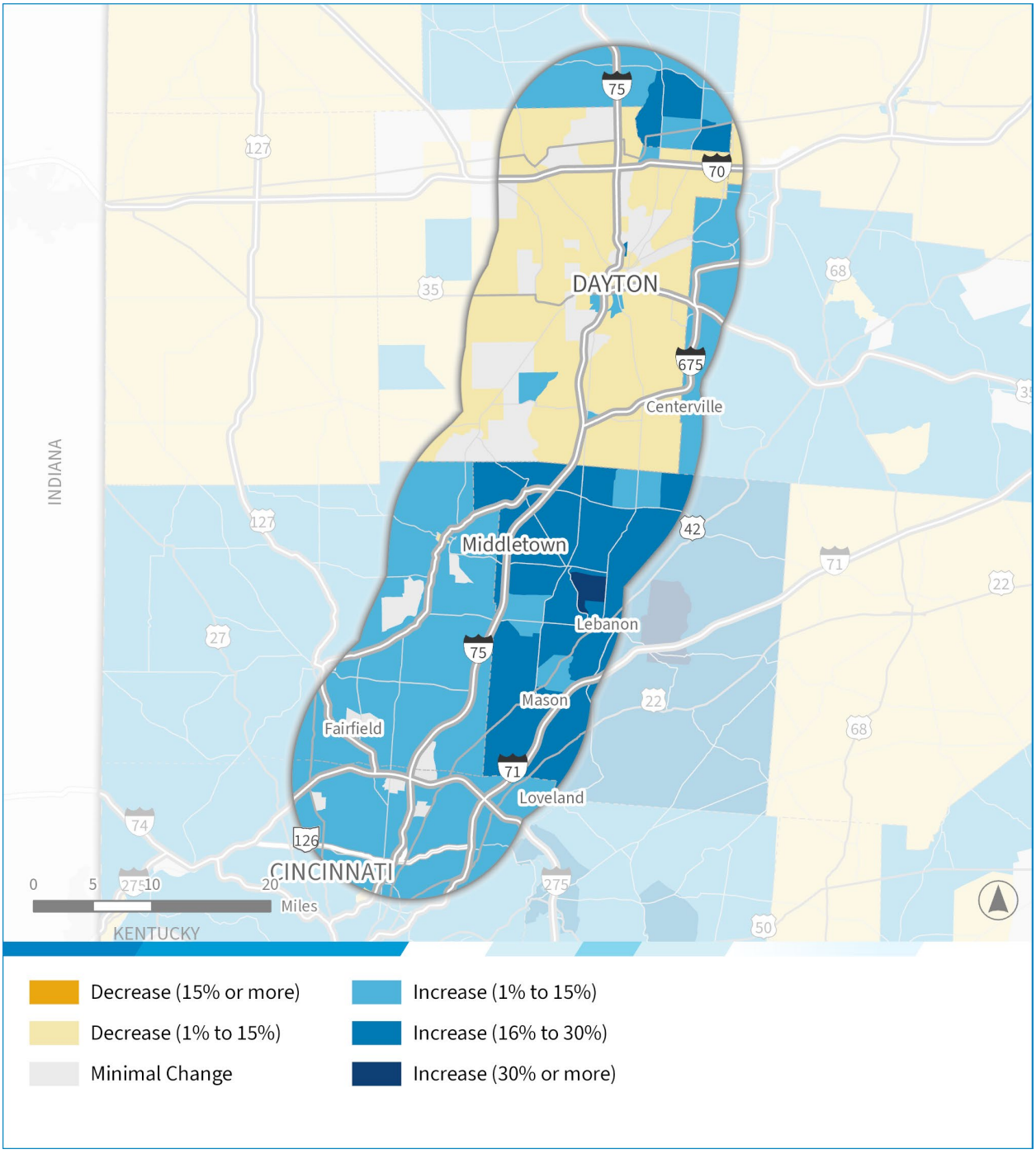
County	Population			
	2025	2055	Change	% Change
Montgomery	531,961	484,501	-47,460	-8.9%
Butler	392,965	380,929	-12,036	-3.1%
Warren	252,770	298,464	45,694	18.1%
Hamilton	833,266	849,341	16,075	1.9%
Total	**2,010,962**	**2,013,235**	**2,273**	**0.1%**

Source: ODOD

Key takeaways on future growth potential along the corridor include:

- Cincinnati and its northern suburbs are the primary economic drivers of demand along the corridor, primarily due to the region's role as an intermodal freight hub and its diverse economy.
- The demand for affordable housing for workers commuting to Cincinnati and Dayton will continue to drive development, and the population will increase along I-75.
- Despite the projected population declines in Dayton, the region retains a diverse employment base, and there are key development opportunities along I-75 and downtown.
- The Port of Cincinnati, which expanded in 2015, is a major intermodal freight hub that stretches over 200 miles of riverfront along the Ohio River in Ohio and Kentucky. The Port greatly expands opportunities in warehousing, distribution, and e-commerce.

FIGURE 10—FUTURE POPULATION CHANGE, 2025 TO 2055, BASELINE SCENARIO



Source: ODOD and ODOT, Ohio Statewide Model

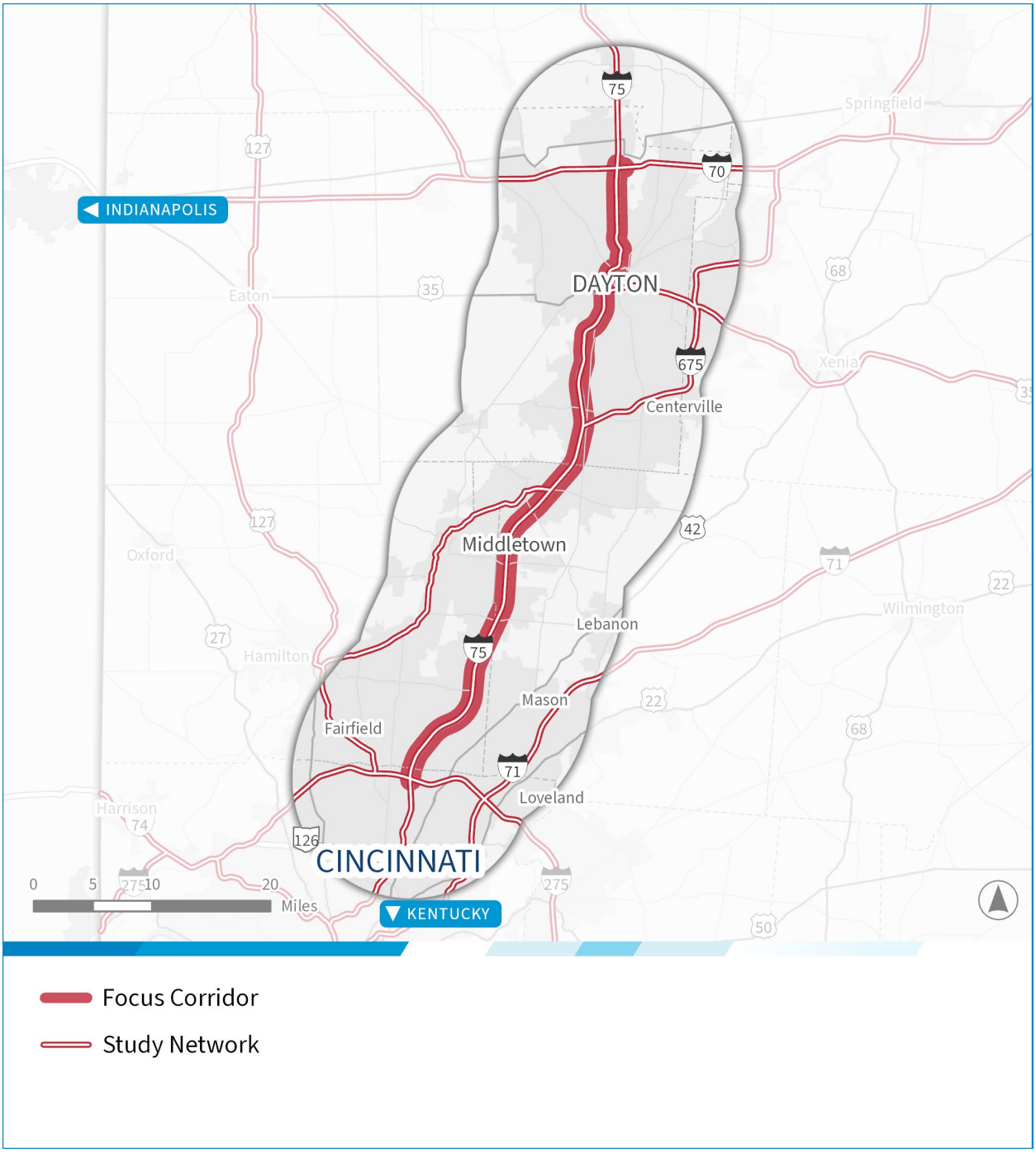
CORRIDOR INSIGHTS

This section summarizes the key insights shaping the corridor today and highlights potential issues that could impact its future transportation performance and mobility. **Figure 11** and **Table 4** summarize corridor-specific insights that are important considerations for the Dayton-Cincinnati focus corridor transportation conditions presented in the following sections.

TABLE 4—CORRIDOR INSIGHT SUMMARY

Map Key	Corridor Insight
1	• Dayton International Airport is a major passenger and air freight hub. • The Union Global Logistics Airpark at the Dayton airport is a JobsOhio site with a "high" readiness rating.
2	• Wright-Patterson Air Force Base is a major military installation focusing on air intelligence, logistics, and aerospace research and is an important military logistics hub for the Air Force Materiel Command. • The base has over 27,000 military and civilian personnel.
3	• Downtown Dayton has experienced significant urban redevelopment in recent years, which is expected to continue.
4	• Moraine is home to several large manufacturing employers, which primarily use I-75 for freight shipments.
5	• Major commercial and office development has occurred around the I-75/I-675 interchange in south Dayton.
6	• Residential development and population growth have been strong in suburbs northeast and southwest of Middletown. • These areas have grown as workers move south from Dayton and north from Cincinnati in search of affordable housing.
7	• Major commercial and office parks with warehousing and distribution facilities are accessed via a new diverging diamond interchange on I-75.
8	• The I-75/I-275 interchange is surrounded by significant commercial and industrial land uses that leverage the area's freeway access.
9	• I-75 serves major manufacturing employers such as GE Aerospace and other businesses.
10	• Downtown Cincinnati and the Port of Cincinnati are home to large employers and logistics-related businesses. • The Port of Cincinnati has recently expanded and is now the largest inland port in the country.

FIGURE 11—CORRIDOR INSIGHTS MAP



Corridor Conditions

The Corridor Conditions section summarizes the key physical, geometric, and operational characteristics that influence how the Dayton-Cincinnati focus corridor currently functions with respect to traffic flow and safety. It also examines the anticipated impacts of future regional growth and development. This assessment was based on data gathered from ODOT's Transportation Information Mapping System (TIMS) service and supported by visual observations to validate and supplement the base data.

The Dayton-Cincinnati focus corridor includes I-75 between I-70, just north of Dayton, and I-275, the northern Cincinnati outerbelt. The facility is 45 miles of urban interstate with 27 interchanges, including I-675, US35, SR4, and SR129. The corridor consists of two distinct segments: the northern and the southern.

The northern 23 miles of the corridor, from I-70 to SR73, is a six-lane section with 113,000 to 120,000 AADT. Geometry and operations are more variable in the northern half of the corridor traversing the Greater Dayton area. The six-lane northern half of the corridor incorporates non-standard interstate features, including four to five-foot wide inside shoulders, narrow lanes and shoulders on some bridges, poor horizontal and vertical alignment, and closely spaced interchanges. These features contribute to consistent congestion along this part of the corridor.

The southern 22 miles of the corridor, from SR73 to I-275, is an eight-lane section with 120,000 to 132,000 AADT. Geometrics and operations are constant in the southern half of the corridor, featuring eight lanes with 12-foot inside and outside shoulders, a wide median, gentle alignment and profile changes, interchange spacing greater than 1.5 miles, and daily v/c ratios under 1.0.

The north-south corridor connects Dayton with Cincinnati; it continues north to Wapakoneta, Lima, Findlay, Bowling Green, Toledo, Detroit, and various Michigan cities before terminating at the Canadian border in Sault Ste Marie, Michigan. To the south, I-75 connects Ohio to Lexington, Knoxville, Atlanta, and Tampa before crossing through Florida to terminate in Miami.

Beginning at the I-70 interchange near Dayton, the I-75 corridor extends south through a varied landscape that includes suburban, rural, and urban core development contexts, encountering residential, commercial, and industrial areas along the way. Notable changes in land use occur from industrial zones to moderate-density residential areas, particularly as the corridor approaches and moves through Dayton before continuing south toward I-275 and the Cincinnati metro area. I-75 serves multiple intermodal points in Dayton, such as the Dayton International Airport, the CSX Needmore Yard, Kinder Morgan, and the NS Moraine Auto Ramp, and in Cincinnati, such as the NS Sharon Intermodal Yard. It also has three transit agencies that utilize I-75: the Dayton RTA, the BCRTA, and the SORTA. This corridor is in the Dayton and the Cincinnati JobsOhio regions which are served by the Dayton Development Coalition and REDI Cincinnati, respectively.

Six structures over I-75 in the Greater Dayton Area have substandard vertical clearance. Most notably, Main Street over I-75 has 14.4' of vertical clearance over the traveled lanes and is signed 13'8'' at the northbound right barrier wall. The legal height for vehicles is 13'6''.

Initial observations of the Dayton-Cincinnati focus corridor include:

- 27 existing grade-separated interchanges
- Good interchange spacing and horizontal and vertical alignment in the southern portion of the corridor
- Poor interchange spacing and some horizontal and vertical alignment issues in the northern portion of the corridor
- Nine priority urban freeway segments and nine priority intersections in the HSIP top 100 locations

CONGESTION AND RELIABILITY

Existing and Future Congestion

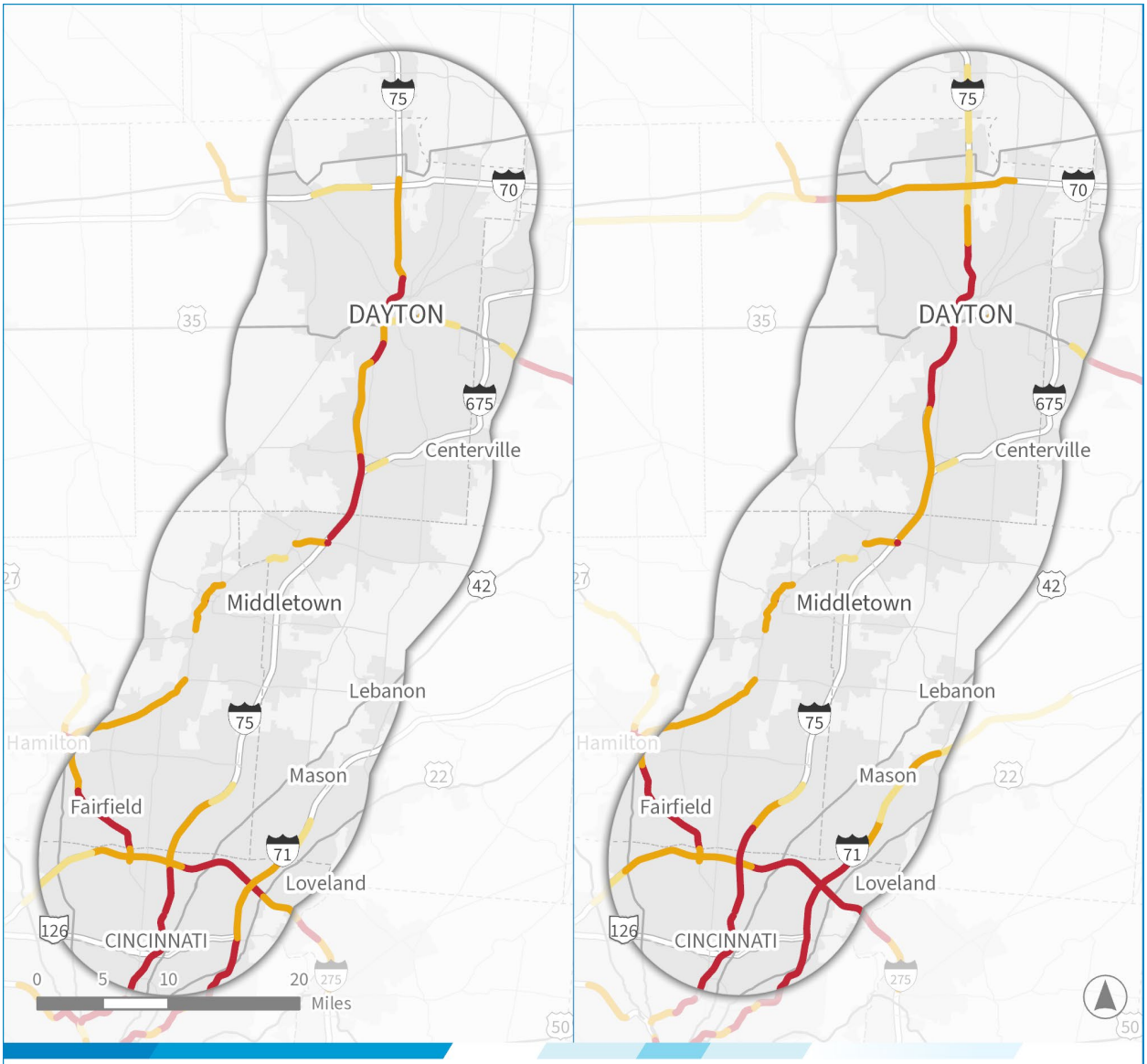
Two measures are used to assess congestion on the Dayton-Cincinnati focus corridor: v/c and ODOT's Traffic Operation Assessment Systems Tool (TOAST), as shown in **Figure 12** and **Figure 13** respectively. TOAST assigns scores to every segment of ODOT's road network based on a composite measure of bottlenecks, travel time performance, crash severity, rear-end crash percentages, traffic volume, and freight volume. The lower the score, the worse a segment is performing. **Figure 14** and **Figure 15** illustrate segments in the corridor prone to slower speeds due to congestion, respectively, in the morning and afternoon peak periods.

The segments of the Dayton-Cincinnati focus corridor with traffic volumes exceeding capacity exist on I-75 north and south of downtown Dayton. Segments of I-75 nearing capacity exist between I-275 and Cincinnati-Dayton Road and through Dayton from Miamisburg-Centerville Road to Wyse Road in Vandalia.

This corridor has many segments that score low on the TOAST metric. The lowest-scoring areas are focused on the southern and northern ends of the study area, specifically from I-275 to SR63 in Monroe and Dixie Drive to Wyse Road through Dayton. The rest of the corridor is moderately scored, with some other lower-scoring segments south of the SR122 interchange and around the interchange with Central Avenue in Springboro.

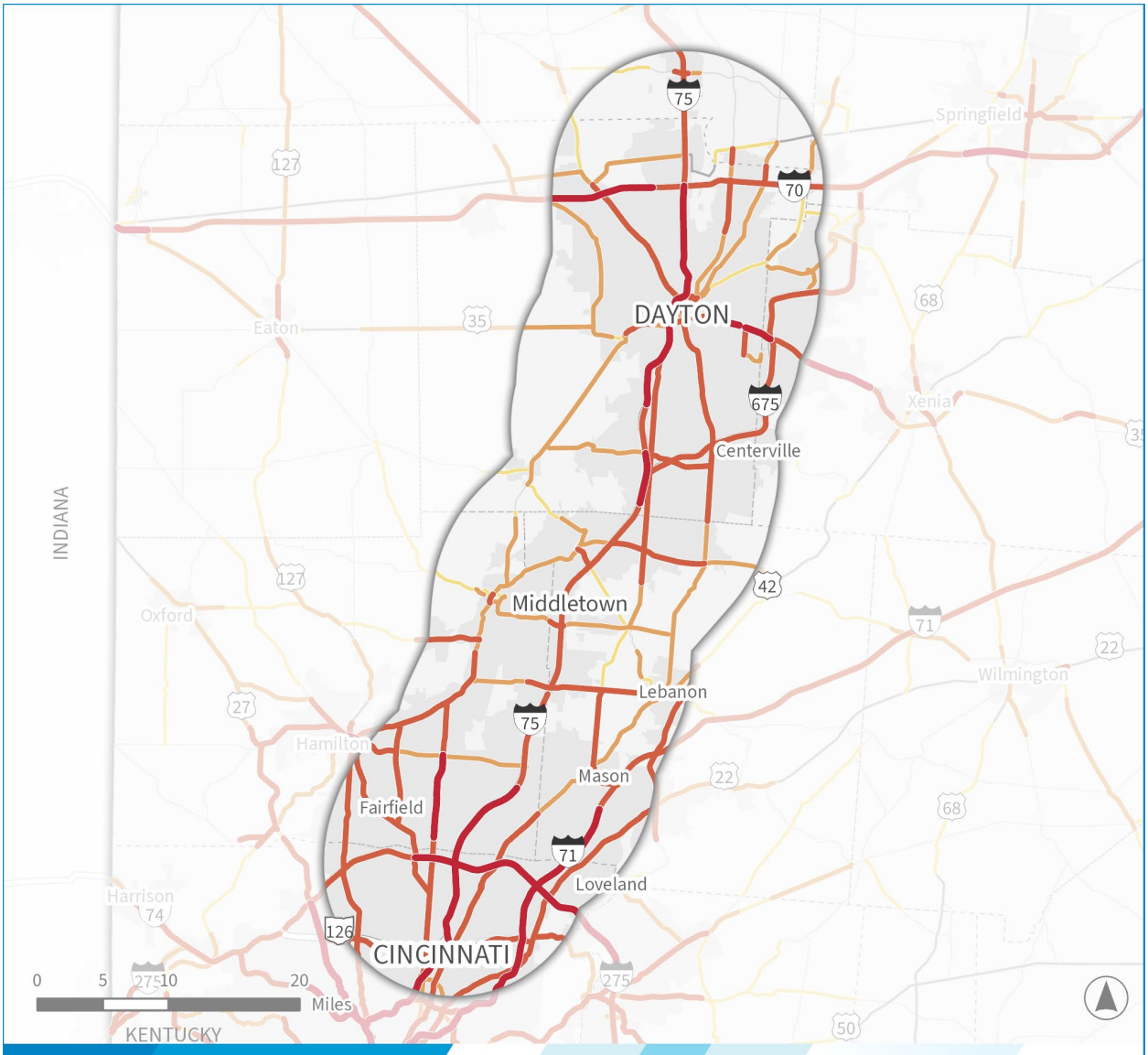
Looking to the future, many of these segments are predicted to pose similar risks to congestion. Based on a congestion risk analysis of projected travel and development data to 2055, these corridor segments are predicted to have a risk of increased congestion. The highest-risk areas are predicted to exist north of the I-275 interchange and through Dayton, which are high and moderate congestion-risk areas. A segment of I-75 from Central Avenue in Springboro to Austin Pike has a low congestion risk.

FIGURE 12—EXISTING AND FUTURE CONGESTION (PEAK PERIOD VOLUME TO CAPACITY RATIO)



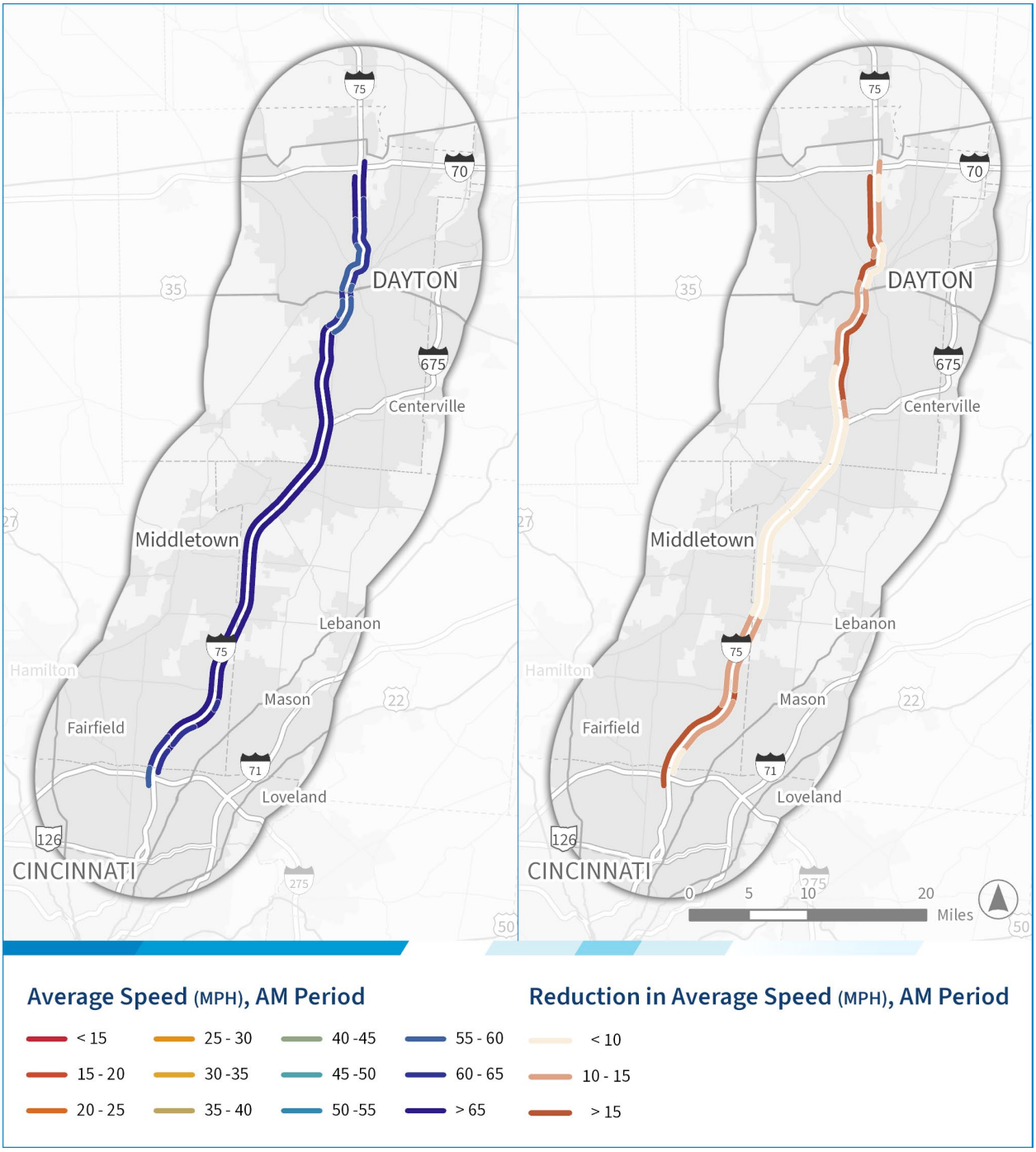
Source: Study Team (ODOT Statewide Travel Demand Model)

FIGURE 13— TRAFFIC OPERATIONAL ASSESSMENT SYSTEMS TOOL (TOAST)



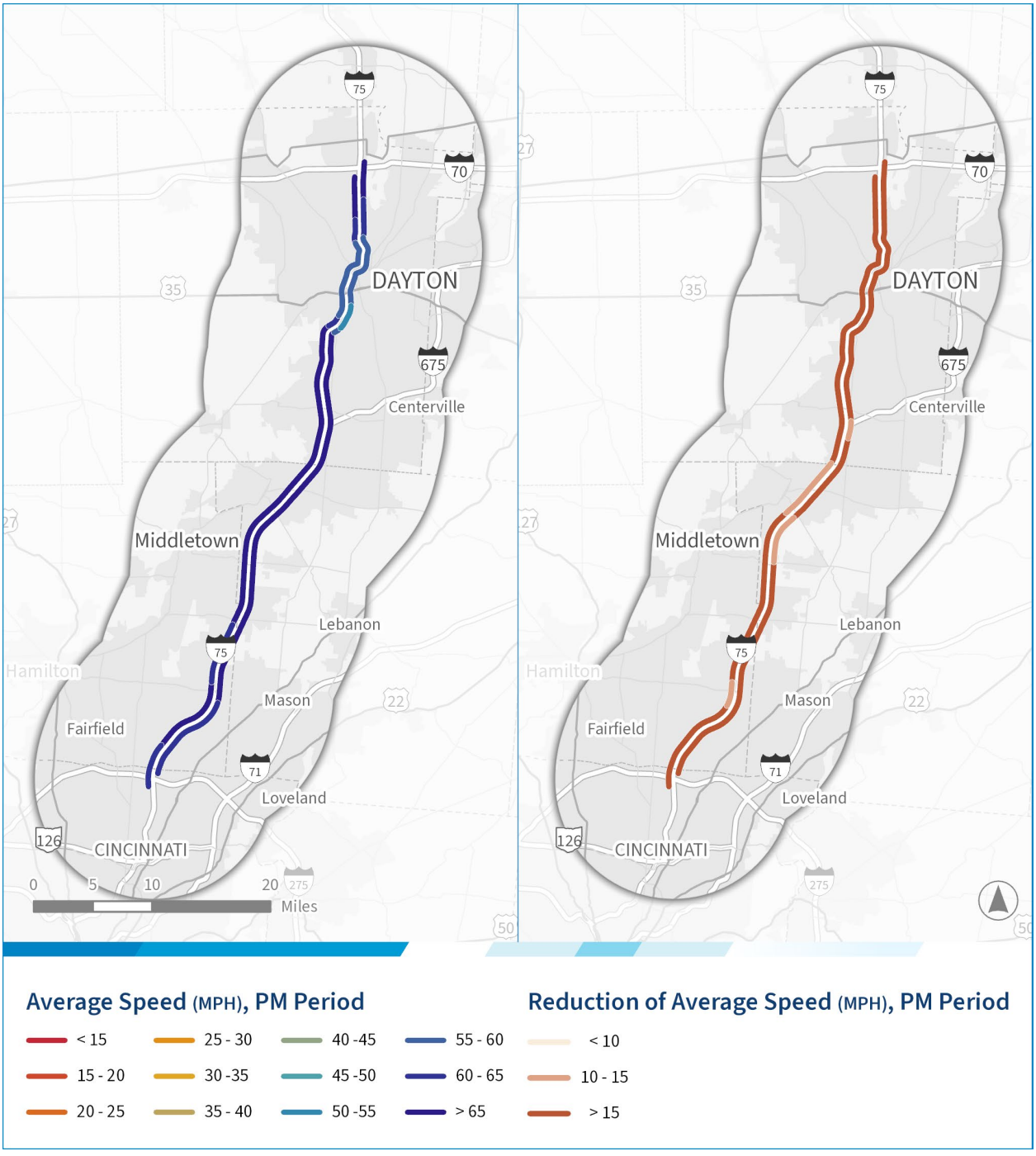
Source: ODOT

FIGURE 14—CONGESTION, AM PERIOD, 2022



Sources: INRIX, NPRMDS, Study Team

FIGURE 15—CONGESTION, PM PERIOD, 2022



Sources: INRIX, NPRMDS, Study Team

Local Development

The corridor encompasses many rural, suburban, and urban core development areas. The Dayton-Cincinnati focus corridor starts in the north at the intersection with I-70 near Vandalia, traversing through Northridge, Dayton's central business district, and across the Great Miami River. It continues south through Dayton, where the Moraine section is predominately industrial, crossing older residential and industrial neighborhoods. As it reaches the Dixie Avenue interchange, suburban residential and industrial uses appear. The corridor progresses southward, with suburban residential areas around the I-675 interchange, transitioning into a mix of rural and suburban uses around the SR63 interchange in Monroe. Further south, land uses are predominantly low to moderate-density single-family developments with larger commercial districts near interchanges, and manufacturing presence drops off at the Hamilton-Butler County line. The corridor runs south to the I-75/275 interchange, marking the edge of the Cincinnati metro area, which features a suburban setting.

Discussions with ODOT, MPOs, and local officials offered insight into potential development opportunities in the corridor. At the northern end, the US40 interchange serves the Dayton International Airport area, technically outside the study area, benefiting from private investments by major companies, such as Amazon, Procter & Gamble, Energizer, and Crocs. Moving southward, the SR4 interchange in Dayton supports the expanding Wright-Patterson Air Force Base, which is adding thousands of new workers. At SR73, the Warren County Transportation Improvement District (TID) has been making phased improvements to this interchange. Between SR63 and SR122, local stakeholders have proposed a new interchange at Greentree Road. A planned diverging diamond interchange (DDI) between SR129 and SR63 at Millikin Road will open access to 800 acres of developable land.

TRAFFIC COMPOSITION

Existing Traffic Patterns

This section describes existing travel patterns and traffic composition along the Dayton-Cincinnati focus corridor. The analysis utilizes origin and destination (O-D) data for vehicle trips from StreetLight to estimate AADT for 2023 between the major O-D gateways for roadways along the corridor. The StreetLight AADT data include bi-directional auto and truck volumes for trips that travel through at least one of the gateways to the markets at the endpoints of the corridor to provide a market-to-market analysis. The StreetLight AADT numbers shown here do not include trips in the corridor that do not originate in at least one of the market gateways; therefore, they are not intended to be compared with traffic counts collected in the field. Truck volumes were estimated using truck percentage splits calculated from the count segments used in the Ohio Statewide Model (OSWM).

The analysis focuses on market-to-market vehicle trips that travel the entire corridor length between Dayton and Cincinnati using I-75. Truck flows were estimated using truck percentages at the start and end of the corridor. The analysis also identifies the major diversion gateways where vehicles enter/exit the corridor.

Figure 16 presents the AADT O-D flows between Dayton and Cincinnati on I-75 for 2023. The corridor begins on I-75 at I-70 on the north side of Dayton and ends at I-275 on the north side of Cincinnati. The StreetLight data indicates an AADT volume of 11,100 traveling between the two markets. Truck percentages between Dayton and Cincinnati average 14% to 17%, indicating 1,500 to 1,900 trucks travel the corridor length daily.

FIGURE 16—MARKET-TO-MARKET AADT ORIGIN-DESTINATION FLOWS

SAFETY

The existing traffic safety and crash characteristics along the corridor reveal many high-priority segments and intersections. These locations have been identified based on detailed crash analyses, including heat maps and hot spot locations for all crashes, injury crashes, and fatal/serious injury crashes.

Corridor safety was assessed using crash data gathered from ODOT's GIS Crash Analysis Tool (GCAT) for calendar years 2017–2022. Data was filtered to include only crashes on the routes within the focus corridor. The safety hotspots in the Dayton-Cincinnati focus corridor include:

- I-75 from Stanley Avenue to Dryden Road
- I-75 from SR73 to SR123
- I-75 from Union Center Boulevard to Crescentville Road

The segments of highest safety concern are primarily near system interchanges and in downtown Dayton, where the close interchange spacing is believed to contribute to an excess of weaving movements, see **Figure 17**. The most common safety issues on the corridor are rear-end crashes (37%), sideswipe crashes, 35%, and fixed object crashes 17%. Rear-end crashes are by far the most common type on the I-75 corridor, especially in the segment from Stanley Avenue to Dryden Road. The segment from SR73 to SR123 sees a significantly high number of sideswipe and fixed object crashes. I-75 from Union Center Boulevard to Crescentville Road has a high proportion of re-r end and sideswipe crashes. Crashes involving animals occur throughout the corridor but make up a higher percentage of crashes between SR63 and SR73.

While not specifically referenced in the HSIP reports, ODOT District staff have noted that overnight truck parting at rest stops along the corridor often have overflow parking that can back up onto the shoulders of interstate travel lanes.

ODOT's HSIP creates a list of high-priority intersections and segments along Ohio's state roads, as documented in **Table 5** and **Table 6**. These lists are based on ODOT's Potential for Safety Improvement (PSI) ranking and the severity of crashes at the intersection or along a segment. The 2024 HSIP found nine priority urban freeway segments ranked within the top 100 HSIP locations in the state. Nine Priority Intersections on the Dayton-Cincinnati focus corridor reflect development pressures surrounding the interstate.

TABLE 5—HSIP SUMMARY 2024—SEGMENTS

Rank	County	General Location	Start County Log Point	End County Log Point
Urban Freeway				
71	Montgomery	1250 feet south of Stanley Avenue, Stanley Avenue interchange	14.8	15.3
54	Montgomery	900 feet south of West Monument Avenue, Third Street interchange north toward SR4 interchange	12.7	13.2
56	Montgomery	160 feet south of Third Street interchange	12.5	13.0
15	Montgomery	375 feet north of Albany Street, US35 interchange	11.7	12.2
74	Montgomery	275 feet south of Albany Street, US35 interchange	11.6	12.1
99	Montgomery	1,020 feet north of Carillon Boulevard, Edwin C. Moses interchange	10.6	11.1
83	Montgomery	4,756 feet south of Dryden Road, south of Dryden Road interchange	8.6	9.1
68	Butler	50 feet south of East Crescentville Road, between Union Center Boulevard and I-275 interchanges	0	0.5
43	Hamilton	3,000 feet south of East Crescentville Road, I-275 interchange	16.8	17.3

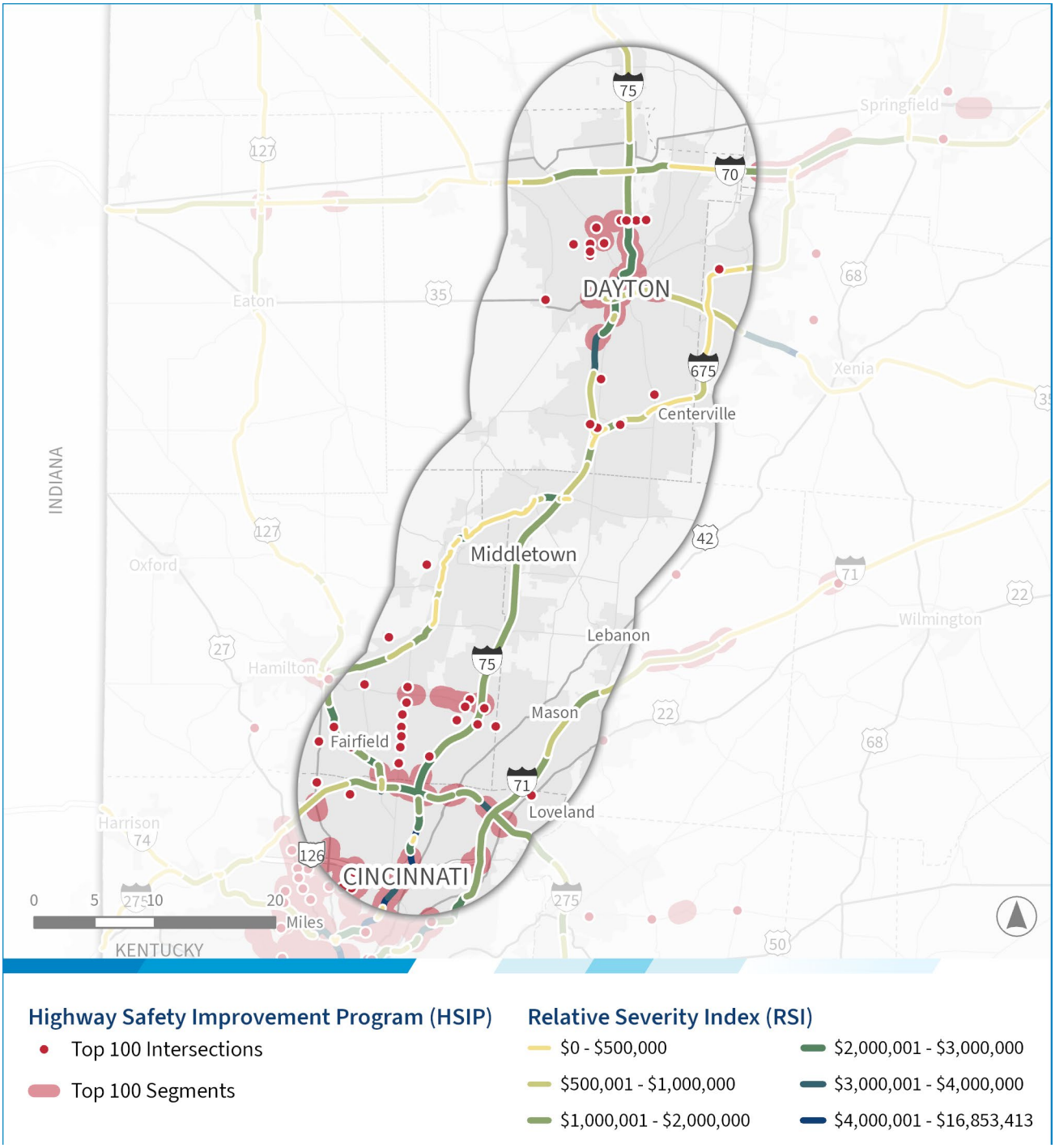
TABLE 6—HSIP SUMMARY 2024—INTERSECTIONS

Rank	County	General Location	Start State Log Point
Urban Freeway			
40	Montgomery	Needmore Road, Needmore Road	58
64	Montgomery	Needmore Road, Webster Street	58
88	Montgomery	Needmore Road, Payne Avenue	58
5	Montgomery	North Dixie Drive, Needmore Road	58
44	Montgomery	Byers Road, Lyons Road	48
94	Montgomery	Lyons Road, Springboro Pike	48
90	Butler	Cox Road, Cox Road	24
26	Butler	Dudley Drive, Dudley Drive	24
12	Butler	Muhlhauser Road, Muhlhauser Road	19

To supplement HSIP locations, the corridors were also categorized by the Relative Severity Index (RSI) of their combined crashes. RSI represents the relative cost to society of a specific type of crash, e.g., head-on, rear-end, angle. The types of collisions on the roadways are relevant to safety performance, as some crash types are more likely to result in severe injuries and higher societal costs. For instance, on an urban freeway in Ohio, the average head-on crash, perhaps caused by a vehicle crossing the median, costs around $101,000, and the average cost of a rear-end crash, a crash typically associated with congestion, is $31,000. Mapping a combination of RSI and HSIP priority locations creates a metric that speaks for a variety of crashes that point to the potential for serious injury, in addition to seeing high-crash locations, especially on facilities that may have lower volumes.

The FHWA Safe System Approach prioritizes improvements that can eliminate the opportunity for high-severity impacts, e.g., head-on, fixed-object, right angle, focusing on speed and angle of impacts in motor vehicle collisions, even if that improvement still provides potential opportunity for slower and less-impactful angles of collision, i.e., implementing roundabouts to remove potential for high-speed right angle collisions while potentially leading to low-speed rear-end or sideswipe collisions. The RSI provides higher costs to those types of crashes and helps to prioritize corridors for improvement.

FIGURE 17—CORRIDOR SAFETY LOCATIONS



Source: ODOT, Study Team

ENVIRONMENTAL HAZARDS

Environmental hazards along the I-75 corridor primarily involve floodplains, which could impact the interstate's operations. Although there are no recorded instances of flooding on I-75, access roads, particularly those approaching interchanges, are susceptible. From the northern end and moving south, documented flood incidents are confined to sections north of the corridor terminus at Vandalia and south of the terminus at I-275. Specifically, I-70 east of the I-75 interchange in the City of Huber Heights has seen flooding along the interstate proper.

Further south along the corridor, the composite interchange at West First Street's western approaches is vulnerable to flooding. Similarly affected is the northern approach at the Dryden Road interchange. The Dixie Drive interchange in Dayton also faces potential flooding issues, particularly on its eastern approach. Moving toward the southern end of the corridor, the SR63 interchange at I-275's eastern approach is potentially compromised by surface flooding.

GEOMETRIC

Interchanges by Functional Classification and Ownership

I-75 is a limited-access facility owned and maintained by ODOT; its functional classification throughout its length is principal arterial–interstate. The interchanging routes are summarized by functional classification and ownership or responsibility in **Table 7** and **Table 8**.

TABLE 7— SUMMARY OF INTERCHANGING ROUTE FUNCTIONAL CLASSIFICATIONS

Interchanging Route Functional Classification	Number
Principal Arterial—Interstate	3
Principal Arterial—Freeway, State or US Routes	3
Principal Arterial—Other	7
Minor Arterial	13
Major Collector—Municipal	1
Total	**27**

TABLE 8—SUMMARY OF ROUTE OWNERSHIP

Route Ownership/Responsibility	Number
Interstate—ODOT	3
Incorporated State or US Routes—ODOT or Municipality	6
Unincorporated State/US routes—ODOT	5
County Routes	7
Municipal Routes	6
Total	**27**

A notable aspect of the corridor is the difference in the spacing of interchanges between the northern and southern ends. In the northern part, particularly within the Dayton urban area, interchanges are closely spaced, which has historically raised concerns due to the weaving movements of motorists and the subsequent implications for roadway safety. To address these issues, ODOT District 7 completed the Dayton Subcorridor Project in 2017, a three-phase initiative that spanned 10 years of construction. The project removed left-hand entrances and exits, consolidated ramps, and added a third continuous lane to I-75. These improvements significantly helped in mitigating traffic complications.

TYPICAL SECTION

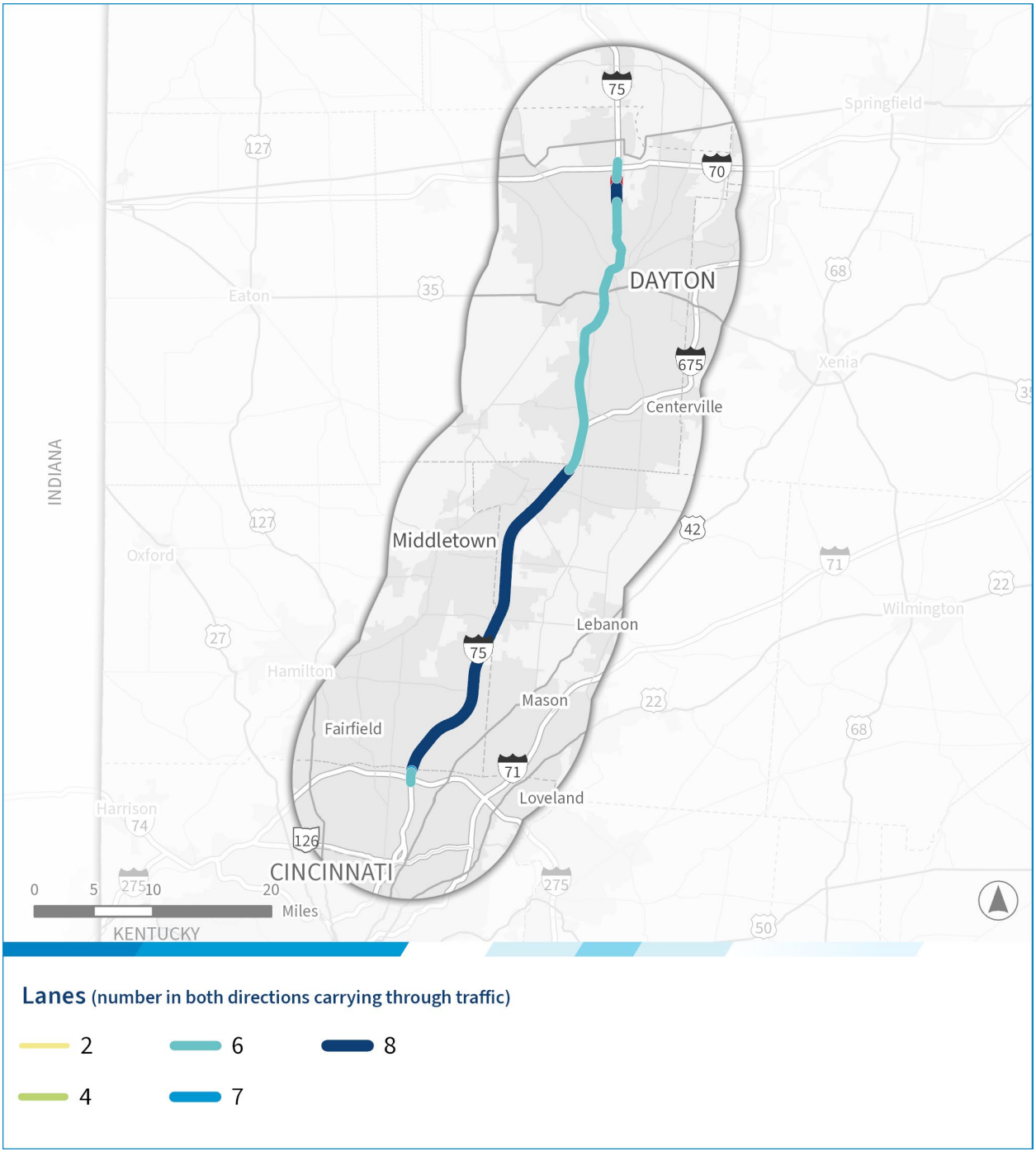
Lanes and Shoulders

I-75 has standard lane widths. The northern 23 miles have design exceptions for shoulder width, horizontal alignment and stopping sight distance (SSD), vertical alignment and SSD, and bridge width. The typical cross-section in this corridor, US40 to SR73, is six travel lanes. No design exceptions were found for the southern 22 miles of the corridor, which features lane width, shoulder width, vertical and horizontal alignment, grade, and sight distance in line with ODOT location and design standards; the typical cross section here, SR73 to I-275, is eight lanes. **Table 9** summarizes the typical section within two unique corridor segments, and **Figure 18** presents the number of lanes.

TABLE 9—TYPICAL SECTION SUMMARY

Corridor Segment		Through Lanes
Southern 23 miles of I-75 Corridor—I-275 to SR73	I-75 from SR73 to I-275	6-8
Northern 24 miles of I-75 Corridor—SR73 to US40	I-75 from US 40 to SR73	6-6

FIGURE 18—NUMBER OF LANES



Source: ODOT with field verification by Study Team

Median Treatments

Median treatments include approximately 27 miles of concrete median and 19 miles of grass median as follows:

- From I-70 through Dryden Road, 12.6 miles, is a concrete median
- Between Dryden Road and Dixie Drive, 2.65 miles, the grass median narrows to 60 feet wide
- Between Dixie Drive and SR73, 8.9 miles, is a wide grass median, 120 feet wide or more
- Between SR73 and SR129, 14.5 miles, is a concrete median
- Between SR129 and I-275, 7.4 miles, is a wide grass median, 120 feet wide or more

Rail Crossings

As a limited-access interstate highway built to federal specifications, there is no rail access directly off the corridor. Rail crossings will be incorporated into the feasibility discussion of any actionable recommendations that venture off the interstate. Significant rail hubs near the corridor are located in Sharonville and Moraine.

ACCESS

Major Access

Interchanges are inadequately spaced through the Dayton area. Between Dryden Road and Wagner Ford Road, the average interchange spacing is 0.73 miles, significantly less than the recommended urban interchange spacing of 1.5 miles. All ramp terminal intersections are signalized except for the northbound entrance ramp from Kirkham Street/Stewart Street and the southbound exit to Edwin C. Moses Boulevard.

Access Management and Local Development

As a full limited-access interstate highway built to federal specifications, there is no local access directly off the corridor. Access management and local development assessment will be incorporated into the feasibility discussion of any actionable recommendations that venture off the interstate. Access control is categorized as full access control, with preference given to through-/traffic movements by providing interchanges with selected public roads, and by prohibiting crossing at-grade and direct driveway connections, i.e., limited access to the facility.

OPERATIONAL

Transportation System Management and Operations (TSMO) and Intelligent Transportation Systems (ITS)

Interchange spacing within and around downtown Dayton is notably tight, averaging just 0.73 miles between Dryden Road and Wagner Ford Road, far below the recommended 1.5 miles. This proximity contributes to weaving behaviors,

where vehicles must merge across lanes quickly, increasing safety risks. ODOT District 7 removed problematic left-hand ramps and implemented collector-distributor lanes to separate merging traffic, easing congestion and improving flow. Additionally, ramp metering, as seen on Union Centre Boulevard, helps regulate traffic entry during peak times. Enhanced traveler information systems, including 34 CCTV cameras and strategically placed digital message signs (DMS), further support real-time traffic updates and incident management, improving overall safety and communication along the I-75 corridor.

Lighting

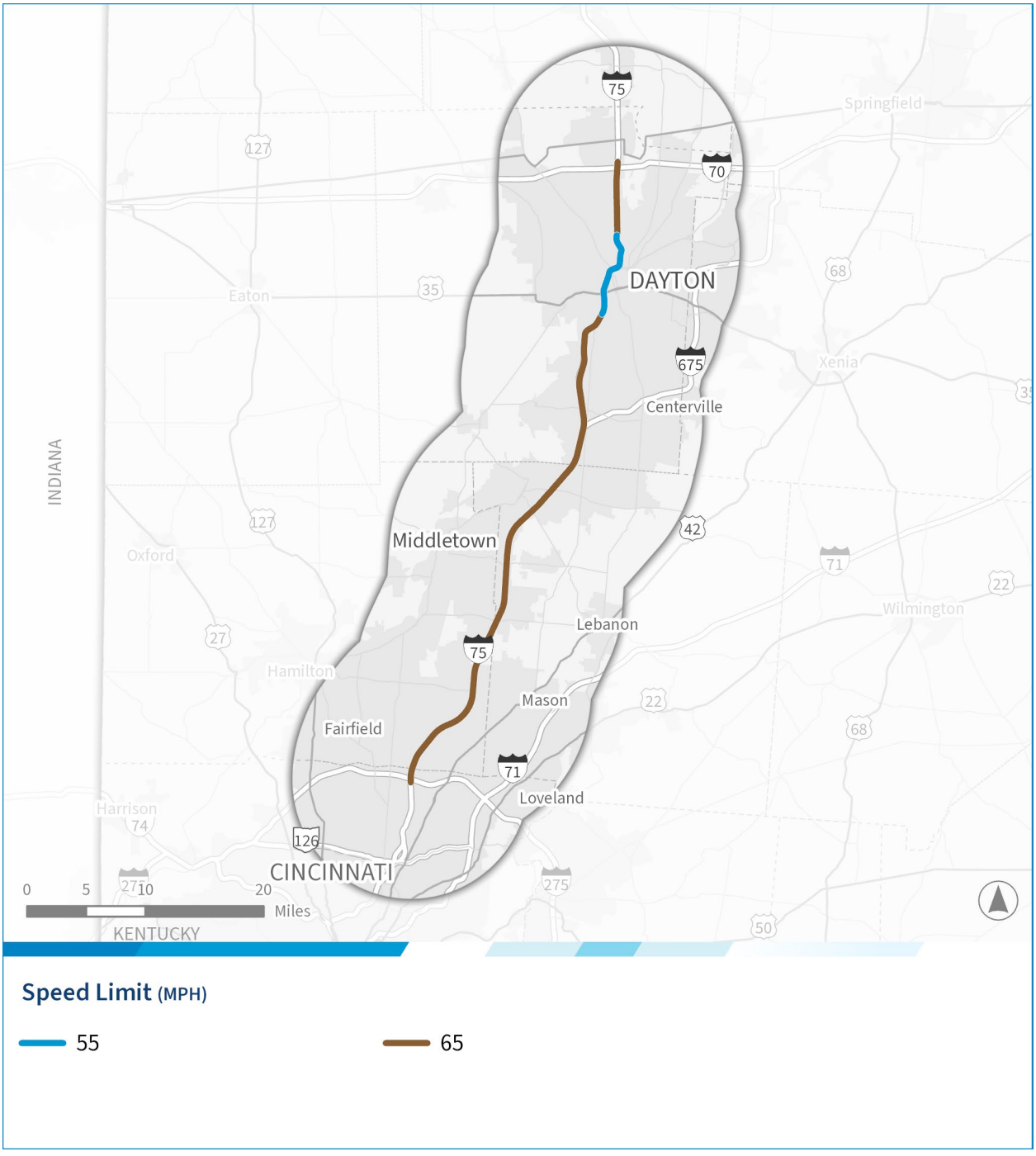
Lighting along the corridor is generally present in urbanized areas and is sporadic in suburban areas, with a distinct pattern observed from north to south. Starting from US40 the corridor benefits from continuous lighting south to the Dryden Road interchange in Dayton. However, as the corridor extends south from the Dryden Road interchange, lighting becomes inconsistent, particularly between interchanges in suburban stretches. The lighting pattern, predominantly at interchanges but not along the intervening stretches, continues until the US129 interchange. Consistent lighting resumes around this interchange, but a notable gap in lighting persists between the Union Centre Boulevard interchange in West Chester and the I-275 interchange, where lighting is mainly absent.

Speed Limits

Interstate-level speeds dominate throughout the corridor, offering high-speed travel with a few key transitions, as shown in **Figure 19**. Starting at the Vandalia Road interchange in the north, the posted speed limit is 65 mph, maintaining this standard as the corridor stretches southward to Wagner Ford Road. This section facilitates fast-moving traffic, providing efficient north-south connectivity across a significant portion of the region.

Just past the Wagner Ford Road interchange, the speed limit decreases to 55 mph as the corridor approaches and moves through downtown Dayton. This speed reduction is due to increasing urban density and a higher volume of entrance and exit ramps. The lower speed limit remains in effect for approximately seven miles through the urban core, where operational complexities and safety concerns from higher levels of weaving, merging, and crossing traffic necessitate slower travel speeds. Near Carillon Boulevard, just after crossing the Great Miami River, the corridor reverts to a speed limit of 65 mph, which continues for roughly 43 miles southward to the I-275 interchange, reflecting the more suburban and rural nature of the southern reaches of the corridor. StreetLight data indicates that the 85th percentile speed along the corridor through downtown Dayton ranges from 40 mph to 50 mph. In contrast, speeds along the remaining corridor sections are significantly higher outside the downtown area, ranging from 65 mph to 75 mph.

FIGURE 19—CORRIDOR SPEED LIMITS



Source: ODOT with field verification by Study Team.

MULTIMODAL

Multimodal Characteristics

Intercity Bus and Rail Service

There is no intercity passenger rail service in the corridor. The corridor has been part of discussions in the proposed 3C+D passenger rail line that would connect Cincinnati, Dayton, Columbus, and Cleveland. This line has seen planning activity, including through the Ohio Rail Development Commission, as a successful recipient of funding for corridor planning via the Federal Railroad Administration Corridor Identification and Development Program. The only intercity bus provider is Greyhound, which connects Dayton and Cincinnati with two runs per day.

Local Transit Agencies

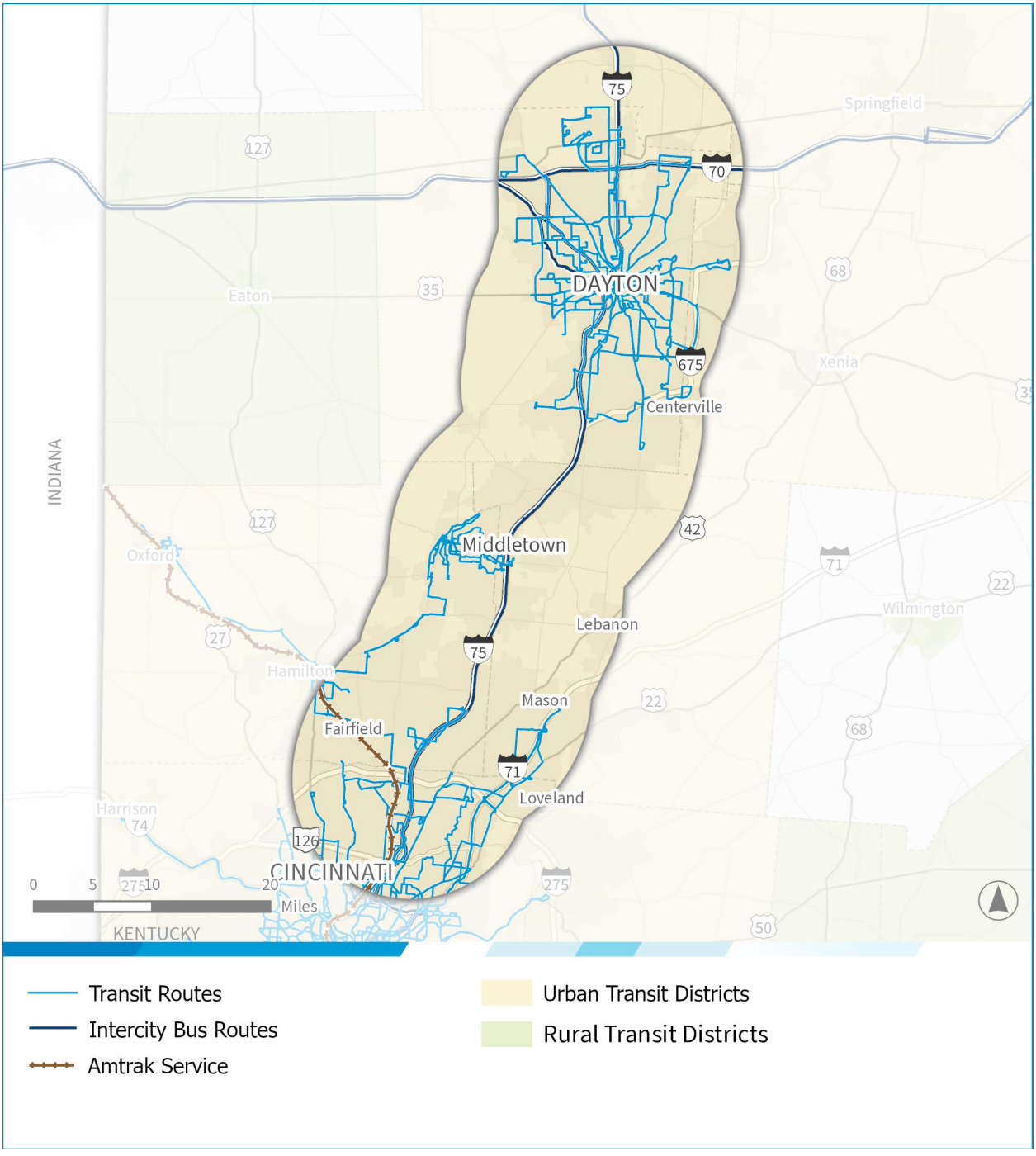
GDRTA provides transit services to most of Montgomery County, including areas outside Dayton's municipal boundaries. The South Hub transit center near the I-75/I-675 interchange is directly accessed by Routes 17 and 19, both travel to downtown Dayton via different alignments. An on-demand service zone also connects this hub westward to Germantown. However, no transit service utilizes I-75. The project corridor proceeds through the GDRTA service area, with the highest route density occurring in Downtown Dayton near the Downtown Transit Center (DTC, also known as Wright Stop Plaza) and thinning out again north of downtown. Routes 17 and 43 have express sections that start from the DTC and travel west on I-70 before serving multiple destinations near the Dayton International Airport. Routes 18, 19, and 22 use I-75 for short sections between consecutive interchanges north of the downtown.

The BCRTA offers several services of interest, including Route R6, which is branded as the Job Connector and runs local service in the cities of Hamilton and Fairfield before connecting to SORTA's Route 67. With an additional transfer, the cities of Middletown and Oxford connect via the R1, the Hamilton / Middletown Shuttle, and R3, the Hamilton/Oxford Connector. BCRTA also operates the Cincy Link limited stop express bus service, with two forks starting at park-and-ride lots near Hamilton and Middletown that converge at the SR129 interchange of I-75 before continuing to Downtown Cincinnati.

SORTA, also known as Metro, provides fixed-route public transit service to most of Hamilton County, including the southern end of the project corridor. Route 67, sometimes referred to as the Kemper Crosstown, provides east-west, cross-town service from the Forest Park Park-and-Ride on Kemper to a Meijer shopping center in Loveland, skirting the I-75/I-275 interchange along Kemper Road. This section allows passenger transfers from BCRTA R6. Although it is a cross-town route, Route 67 intersects several other SORTA transit lines, allowing passengers who transfer buses access to nearly all of Hamilton County.

Transit service routes across these three transit agencies are illustrated in **Figure 20.**

FIGURE 20—CORRIDOR TRANSIT ROUTES AND DISTRICTS



Source: ODOT with field verification by Study Team

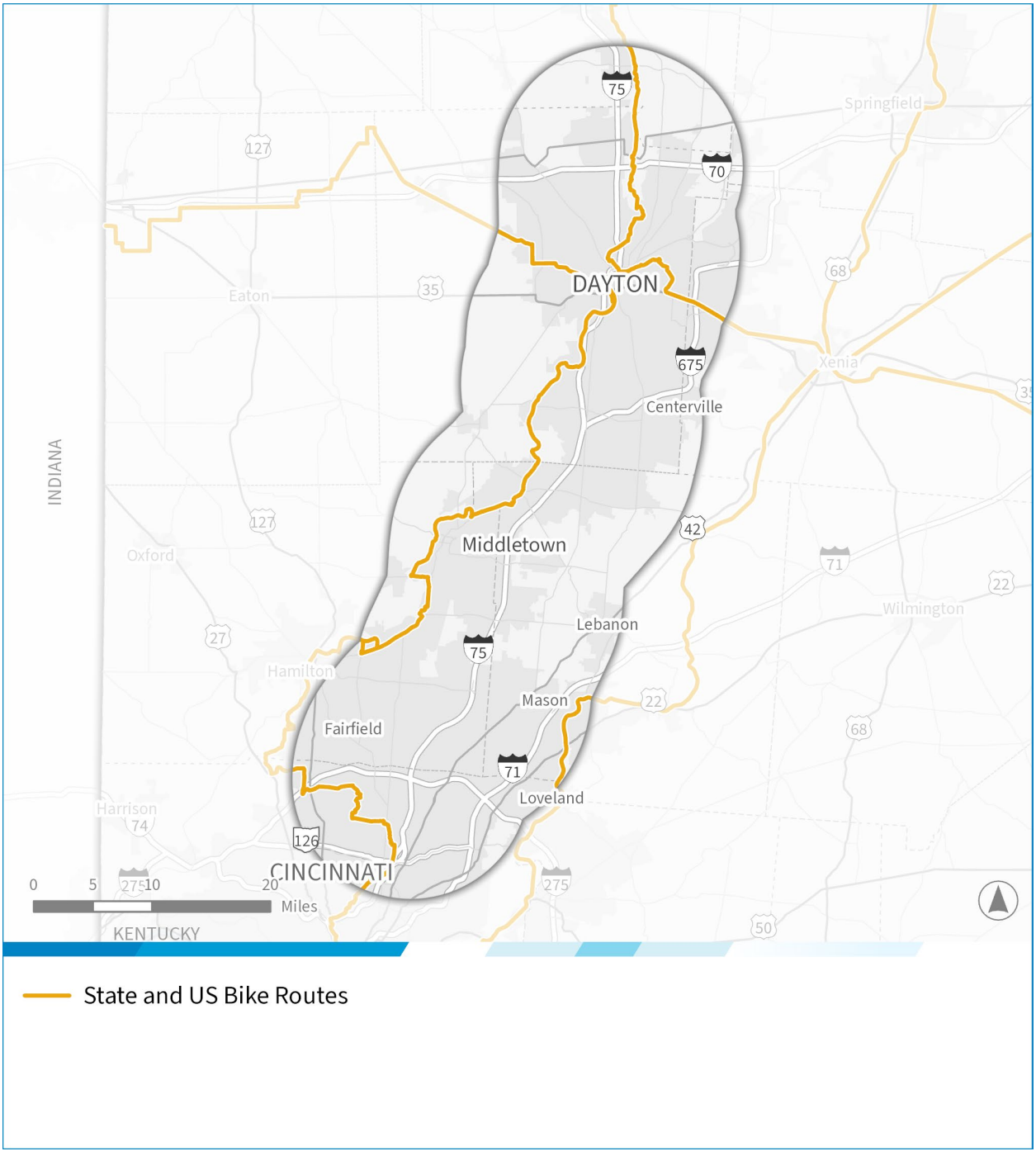
Intersecting Bike Facilities

State and US bike routes near the I-75 corridor are illustrated in **Figure 21**. The Great Miami River Recreational Trail runs parallel to its namesake, extending north past Vandalia and south to Cincinnati. The trail is relevant to the project corridor only in areas where the corridor intersects or runs adjacent to the river, from Moraine, Dixie Drive Interchange, through downtown Dayton, and north to the Wagner Ford Road interchange. The Wolf Creek Trail branches off from the Great Miami Trail south of the US35 system interchange, running adjacent to James H. McGee Boulevard to the west.

Adjacent Pedestrian Facilities

The prior discussion on intersecting bicycle facilities, with its description of trails, is relevant here. Sidewalks are available along local streets in much of the project corridor, particularly in older urban areas and newly developing residential areas, per local development ordinances. Suburban commercial and industrial areas generally lack sidewalks, with a notable exception being the Liberty Way mixed-use development at the Liberty Way/SR129 composite interchange north of I-275. ODOT District staff report they have received requests for walking and biking connections along Liberty Way over I-75.

FIGURE 21—CORRIDOR ACTIVE TRANSPORTATION



Source: ODOT with field verification by Study Team

Intermodal Points

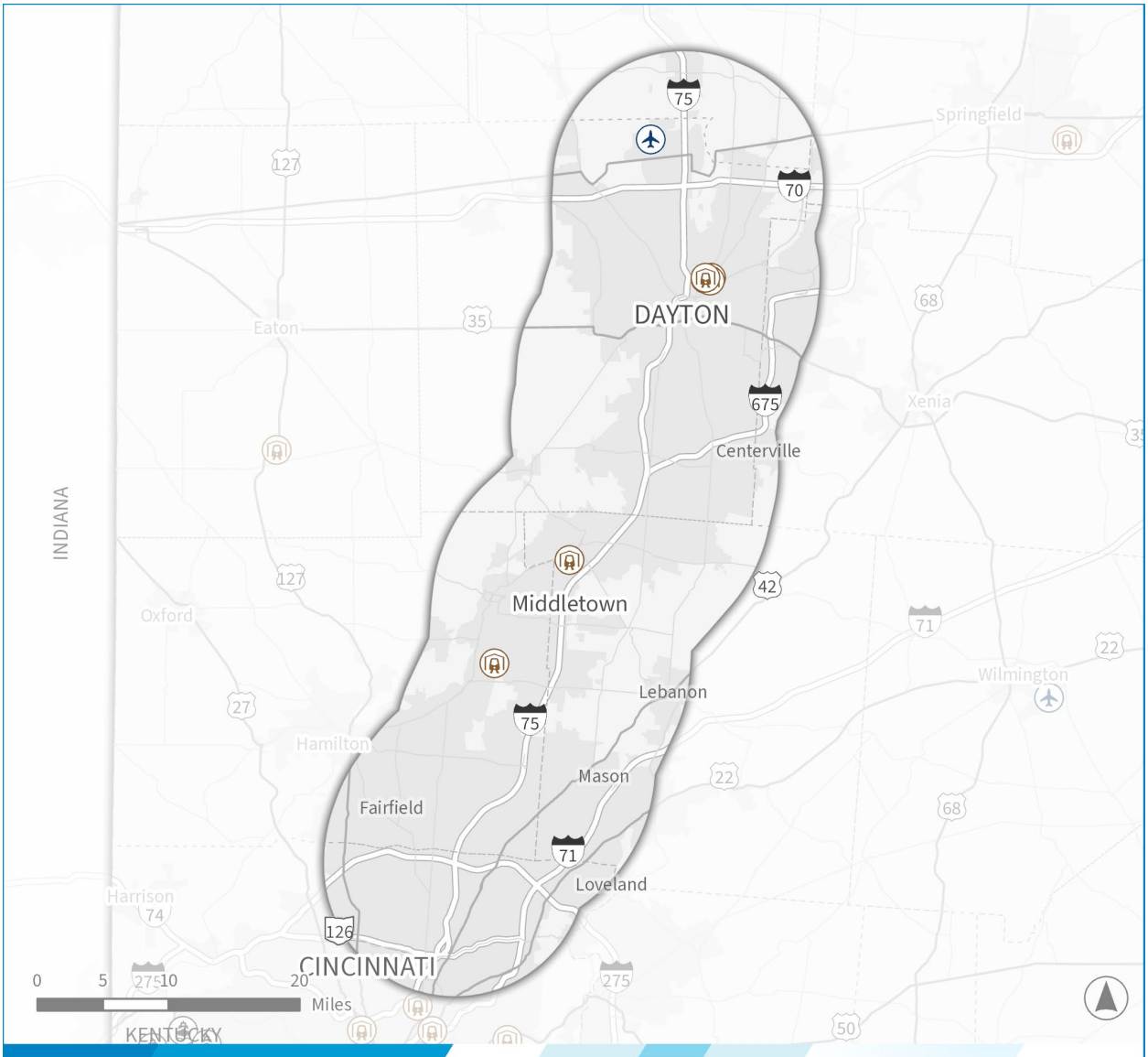
Multiple modal transfer areas are present throughout the study corridor. Near the corridor's northern terminus, the Dayton International Airport near Vandalia, just three miles northwest of the north end of the corridor, links truck and air transport. Several prominent logistics and transportation hubs are strategically placed in the Dayton area, supporting diverse industrial activities. The CSX Needmore Yard, located in the Dayton Northridge area, and Kinder Morgan LLC in Old North Dayton, the latter of which integrates rail, truck, and pipeline logistics, cater to a broad range of industrial requirements. Additionally, the Dayton Synchronous Support Center on the historic inner east side of Dayton and the NS Moraine Auto Ramp associated with the former GM Assembly Plant in Moraine enhance the region's capabilities in supporting the automotive and manufacturing sectors.

Further south, the Norfolk Southern Sharon Intermodal Yard in Sharonville, two miles southeast of the southern corridor terminus, links rail with air and truck transport. The Cincinnati-Northern Kentucky International Airport located approximately 20 miles southwest of the southern corridor terminus in Hebron, KY, also plays a crucial role in regional and international logistics, emphasizing the corridor's importance in facilitating extensive transportation and economic activities across multiple states. Intermodal service locations are detailed in **Table 10** and located in **Figure 22**.

TABLE 10—INTERMODAL SERVICE

Intermodal Points (south to north)	Type	Location
Dayton International Airport and Surrounding Area	Air, Rail, Truck	Dayton, near Vandalia, three miles northwest of north corridor terminus
CSX Needmore Yard	Rail, Truck	Dayton/Northridge
Kinder Morgan LLC	Rail, Truck, Pipeline	Dayton, Old North Dayton
Dayton Synchronous Support Center	Rail, Truck	Dayton, historic Inner East Side
NS Moraine Auto Ramp, GM Assembly Plant	Rail, Truck	Moraine
Norfolk Southern Sharon Intermodal Yard	Rail, Truck	Sharonville, two miles SE of south corridor terminus
Cincinnati-Northern Kentucky International Airport and its vicinity	Air, Truck	Hebron, Kentucky, 20 miles SW of south corridor terminus

FIGURE 22—INTERMODAL POINTS



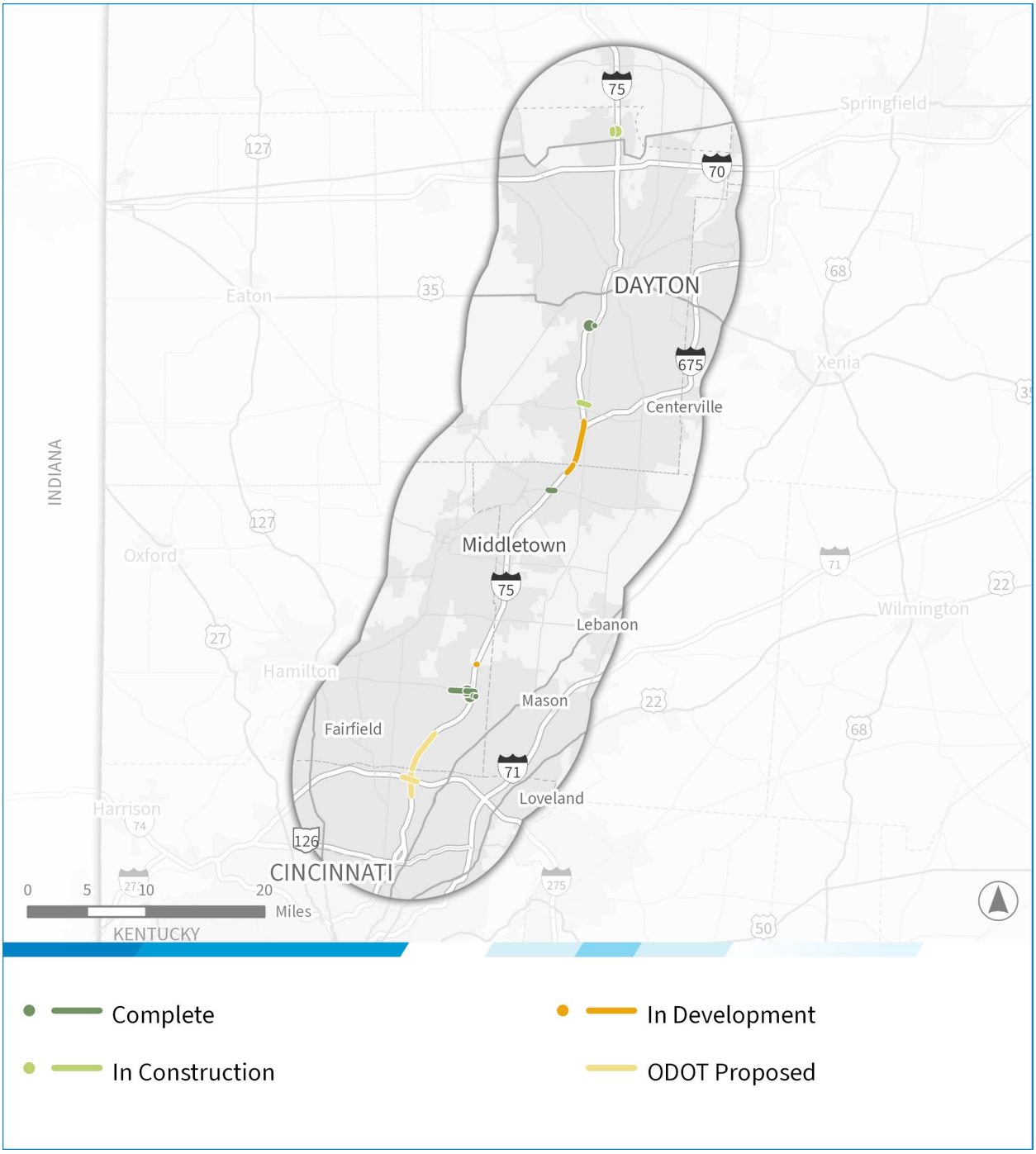
Source: Study Team

Corridor Investments

PROJECT LOCATION MAP

The corridor investments section summarizes the total number of ODOT investments completed, in construction, in development, or proposed in the Dayton-Cincinnati focus corridor. This assessment was based on project data gathered from ODOT databases in November 2024 and verified through ODOT Districts in the corridor. **Figure 23** visually represents the number of projects by phase between Dayton and Cincinnati. This representation may not directly compare with the projects in the subsequent summary tables due to the additional grouping of projects used to assess hotspot analysis in the Needs and Project Gaps section.

FIGURE 23—PROJECT LOCATION MAP



Source: ODOT

IMPROVEMENT SUMMARY

The NSTI, undertaken by the OKI and the MVRPC and completed in 2004, developed recommendations to improve the transportation system's safety, efficiency, and reliability along the I-75 corridor through Ohio and into Kentucky. Since 2004, ODOT has initiated and completed many of the recommendations from the study, including the Brent Spence Bridge Corridor Project and the Through-the-Valley Project, adding capacity and improving design features between I-275 and I-70.

Projects proposed over the past 10 years, between 2015 and 2024, are categorized based on their current phase, as shown in **Table 11**. Project data was sourced from Ellis, ODOT's project management system, based on information available as of November 2024 and reviewed with ODOT District staff.

- **Completed:** projects that have been fully executed and finished since 2015. Projects before 2015 were not included.
- **In Construction:** projects currently underway with active construction.
- **In Development:** projects in the planning or design stages, where concepts for future construction are being developed.
- **ODOT Proposed:** projects that have been considered but have not yet started.

Projects included in regional long-range plans were also collected and considered within the gap analysis.

TABLE 11—PROJECTS BY PHASE

Project Phase	Number of Projects	Funding Amount
Completed Projects	12	$218 million
In Construction	3	$8 million
In Development	3	$195 million
ODOT Proposed	6	$99 million
TOTAL	**24**	**$520 million**

Completed Projects

In the 10 years from 2015 to 2024, ODOT completed 12 projects costing $218 million to improve the capacity and operations of the I-75 Cincinnati-Dayton focus corridor (**Table 12**). The most notable of the 12 projects was MOT-75-12.00 (PID 77247), the last of the three-phase NSTI Dayton Subcorridor Project was completed in 2017. The three-phase project added a third continuous lane and consolidated ramps, including eliminating left-hand exit and entrance ramps.

Also noteworthy, Butler County completed a 13th project in 2023, building a new DDI at Union Centre Boulevard.

TABLE 12—COMPLETED PROJECTS

Project Name (PID #):	MOT IR-75 22.92 (PID 117515)				
Location:	**ODOT District:**	**JobsOhio Region:**	**Work Category:**	**Project Status:**	**Estimated Year of Completion:**
Montgomery County	7	Dayton	Traffic Control	Completed	2024
Project Description: Installed a new traffic signal at the ramp intersection of I-75 Southbound and Northwoods Boulevard to mitigate congestion and improve traffic operation.					
Funding Status	**Project Cost**		**Funded**		**Unfunded**
Full Funding	$317,230		$317,230		$0

Project Name (PID #):	MOT IR75 12.00 (PID 77247)				
Location:	**ODOT District:**	**JobsOhio Region:**	**Work Category:**	**Project Status:**	**Estimated Year of Completion:**
Montgomery County	7	Dayton	Interchange Expansion and Major Rehab	Completed	2023
Project Description: Reconstructed the Dayton downtown core area and provided three continuous lanes as Phase 2 of the three-phase Dayton Subcorridor Project.					
Funding Status	**Project Cost**		**Funded**		**Unfunded**
Full Funding	$154,707,494		$154,707,494		$0

Project Name (PID #):	MOT IR75 10.44/10.78 (PID 91606)				
Location:	**ODOT District:**	**JobsOhio Region:**	**Work Category:**	**Project Status:**	**Estimated Year of Completion:**
Montgomery County	7	Dayton	Bridge preservation, widening	Completed	2023

Project Description: Replaced deficient bridge deck (1044) and superstructure (1078). Increased to required vertical clearance on the 1078 structure. Replaced the median barrier between these two bridges and resurfaced the pavement. Removed the Texas turnaround from the Edwin C. Moses interchange.

Funding Status	Project Cost	Funded	Unfunded
Full Funding	$19,940,773	$19,940,773	$0

Project Name (PID #):	MOT IR75 9.53 (PID 109436)				
Location:	**ODOT District:**	**JobsOhio Region:**	**Work Category:**	**Project Status:**	**Estimated Year of Completion:**
Montgomery County	7	Dayton	Traffic Control	Completed	2022

Project Description: Rebuilt traffic signal to allow for backplate installation and realigned ramp at SR741 in Moraine.

Funding Status	Project Cost	Funded	Unfunded
Full Funding	$596,671	$596,671	$0

Project Name (PID #):	MOT SR725 8.66 (PID 100178)				
Location:	**ODOT District:**	**JobsOhio Region:**	**Work Category:**	**Project Status:**	**Estimated Year of Completion:**
Montgomery County	7	Dayton	Intersection Improvement (Safety)	Completed	2019

Project Description: On SR741 in Moraine, the roadway was widened and realigned to the northbound I-75 ramp.

Funding Status	Project Cost	Funded	Unfunded
Full Funding	$2,133,668	$2,133,668	$0

Project Name (PID #):	MOT IR75 0.76 (PID 104979)				
Location:	**ODOT District:**	**JobsOhio Region:**	**Work Category:**	**Project Status:**	**Estimated Year of Completion:**
Montgomery County	7	Dayton	Intersection Improvement (Safety)	Completed	2022

Project Description: Reconfigured the westbound approach lane assignment from three lanes where the right turn lane is under yield control to four lanes where the dual right turn lanes will be under signal control at Austin Boulevard and I-75 NB. Restriped SR741 to include dual left turn lanes for northbound traffic turning left onto Austin Boulevard.

Funding Status	Project Cost	Funded	Unfunded
Full Funding	$2,014,672	$2,014,672	$0

Project Name (PID #):	WAR IR75 10.02 (92040)				
Location:	**ODOT District:**	**JobsOhio Region:**	**Work Category:**	**Project Status:**	**Estimated Year of Completion:**
Warren County	8	Dayton	Intersection Improvement (Safety)	Completed	2020

Project Description: Added a new westbound to northbound loop ramp from SR73 to I-75. Retimed/reconfigured signal because the left turn from SR73 was no longer needed.

Funding Status	Project Cost	Funded	Unfunded
Full Funding	$3,698,514	$3,698,514	$0

Project Name (PID #):	WAR SR73 3.66 (113717)				
Location:	**ODOT District:**	**JobsOhio Region:**	**Work Category:**	**Project Status:**	**Estimated Year of Completion:**
Warren County	8	Dayton	Intersection Improvement (Safety)	Completed	2024

Project Description: Improved the I-75 and SR73 interchange, including adding dual left turn lanes to the southbound entrance ramp, a right turn lane on the NB exit ramp, side mounted signal heads on the southbound exit ramp, a right turn lane to Sharts Drive and a multi-use path along the south side of SR73 to Conover Drive.

Funding Status	Project Cost	Funded	Unfunded
Full Funding	$4,021,671	$4,021,671	$0

Project Name (PID #):	BUT SR129 25.00 (PID 104195)				
Location:	**ODOT District:**	**JobsOhio Region:**	**Work Category:**	**Project Status:**	**Estimated Year of Completion:**
Butler County	8	Cincinnati	Interchange Expansion	Completed	2023

Project Description: Reconfigured the interchange of SR129 with Liberty Way and I-75. SR129 was extended east to connect to Cox Road, north of Liberty Way. Existing ramp connections were reconfigured.

Funding Status	Project Cost	Funded	Unfunded
Full Funding	$25,326,031	$25,326,031	$0

Project Name (PID #):	BUT IR75 5.35 (103754)				
Location:	**ODOT District:**	**JobsOhio Region:**	**Work Category:**	**Project Status:**	**Estimated Year of Completion:**
Butler County	8	Cincinnati	Intersection Improvement (Safety)	Completed	2020

Project Description: Improved capacity on the exit ramps at I-75 and Tylersville Road, added an eastbound right-turn lane on Tylersville at the southbound ramps, and provided a positive offset for the left turn lanes into the Speedway gas station and Gears Florist.

Funding Status	Project Cost	Funded	Unfunded
Full Funding	$1,468,004	$1,468,004	$0

Project Name (PID #):	HAM/BUT IR75 17.22/0.00 (PID 96421)				
Location:	**ODOT District:**	**JobsOhio Region:**	**Work Category:**	**Project Status:**	**Estimated Year of Completion:**
Hamilton and Butler counties	8	Cincinnati	Roadway Improvement	Completed	2017

Project Description: Lengthened the acceleration lane for the northbound on-ramp from east and west I-275.

Funding Status	Project Cost	Funded	Unfunded
Full Funding	$1,225,630	$1,225,630	$0

Project Name (PID #):	HAM-75-16.67 (PID 104408)				
Location:	**ODOT District:**	**JobsOhio Region:**	**Work Category:**	**Project Status:**	**Estimated Year of Completion:**
Hamilton County	8	Cincinnati	Roadway Improvement	Completed	2017

Project Description: Lengthened and separated the southbound I-75 to I-275 ramps.

Funding Status	Project Cost	Funded	Unfunded
Full Funding	$2,561,100	$2,561,100	$0

Projects In Construction

MOT-725-14.41 will provide an $8 million improvement to safety and capacity on SR725 at the I-75 interchange. Additionally, two major rehabilitation projects on I-75 are in construction. While the major rehabilitation projects do not feature operational or capacity improvements, they represent a $110 million capital investment in the corridor (**Table 13**).

TABLE 13—IN CONSTRUCTION PROJECTS

Project Name (PID #):	**MOT SR725 14.41 (PID 108619)**				
Location:	**ODOT District:**	**JobsOhio Region:**	**Work Category:**	**Project Status:**	**Estimated Year of Completion:**
Montgomery County	7	Dayton	Interchange Improvement	Construction	2024–2026
Project Description: Upgrading the interchange ramp traffic signals and installing wrong-way detection on the ramps. Includes pedestrian and bicycle facilities on 0.44 miles of SR725.					
Funding Status	**Project Cost**		**Funded**	**Unfunded**	
Full Funding	$8,192,590		$8,192,590	$0	

Project Name (PID #):	**MOT IR75 6.86 (PID 107375)**				
Location:	**ODOT District:**	**JobsOhio Region:**	**Work Category:**	**Project Status:**	**Estimated Year of Completion:**
Montgomery County	7	Dayton	Major Rehab	Construction	2023–2026
Project Description: Rebuilding the asphalt pavement.					
Funding Status	**Project Cost**		**Funded**	**Unfunded**	
Full Funding	$52,637,426		$52,637,426	$0	

Project Name (PID #):	**MOT IR75 14.74 (PID 107376)**				
Location:	**ODOT District:**	**JobsOhio Region:**	**Work Category:**	**Project Status:**	**Estimated Year of Completion:**
Montgomery County	7	Dayton	Major Rehab	Construction	2023–2028

Project Description: Rebuilding the asphalt pavement.

Funding Status	Project Cost	Funded	Unfunded
Full Funding	$57,704,560	$57,704,560	$0

Projects In Development

Three interchange expansion projects are currently in development with an estimated cost of $195 million (**Table 14**).

TABLE 14—IN DEVELOPMENT PROJECTS

Project Name (PID #):	WAR/MOT IR75 11.56/0.00 (PID 113579)				
Location:	**ODOT District:**	**JobsOhio Region:**	**Work Category:**	**Project Status:**	**Estimated Year of Construction:**
Warren and Montgomery counties	7	Dayton	Interchange Expansion	Preliminary Engineering	2027

Project Description: Major reconstruction of I-75 from Austin Boulevard to the I-675 area. Includes extending the eight-lane section of I-75 north from Pennyroyal to I-675. Preservation and major rehab funding.

Funding Status	Project Cost	Funded	Unfunded
Full Funding	$62,174,305	$62,174,305	$0

Project Name (PID #):	BUT IR75 8.50 (PID 113647)				
Location:	**ODOT District:**	**JobsOhio Region:**	**Work Category:**	**Project Status:**	**Estimated Year of Construction:**
Butler County	8	Cincinnati	Intersection Expansion	Development—Design	2028

Project Description: Butler County TID is sponsoring the construction of a new diverging diamond interchange at Millikin Road to enhance economic development in Liberty Township and has provided $112,500 in preliminary engineering funding. ODOT Jobs and Commerce has provided $37,500, and TRAC has funded $10.5 million in preliminary engineering, right-of-way, and design.

Funding Status	Project Cost	Funded	Unfunded
Partial Funding	$61,540,000	$10,650,000	$50,890,000

Project Name (PID #):	HAM IR75/IR275 Interchange (PID 120804)				
Location:	**ODOT District:**	**JobsOhio Region:**	**Work Category:**	**Project Status:**	**Estimated Year of Construction:**
Hamilton County	8	Cincinnati	Intersection Expansion	Development—Study	2029

Project Description: The I-75/I-275 interchange is currently being studied for safety and capacity improvements, estimated to cost $71 million. Construction of a proposed flyover ramp from southbound I-75 to eastbound I-275 would eliminate weaving movements, and the project includes a northbound auxiliary lane from I-75 to Union Central Boulevard to increase capacity. Preliminary engineering of $7 million will be funded as a Tier-2 TRAC project, but design and construction funding are currently undetermined.

Funding Status	Project Cost	Funded	Unfunded
Partial Funding	$71,000,000	$7,000,000	$64,000,000

ODOT Proposed Projects

The proposed projects listed in **Table 15**, are in the idea or concept phase and are being evaluated for feasibility and funding. ODOT has five proposed but unfunded projects along the corridor, with a combined total estimated cost of $99 million. Two major interchange operational improvement projects are proposed in the Dayton area, and the remaining three are smaller intersection or interchange improvements with a combined estimated price of $11.5 million.

TABLE 15—PROPOSED PROJECTS

Project Name (PID #):	I-75 and Needmore Road (no PID)				
Location:	**ODOT District:**	**JobsOhio Region:**	**Work Category:**	**Project Status:**	**Estimated Year of Construction:**
Montgomery County IR75 SLM 17.29	7	Dayton	Interchange Improvement (Safety)	ODOT Proposed	2035

Project Description: Interchange modification to improve the capacity of existing ramps; widen Needmore Road bridge over I-75 to eight lanes.

Funding Status	Project Cost	Funded	Unfunded
Unfunded	$32,000,000	$0	$32,000,000

Project Name (PID #):	IR75 and Wagner Ford (no PID)				
Location:	**ODOT District:**	**JobsOhio Region:**	**Work Category:**	**Project Status:**	**Estimated Year of Construction:**
Montgomery County IR75 SLM 15.82	7	Dayton	Interchange Improvement (Safety)	ODOT Proposed	2030

Project Description: Interchange modification to address geometric and operational deficiencies.

Funding Status	Project Cost	Funded	Unfunded
Unfunded	$55,000,000	$0	$55,000,000

Project Name (PID #):	I-75 and Edwin C. Moses (no PID)				
Location:	**ODOT District:**	**JobsOhio Region:**	**Work Category:**	**Project Status:**	**Estimated Year of Completion:**
Montgomery County IR75 SLM 10.78	7	Dayton	Interchange Improvement (Safety)	ODOT Proposed	2030

Project Description: Short-term improvements at the interchange and nearby access points to improve traffic flow during special events.

Funding Status	Project Cost	Funded	Unfunded
Unfunded	$5,000,000	$0	$5,000,000

Project Name (PID #):	SR73 / IR75 Phase IV Improvement (no PID)				
Location:	**ODOT District:**	**JobsOhio Region:**	**Work Category:**	**Project Status:**	**Estimated Year of Construction:**
Warren County IR75 SLM 10.02	8	Cincinnati	Ramp Improvement	ODOT Proposed	

Project Description: Reconstruct Ramp D as a two-lane exit ramp from SR73 south until the proposed pavement edge intersects with the existing I-75 edge of the pavement and the Ramp E loop entrance ramp from SR73 to the existing ramp pavement at the I-75 bridges.

Funding Status	Project Cost	Funded	Unfunded
Unfunded	1,350,000	$0	$1,350,000

Project Name (PID #):	WAR-SR123 Improvements				
Location:	**ODOT District:**	**JobsOhio Region:**	**Work Category:**	**Project Status:**	**Estimated Year of Construction:**
Warren County I-75 SLM 10.02	8	Cincinnati	Intersection Improvement (Turn Lane)	ODOT Proposed	2035

Project Description: Widen WAR-SR123 from two to three lanes, install a 4-foot treated shoulder from Riley Boulevard to I-75, upgrade all existing traffic signals except the new one at the intersection of Grand Oak Drive and Watkins Glen Drive installed by Sheetz.

Funding Status	Project Cost	Funded	Unfunded
Unfunded	$5,200,000	$0	$5,200,000

Project Name (PID #):	BUT-75 Truck Parking (no PID)				
Location:	**ODOT District:**	**JobsOhio Region:**	**Work Category:**	**Project Status:**	**Estimated Year of Construction:**
Butler County	8	Cincinnati	Facilities	ODOT Proposed	Unknown

Project Description: Addition of truck parking on I-75

Funding Status	Project Cost	Funded	Unfunded
Unknown	Unknown		

COMMITTED FUNDING

The funding status for ODOT projects with assigned PIDs along I-75 between Dayton and Cincinnati for each of the four project categories is shown in **Table 16.** ODOT projects are shown as either fully funded, meaning all funds have been committed; partially funded, meaning a portion of the funds have been committed; or unfunded, meaning no funds have been committed. Sixteen projects along the corridor are fully funded, and two more are partially funded. Currently, six proposed projects from Dayton to Cincinnati are not funded.

TABLE 16—SUMMARY OF COMMITTED FUNDING

Project Phase	Fully Funded		Partially Funded			Unfunded	
	#	Funded Amount	#	Funded Amount	Unfunded Amount	#	Unfunded Amount
Completed Projects	12	$520 million	–	–	–	–	–
In Construction	3	$8 million	–	–	–	–	–
In Development	1	$62 million	2	$18 million	$115 million	–	–
ODOT Proposed	–	–	–	–	–	6	$99 million
TOTAL:	**16**	**$590 million**	**2**	**$18 million**	**$115 million**	**6**	**$99 million**

Investments Summary

Since 2015, completed and in-construction projects have totaled $226 million in the corridor. An additional $195 million is proposed for projects in development. ODOT has also identified an additional $99 million in proposed projects. A quarter of the 24 identified projects are in the ODOT proposed phase.

The scope of projects along the corridor varies widely. Interchange improvements and expansions account for $259 million, major rehabilitation and roadway improvements, including capacity/operations upgrades, constitute $221 million, and intersection improvements are the third largest category, accounting for $19 million. The project costs range from $317,000 to $155 million. Funding has been committed for projects completed and in construction, and 41% of the necessary funding for projects in development has been committed.

While not identified as ODOT proposed projects, the top 100 HSIP locations along the I-75 corridor have been and will continue to be studied by ODOT Districts.

Corridor Needs Assessment

OVERVIEW

This section presents recommendations based on a comprehensive assessment of corridor needs, provides an analysis of existing projects, and identifies gaps in addressing specific needs. This section includes:

- **Needs Assessment:** The needs assessment incorporates results from the detailed corridor-specific "hotspot" analysis presented below, findings from the statewide congestion risk analysis, and insights from the corridor scans and District input related to spot location congestion risks, safety, geometric, operational, and development-related risks that could limit or constrain existing and/or future interregional passenger and freight-related mobility.
- **Project Overlap Analysis:** The needs assessment findings are compared with existing ODOT projects in construction, in development, proposed, under study, etc., to identify if there are any full or partial gaps along the corridor in addressing these needs. The analysis will also acknowledge other projects from MPO/RTPOs that have the potential to address corridor needs.
- **Corridor Recommendations:** The needs assessment and project overlap analysis are utilized to identify the most critical full and partial gaps along the corridor for consideration as part of the actionable recommendations.

NEEDS ASSESSMENT

The needs assessment considers congestion-related "hotspots" along the corridor. It expands on key takeaways summarized in the **Corridor Conditions** section related to development growth pressures, safety, access and geometric issues, and other considerations such as railroad crossings.

Congestion

H.B. 23, Section 203.47 states that the Study shall identify current and future transportation links, **evaluate and rank current and potential risks of future system congestion**, and make actionable recommendations for transportation system projects to support statewide economic growth. This analysis of existing and future congestion risk along the corridor is utilized to identify hotspots. Hotspots are then grouped based on proximity to nearby segments with congestion or other risks to identify areas to focus on actionable recommendations.

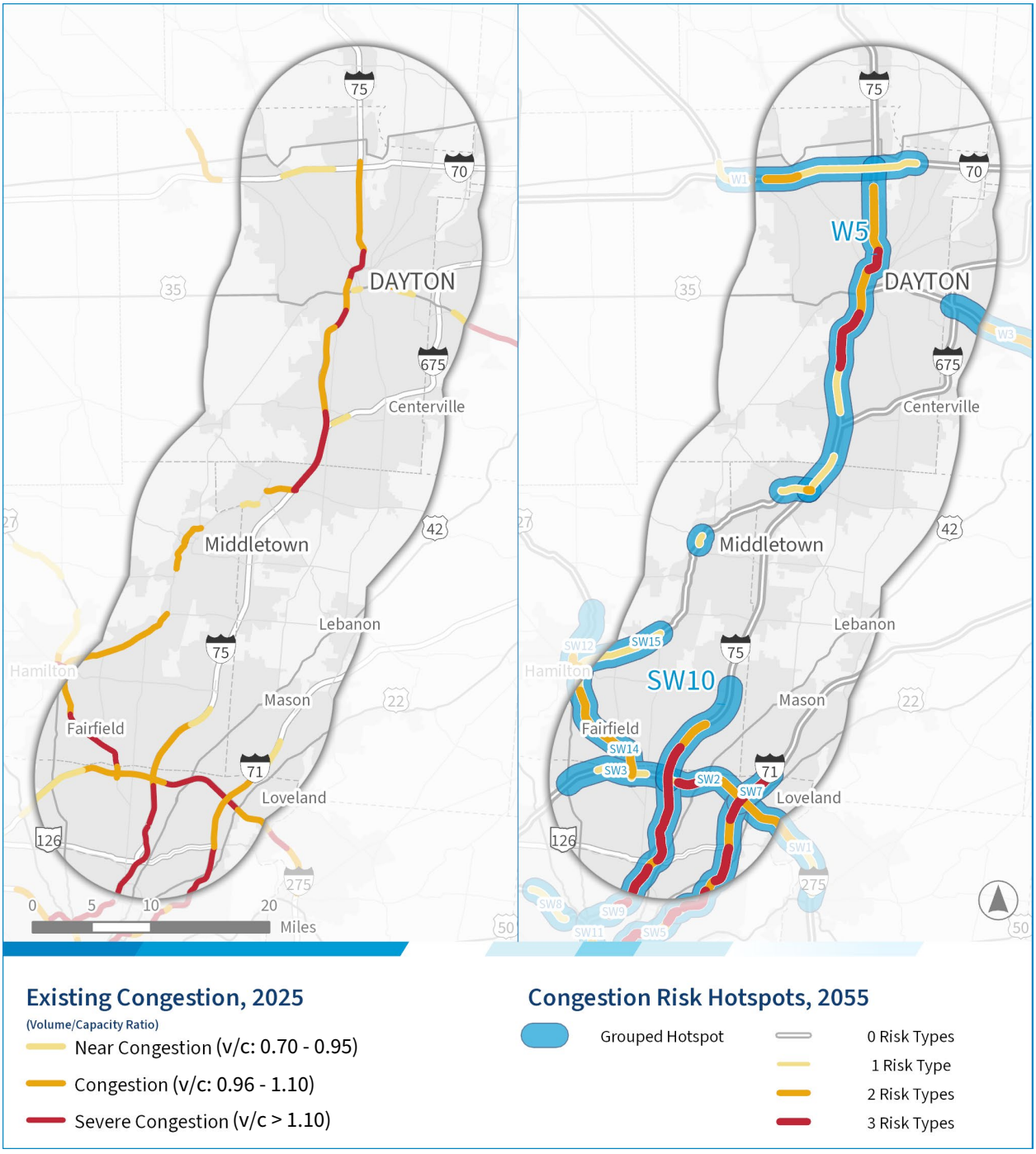
Figure 24 presents the 2025 congestion levels based on v/c ratios and the 2055 congestion risk hotspots for segments along the corridor and on nearby segments of the Study network. The 2025 hotspot analysis examined segments of the statewide network with immediate or near-term v/c ratio nearing, at 0.95-1.0, or exceeding, at 1.1+, roadway capacity. The 2055 congestion risk is a composite score from 0 to 4 that aggregates risk across five elements of congestion: peak period severe congestion that disrupts the flow of people and goods on the Study network; site development, which captures the impacts of site trip generation; workforce access, which focuses on the loss of access to workers within a 40-minute commute due to congestion; business and logistics efficiency, which focuses on total daily truck delay; and quality places, which focuses on access management and projected development.

Eight congestion risk hotspots—seven currently existing and an additional projected—mark the Dayton-Cincinnati I-75 Corridor. **Table** 17 summarizes the seven hotspots and their v/c ratio. All 2025 hotspots are predicted to continue over the next 30 years, with a risk of spreading and intensifying by 2055.

There are two grouped hotspots within the Dayton-Cincinnati corridor: 75A and 75B.

- **Grouped Hotspot 75A**, highlighted as W5 in **Figure 24: Greater Dayton Area**, spans a 23-mile six-lane segment from I-70 to SR73. This section includes five segments delineated by 2055 risk hotspots and summarized in Table 17. Segments through this corridor have overall TOAST scores of 0.375 or lower. Hotspot 75A includes four system interchanges and 14 service interchanges, resulting in frequent merging and lane changes. This hotspot area encompasses seven HSIP segments and sections with substandard geometric designs detailed in the corridor conditions section.
  - Currently within Hotspot 75A, v/c ratios are highest between Needmore Road and Edwin C. Moses Boulevard, and Stewart Street and SR73, where I-75 transitions from eight to six lanes.
    - The 5.5-mile subsection from Wagner Ford Road to the Edwin C. Moses Boulevard interchange includes eight interchanges with an average spacing of 0.72 miles. This segment is over capacity, has substandard geometrics, and has a substantial risk of future congestion. It also includes five of the top 100 HSIP priority urban freeway segments statewide. It passes through the urban core of Dayton, where numerous challenges are related to utilities, local infrastructure, and right-of-way. Much of I-75 is on structure, carrying the facility above city streets and five river crossings.
  - In 2055, two segments of the 75A hotspot have the greatest congestion risk:
    - Segment 75-A2 incorporates two interchanges at Stanley Avenue and SR4.
    - Segment 75-A4 begins at Edwin C. Moses Boulevard, includes the SR741, Springboro Pike, and Dryden Road interchanges, and continues through the Dixie Drive interchange.
- **Grouped Hotspot 75B**, highlighted as SW10 in **Figure 24: Northern Cincinnati,** covers the southernmost 4.5 miles of the Dayton-Cincinnati corridor. This section includes three interchanges at Cincinnati Dayton Road, Union Centre Boulevard, and I-275, marking it a critical congestion hotspot. The highest risk of congestion occurs between Union Centre Boulevard and I-275.

FIGURE 24—2025 / 2055 HOTSPOTS AND HOTSPOT GROUPING MAP



Source: ODOT, Study Team

TABLE 17—CONGESTION RISK HOTSPOT LOCATIONS AND HORIZON YEAR

Grouped Hotspot	Hotspot Start Point	Hotspot End Point	2025 V/C	2055 Congestion Risk
W5: 75A-1	South of I-70, Montgomery County	Stanley Avenue, Montgomery County	1.08–1.15	Moderate Risk: Site Congestion Workforce Access
W5: 75A-2	Stanley Avenue, Montgomery County	SR4, Montgomery County	1.12	High Risk: Market Connection Workforce Access Business Logistics
W5: 75A-3	SR4, Montgomery County	Edwin C. Moses Boulevard, Montgomery County	0.91–1.22	Moderate Risk: Market Connection Workforce Access
W5: 75A-4	Edwin C. Moses Boulevard, Montgomery County	Dixie Drive, Montgomery County	0.95–1.12	High Risk: Market Connection Workforce Access Business Logistics
W5: 75A-5	Dixie Drive, Montgomery County	SR73 (West Central Avenue), Warren County	0.84–1.24	Low Risk: Workforce Access
SW10: 75B-1	Cincinnati-Dayton Road, Butler County	Union Center Boulevard, Hamilton County	1.21–1.29	Moderate Risk: Workforce Access Business Logistics
SW10: 75B-2	Union Center Boulevard, Hamilton County	I-275, Hamilton County	1.21–1.29	High Risk: Market Connection Workforce Access Business Logistics

In addition to the critical congestion hotspots noted above, the Dayton-Cincinnati corridor contains a segment approaching the threshold for designation as a critical congestion hotspot. This section stretches from SR63 in Warren County to Union Centre Boulevard in Butler County, the latter being the starting point for the 75B hotspot. Its projected v/c ratio for 2025 is between 0.92 and 0.94.

Roadway Geometry and Operations

As described in the Corridor Conditions section, the northern 23-mile stretch of the corridor extends from I-70 to SR73 and has a six-lane configuration handling between 113,000 and 120,000 AADT. This segment includes non-standard interstate features such as inside shoulders only four to five feet wide, narrow lanes and shoulders on bridges, inadequate horizontal and vertical alignment, low vertical clearances, and closely spaced interchanges. These design elements contribute to consistent congestion and frequent crashes observed in this area.

The southern 22-mile segment of the corridor, from SR73 to I-275, consists of an eight-lane section accommodating 120,000 to 132,000 AADT. This portion of the corridor maintains consistent geometry and operations, with eight lanes with 12-foot-wide inside and outside shoulders, a broad median, mild alignment and profile variations, and interchange distances exceeding 1.5 miles. **Table** 18 summarizes the roadway geometry and operations issues along the corridor.

TABLE 18—ROADWAY GEOMETRY AND OPERATIONS

Location	Geometry and Operational Needs
75A: I-75 from I-70 to SR73	Additional capacity, standard typical section, alignment and profile, and redesign of weaving areas
75B: I-75 from Cincinnati-Dayton Road to I-275	Additional capacity, redesign of weaving areas

Safety

The safety assessment of the corridor revealed several key safety concerns and contributing factors for high crash frequency along certain sections of the corridor. These concerns include:

- Congestion and weaving conflicts caused by close interchange spacing are major safety concerns, contributing to numerous rear-end and sideswipe crashes.
- Rear-end crashes are the most prevalent type in the corridor, particularly from Stanley Avenue to Dryden Road. This segment is highly congested, and sudden stops or speed reductions during peak hours contribute to the high frequency of these collisions. Factors such as traffic congestion, inconsistent travel speeds, and driver inattentiveness exacerbate rear-end crashes in this area.
- Sideswipe crashes are common throughout the corridor but are particularly high from SR73 to SR123 and Union Centre Boulevard to Crescentville Road. These crashes are often the result of lane-changing maneuvers in congested conditions or during weaving between closely spaced interchanges. Drivers attempting to merge into adjacent lanes without sufficient gaps or misjudging the speed of adjacent vehicles significantly increases the risk of sideswipe crashes.
- A high number of fixed object crashes, especially along I-75 between SR73 and SR123, points to potential roadway design issues or driver error. Contributing factors include high speeds, limited recovery zones, and adverse weather conditions that may reduce visibility or traction.

Figure 25 shows an example of a challenging merge and weaving location on I-75 south of Dryden Road.

FIGURE 25—MERGING AND WEAVING NEAR DRYDEN ROAD

Table 19 summarizes the roadway safety locations and HSIP rankings along the corridor. **Table** 20 lists recent ODOT safety studies conducted in the I-75 region.

TABLE 19—ROADWAY SAFETY LOCATIONS

Location	HSIP Top 100 Ranking	Grouped Hotspot Overlap
I-75 at the Stanley Avenue interchange in Montgomery County	71	75A-1 and 75A-2
I-75 between the SR48 (Main Street) and West Third Street/ Second Street/Salem Avenue interchanges in Montgomery County	54	75A-3
I-75 at the West Third Street/Second Street/Salem Avenue interchange in Montgomery County	56	75A-3
I-75 between the West Third Street/Second Street/Salem Avenue and US35 interchanges in Montgomery County	15	75A-3
I-75 at the US35 interchange in Montgomery County	74	75A-3
I-75 at the Edwin C. Moses interchange in Montgomery County	99	75A-3 and 75A-4
I-75 between Dryden Road and Dixie Drive in Montgomery County	83	75A-4
I-75 between Union Centre Boulevard and I-275 in Butler and Hamilton counties	68	75B-2
I-75 between Union Centre Boulevard and I-275	43	75B-2

TABLE 20—ODOT SAFETY STUDIES

Study	Year	Recommendations
I-75 Montgomery Full County Safety Study	2018	Further study of potential countermeasures • Ramp metering • Hard shoulder running • Dynamic message signs • Express lane thru Dayton • Variable speed limits
MOT-75 Needmore Safety Study	2020	Signal upgrades Transverse rumble strips on southbound exit ramp
MOT-75 Stanley Safety Study	2017	Develop PID 94557 High-friction pavement on ramps
MOT-75 Stanley Safety Study	2020	Signal upgrades High-friction pavement Reduce lane width to 11.5 to provide a wider inside shoulder

Study	Year	Recommendations
MOT-75 Dixie Safety Study	2020	Signal upgrades 40 mph advisory signing, rumble strips, and lane narrowing as traffic calming on I-75 exit ramps
SR725 Safety Study	2015	Signal upgrades along the SR725 corridor
SR725 Safety Study	2018	Signal upgrades Change lane configuration at I-75 ramps DDI not feasible due to close spacing with Byers Road
MOT-75 SR725 Feasibility Study DDI	2021	DDI, later determined to be operationally infeasible due to close spacing with I-675
MOT-75 SR725 Feasibility Study No DDI	2023	Pedestrian improvements with signal upgrades
MOT-75 SR741	2018	Alleviate congestion on I-75 Signal and signing upgrades Skid test for high-friction pavement

Needs Assessment Summary

Figure 26 displays the location of the needs along the corridor, a map label, and a summary. **Table** 21 provides additional detail on each need and whether it is associated with congestion, geometric, operational, safety, access, or development issues.

FIGURE 26—CORRIDOR NEEDS SUMMARY

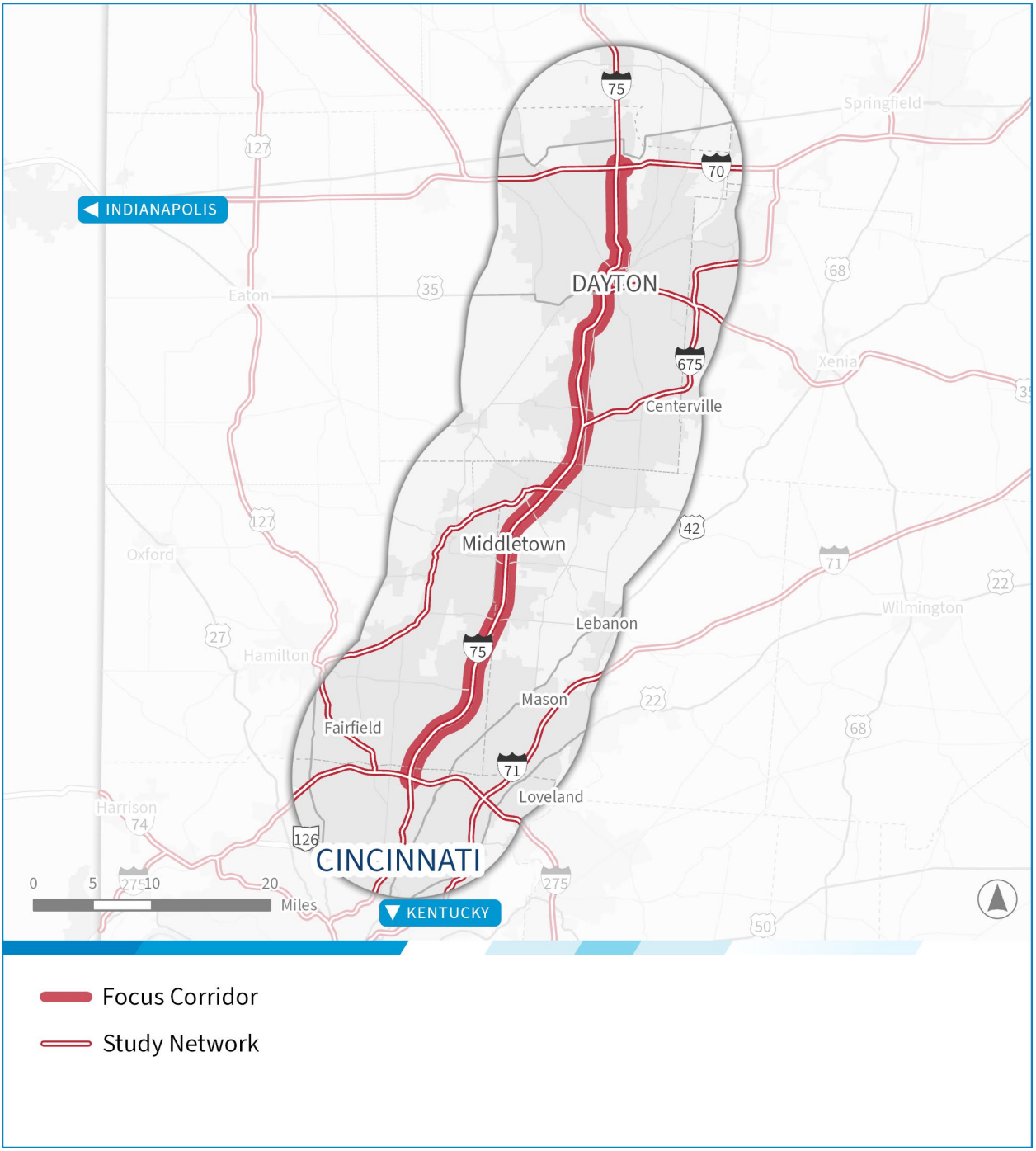


TABLE 21—CORRIDOR NEEDS SUMMARY

Map ID	Location	Congestion		Geometric	Operational	Safety		Access and Development
		Statewide Hotspot	Corridor Hotspot			HSIP Top 100	RSI	
75A	**75A-1: I-70 to Stanley Avenue**	X	X	X	X	X	X	X
	A 5.5-mile section including five interchanges with a TOAST overall score of 0.125-0.283. HSIP Freeway Segment #71 is at the Stanley Avenue interchange. The Union Global Logistics Airpark and general Dayton International Airport site have high development potential and have experienced recent private investments.							
	75A-2: Stanley Avenue to SR4	X	X	X	X	X	X	X
	A one-mile section including two interchanges with a TOAST overall score of 0.178. HSIP Freeway Segment #71 is included in this section.							
	75A-3: SR4 to Edwin C. Moses Boulevard	X	X	X	X	X	X	X
	A three-mile section including six interchanges with a TOAST overall score of 0.238. HSIP Freeway Segments #54, #56, #15, #74, #99, and #83 are included in this urban core due to congestion, close interchange spacing, and substandard geometrics.							
	75A-4: Edwin C. Moses Boulevard to Dixie Drive	X	X	X	X	X	X	X
	A four-mile section including four interchanges with a TOAST overall score of 0.11-0.278. HSIP Freeway Segment #99 and 83 are at the Edwin C. Moses interchange and between the Dryden Road and Dixie Drive interchanges, respectively.							
	75A-5: Dixie Drive to SR73, transition from eight lanes to six lanes	X	X	X	X		X	X
	A nine-mile section includes five interchanges and a reduction from eight lanes to six lanes, with a TOAST overall score of 0.278-0.38. I-675 offers access via I-75 to the Wright-Patterson Air Force Base, which is growing and adding jobs.							
75B	**75B-1: Cincinnati-Dayton Road to Union Centre Boulevard**	X	X				X	X
	A two-mile section including two interchanges with a TOAST overall score of 0.203.							
	75B-2: Union Centre Boulevard to I-275	X	X		X	X	X	X
	A 2.5-mile section including two interchanges. HSIP Freeway Segments #68 and #43 are between the Union Centre Boulevard and I-275 interchanges. This section has a TOAST overall score of 0.108-0.21 making it a bottleneck with travel time reliability concerns.							

NEEDS AND PROJECT OVERLAP ANALYSIS

The corridor needs presented in the previous section were compared with ODOT-sponsored projects to assess how the existing projects address these needs. **Table** 22 lists ODOT-sponsored projects for the corridor needs presented in the previous section. The columns in the table indicate the status of each project and include the following:

- **Addressed:** Fully funded projects in construction or in sold/active status that will fully address the need location
- **Partially Addressed:** Partially funded projects that will fully address the need location when constructed and open to traffic, or fully funded projects in construction or in sold/active status that will partially address the need location
- **Ongoing Planning:** Recent or ongoing/proposed study or ODOT proposed project in the PDP planning phase anticipated to address the need location
- **Planning Gap:** No current ODOT project or study to address the need location

TABLE 22—CORRIDOR 75A NEEDS AND PROJECT OVERLAP SUMMARY

Map ID	Location	Project Count (and PIDs) by Status				Overlap/Gap
		Construction	Development	Proposed	Study	
75A	MOT SR725 14.41	PID 108619				Partially Addressed
	WAR/MOT-75-11.56/0.00		PID 113579			Partially Addressed
	I-75 and Needmore Road			No PID		Planning Gap
	I-75 and Wagner Ford Road			No PID		Planning Gap
	I-75 and Edwin C. Moses			No PID		Planning Gap
	SR73/I-75 Phase IV Improvement			No PID		Planning Gap
75B	Cincinnati-Dayton Road to Union Centre Boulevard					Planning Gap

Map ID	Location	Project Count (and PIDs) by Status				Overlap/Gap
		Construction	Development	Proposed	Study	
	Union Centre Boulevard to I-275		120804			Ongoing Gap

75A – I-75 from I-70 to SR73 – Greater Dayton

Since upgrading the Dayton I-75 segment (2008–2017) to three continuous lanes and consolidating ramps, ODOT has continued monitoring freeway segments identified by the HSIP. Beginning in 2015, safety enhancements, such as improved pavement friction, updated signage, new pavement markings, and signal upgrades, have been implemented at key locations, including Stanley Road, SR725, and Dixie Drive, to improve traffic flow.

In addition, ODOT has incorporated geometric, capacity, and operational improvements into major rehabilitation projects as funding became available, adhering to Performance-Based Practical Design principles during feasibility studies. For instance, the major rehabilitation project WAR/MOT-75-11.56/0.00 (PID 113579) will expand the capacity of I-75, extending the eight-lane section from SR73 northward to I-675.

75A – I-75 from I-70 to SR73 – Greater Dayton

The resolution of needs throughout the 23-mile corridor will require phasing. The two projects that are fully funded will manage congestion risks on I-75 from SR73 to I-675, including the SR725 interchange area. North of I-675, two strategies should be pursued to manage existing and future congestion risks: first, study freeway sections based on HSIP rankings and pursue funding for high benefit/cost solutions; and second, as major rehabilitation projects are identified and initiated within this corridor, also pursue capacity, operational and geometric improvements as determined practical by feasibility studies and employing Performance Based Practical Design.

75B – I-75 from Cincinnati-Dayton Road to I-275 – North Cincinnati

In hotspot 75B, PID 120804 is currently in the study phase and is located between I-275 and Union Centre Drive. This project faces a $62 million construction funding shortfall, and plans are underway to seek funding through the TRAC

program in the 2026 cycle. Extending the study area north to Cincinnati-Dayton Road could help address a projected scope gap by 2055.

75B – I-75 from Cincinnati-Dayton Road to I-275 – North Cincinnati

There is one partially-funded project with $7 million of TRAC funding for preliminary engineering and $51 million of uncommitted construction funding. A TRAC application for construction funding is planned to be submitted in the 2025 cycle.

CONCLUSIONS

The corridor congestion risk in 2055 is in the same areas identified with operational and geometric challenges as today, with minor differences in the geographic extents and the level of risk.

Dayton Area Hotspot

In Dayton, the existing and projected hotspots create a 22-mile hotspot cluster containing segments of varying risk severity, extending from I-70 to SR73, one interchange south of the Montgomery County line. Within this hotspot cluster, the greatest risk is located within the following segments:

- Stanley Avenue interchange to SR48 (Main Street) interchange
- Edwin C. Moses Boulevard interchange to Dixie Drive interchange

This hotspot features high v/c ratios, eight of the top 100 HSIP urban freeway segments, an average interchange spacing of 0.73 miles, and geometric deficiencies.

ODOT has been implementing safety countermeasures in this corridor and initiating projects at interchanges with safety needs, including Needmore Road, Wagner Ford Road, Edwin C. Moses, and SR741 (Springboro Pike). The upcoming focus areas are Stanley Avenue, Dryden Road, and East Dixie Drive interchanges. Resolving these needs will require additional planning and investment in the corridor.

North Cincinnati Hotspot

The HAM I-75/I-275 Interchange Project (PID 120804) will address this hotspot. It is currently funded for preliminary engineering and right-of-way acquisition. However, there is a $71 million funding gap for construction, and ODOT District 8 will apply for TRAC funding for this TRAC Tier 2 project in the 2026 cycle.