AECOM

Passenger Rail Impact Study

SLATS Metropolitan Planning Organization

May 2025

FINAL REPORT

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Abbreviations

ACS (Census)	American Community Survey (US
BRT	Bus Rapid Transit
BTS	Beloit Transit System
DMU	Diesel Multiple-Unit (i.e., type of train)
CAGR (CAGR)	Compound Annual Growth Rate
GTFS	General Transit Feed Specialization
HHs	Households
MPA	Metropolitan Planning Area
MPO	Metropolitan Planning Organization
NNN	Triple-Net (Net-Net-Net)
PSF	Per Square Foot
PSM	Per Square Mile
SF	Square Feet
SLATS	Stateline Area Transportation Study
TOD	Transit Oriented Development
WFH	Work from Home
YTD	Year-to-date

Section 1:
Introduction

Introduction

This Passenger Rail Impact Study was commissioned by the Stateline Area Transportation Study (SLATS), a federally designated Metropolitan Planning Organization (MPO) for Beloit, WI (commonly referred to as the Stateline Area which includes the southern portion of Rock County, WI and northern portion of Winnebago County, IL). SLATS has undertaken several passenger rail studies over the past 25 years – most recently, AECOM completed a 2021 Passenger Rail Study which examined the high-level ridership projections associated with various rail alignments that could potentially serve the Stateline Area.

Two key takeaways from the 2021 study serve as the basis for this Passenger Rail Impact Study:

1. The 2021 study showed a Rockford-Beloit-Janesville-Madison (Rockford to Madison, or also referred to as 'the Corridor' throughout this study) rail alignment could potentially attract approximately 2,200 daily riders.

2. Potential ridership levels for any alignment considered remains dependent on a rail connection to the Madison area. The 2021 study included 16 prospective stations (mapped on **Page 12**) to evaluate a Rockford to Madison alignment. These stations cover a range of geographies, including historic downtowns (i.e., Rockford, Beloit, Janesville, Madison), growing suburbs (i.e., Rockton, Stoughton), and opportunity sites for greenfield development (i.e., Milton, Beloit-Town Line Road).

This Passenger Rail Impact Study examines the development potential of the 16 station areas, including the potential for Transit Oriented Development (TOD) – both of which are critical data points in determining the viability of passenger rail service within the Stateline Area. The analysis blends stakeholder engagement, demographic and employment analysis, real estate market trends analysis, and economic impact evaluation. Stakeholder engagement involved interviews with neighboring cities and MPOs along the Corridor. Findings and takeaways from this engagement are summarized on **Page 10**.

The study includes the following:

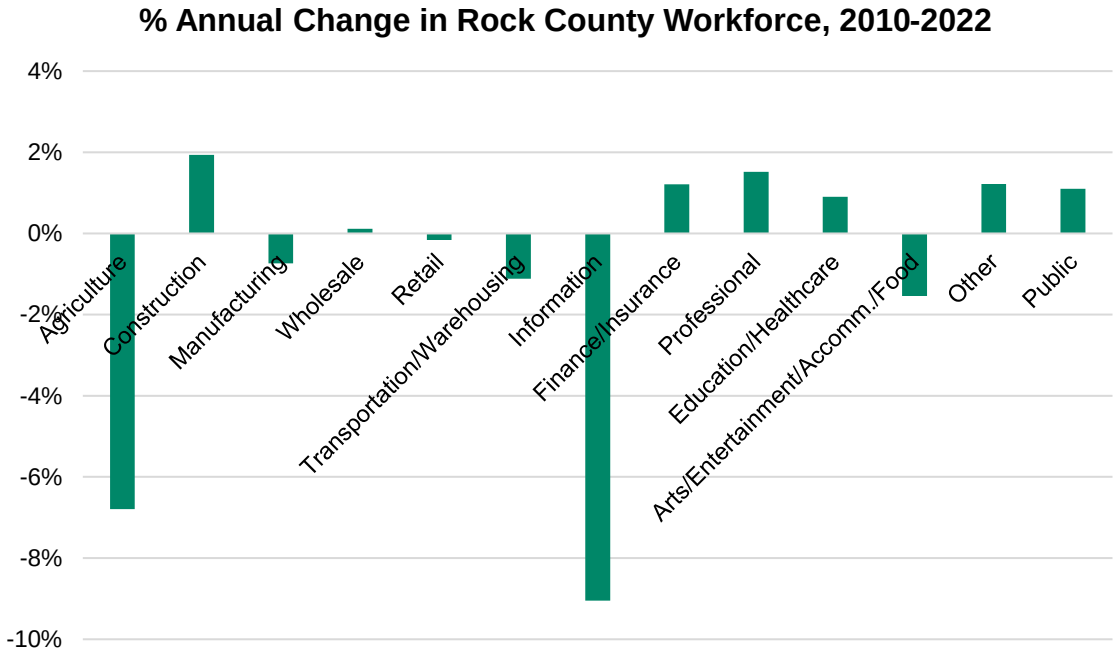
- **Section 1** summarizes background content and key takeaways.
- **Sections 2 and 3** document a detailed Demographic and Real Estate Market Analysis, including a description of the purpose of the task, approach/methodology, and key takeaways.
- **Sections 4 and 5** build off the analysis from previous sections and derive key assumptions that are used to ultimately estimate the marginal impact of passenger rail transit for the Corridor.

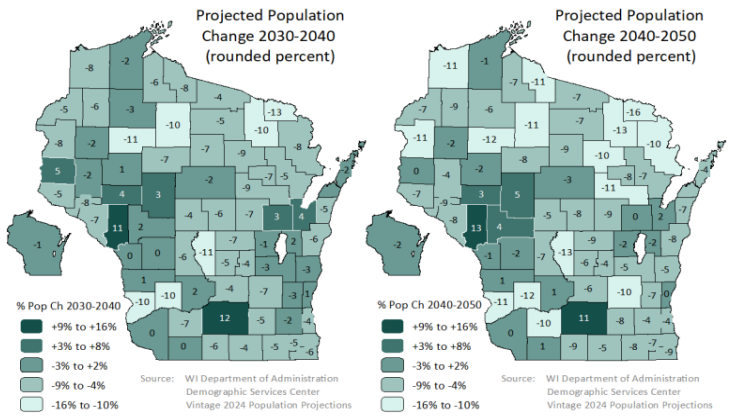
Executive Summary

From AECOM experience looking at growth dynamics across roughly 4,000 transit station areas nationally going back to the 1960s, it is clear that **cities that retained their transit service have generally experienced positive economic outcomes, inclusive of enhanced economic diversification, population and income growth, and greater population density**.* Existing rail service stations in the U.S. comprise 0.5% of total land area and support 14% and 15% of the total population and jobs, respectively.**

While not all outcomes can be attributed to the presence of transit, research has established the long-term cumulative impact of public transit on economic growth and productivity; by contrast, cities which had transit access but lost it in the 1960s have generally observed trends of reduced economic diversification, slower growth, and disinvestment — trends which are also observed for portions of the Corridor. Areas with rail access in Wisconsin have added jobs at an annual rate twice the state average (0.8% CAGR vs. 0.4%) since 2010. Post-2020, trends have also favored areas with rail infrastructure – areas with rail saw a 13% increase in workers who work from home compared to 8% statewide.

Since the loss of passenger rail, Rock County communities have fallen behind from an economic growth standpoint, as evidenced by slower population and workforce growth relative to the state and US averages. For areas like Rock County that have lost transit access, the tradeoff of transit (a high-cost upfront investment) is **slower pace of growth and economic activity**.





**APTA Economic Impact of Public Transit, 2020. https://www.apta.com/wp-content/uploads/APTA-Economic-Impact-Public-Transit-2020.pdf*
***Calculated as total population and jobs within a 1-mile radius of station area.*
Note: This analysis is conducted using AECOM's Transit Oriented Development (TOD) database which is a compilation of demographic and economic data with information on access to fixed rail transit. The database gives an opportunity to understand how development and growth patterns differentiate based on rail transit access. The database assembles data from US Census and Lightcast (formerly EMSI) on population, households, workers, and jobs since 2010 and uses proximity to IPCD rail stations to define rail access.
Source: ACS, 2010-2022 (above chart) Wisconsin DOA, 2024, State and County Population Projections, 2020-2050 (below maps)

Executive Summary

The return of passenger rail has clear potential to **create a network of employment centers, connected through transit**. Residents and workers furthest from major city centers (i.e., Rock County) would be expected to see improved access to opportunity – including jobs, education, healthcare, and critical services/amenities.

The study produced several key takeaways, which are listed below. These takeaways are tied to specific analytical tasks, detailed in Sections 2-5 of this report.

- **#1 – Uneven Growth:** While new real estate development has tended to concentrate in Downtown Madison and Beloit, as well as exurban areas (i.e., Roscoe), the Corridor has seen uneven growth, which is in part connected to **under investment and older housing stock**.

- **#2 – Available Development Capacity:** Outside of Downtown Madison, the Corridor has an ample inventory of **underutilized property in need of redevelopment**; historic downtown areas (Rockford, Beloit, Janesville, Madison) – where there are already well-established commercial corridors – present opportunities for higher density, walkable TOD around rail stations.

- **#3 – Improved Access for Rock and Winnebago Counties:** Communities located furthest from major urban areas (i.e., Janesville, Beloit) achieve the greatest gains from passenger rail through **improved average trip times to employment centers** like Madison and Chicago; enhanced access promotes economic growth throughout the Corridor. Rockford would also benefit more than closer-in, better connected Chicago area communities (i.e., "collar counties").

- **#4 – Transit Investment Unlocks Economic Diversification and Impact:** While the upfront level of investment is significant (~$1.8 billion), the return of passenger rail along this Corridor is estimated to generate benefits that outweigh these initial costs. Over 30 years, the passenger rail corridor is expected to generate between **22,000 and 29,000 cumulative new jobs**, and **$3 billion - $5 billion in cumulative new fiscal impact** over 30 years. Once completed, the project has the potential to unlock greater diversification of jobs, added real estate value through TOD, and economic & fiscal impact, including property taxes.

Top image shows the historic Edgerton Depot; bottom image shows historic Stoughton Railroad Depot
Source: AECOM

History of Rail Transit in Beloit

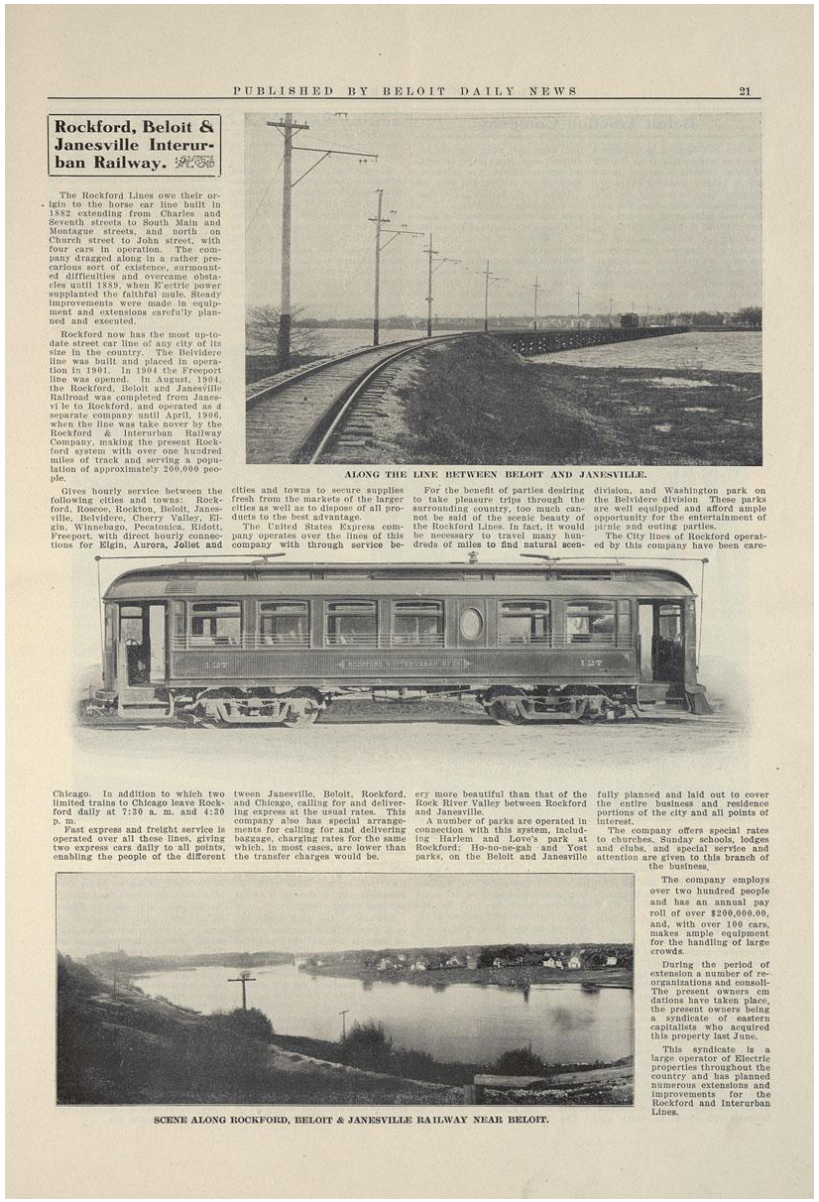
Throughout Beloit's history, the city has benefited from multiple forms of rail transit – the railroad, interurban, and streetcar – that transported freight and passengers to larger markets in Chicago, Milwaukee, and beyond. The development of rail systems coincided with a population boom – Beloit experienced population growth of 40-60% from the 1900s through the 1920s*. Along with the rise of the automobile, the decline of agricultural and manufacturing activities in the region, and other broader economic factors, rail access declined by the mid-20th century. Population and employment growth has also declined, a trend mirrored in other communities that lost regional access provided through rail. Other key highlights from Beloit's rail history are summarized below:

- **Railroad:** Given Beloit's rich agricultural history, the development of a rail system was of interest to early settlers. Four rail lines served Beloit: Beloit-Chicago, Beloit-Madison, Beloit-Mississippi River, and Beloit-Racine. These lines linked Beloit to Chicago and Milwaukee markets and enabled the region's growth and development starting in the 1850s. Starting at this time, Rock County was in the center of the wheat belt but, thereafter, the grain trade declined. Simultaneously, industry developed rapidly in Rock County, including Beloit, with a strong base of agriculturally oriented products such as agricultural implements and windmills. The railroad enabled local access to regional and national markets for locally produced industrial goods. Passenger rail between Chicago and Madison through Beloit ended in 1965.

- **Interurban:** The interurban, founded in 1902, was an electric railway running from Rockford to Janesville and was owned by the Rockford, Beloit, Janesville Railway company with its main office in Beloit. This line was later absorbed by the Rockford and Interurban Railway. This railway was powered by overhead wires. The interurban provided convenient, fast travel for Beloiters and, through connections, could even be used to reach Chicago, via Rockford and Elgin.

- **Streetcar:** Streetcar service started in Beloit in 1907, as an offshoot of the interurban. In 1928, there were about six miles of track, providing two complete loops, one on each side of the river with a connecting link across the Grand Avenue bridge. The lines directly served the downtown business and commercial district, Beloit College, Fairbanks, Morse & Co., and Oakwood Cemetery. Major industries, such as the Beloit Iron Works, were within two blocks of the lines and, at its height (1910-1920), it is estimated that approximately 90% of the population of Beloit lived within three blocks of a line.

By 1930, use of the railroad, interurban, and streetcar had declined, and eventually gave way to a bus system, which has evolved in ownership and scale over the years and continues to operate today with several routes, including the Beloit-Janesville Express that is jointly operated between the two cities. While this bus network provides a reliable, affordable means of accessing Beloit and Janesville, its scale is limited.



PUBLISHED BY BELOIT DAILY NEWS 21

Rockford, Beloit & Janesville Interurban Railway.

The Rockford Lines owe their origin to the horse car line built in 1882 extending from Charles and Seventh streets to South Main and Montague streets, and north on Church street to John street, with four cars in operation. The company dragged along in a rather precarious sort of existence, surmounted difficulties and overcame obstacles until 1889, when Electric power supplanted the faithful mule. Steady improvements were made in equipment and extensions carefully planned and executed.

Rockford now has the most up-to-date street car line of any city of its size in the country. The Belvidere line was built and placed in operation in 1901. In 1904 the Freeport line was opened. In August, 1904, the Rockford, Beloit and Janesville Railroad was completed from Janesville to Rockford, and operated as a separate company until April, 1906, when the line was take nover by the Rockford & Interurban Railway Company, making the present Rockford system with over one hundred miles of track and serving a population of approximately 200,000 people.

ALONG THE LINE BETWEEN BELOIT AND JANESVILLE.

Gives hourly service between the following cities and towns: Rockford, Roscoe, Rockton, Beloit, Janesville, Belvidere, Cherry Valley, Elgin, Winnebago, Pecatonica, Ridott, Freeport, with direct hourly connections for Elgin, Aurora, Joliet and Chicago. In addition to which two limited trains to Chicago leave Rockford daily at 7:30 a. m. and 4:30 p. m.

Fast express and freight service is operated over all these lines, giving two express cars daily to all points, enabling the people of the different cities and towns to secure supplies fresh from the markets of the larger cities as well as to dispose of all products to the best advantage.

The United States Express company operates over the lines of this company with through service between Janesville, Beloit, Rockford, and Chicago, calling for and delivering express at the usual rates. This company also has special arrangements for calling for and delivering baggage, charging rates for the same which, in most cases, are lower than the transfer charges would be.

For the benefit of parties desiring to take pleasure trips through the surrounding country, too much cannot be said of the scenic beauty of the Rockford Lines. In fact, it would be necessary to travel many hundreds of miles to find natural scenery more beautiful than that of the Rock River Valley between Rockford and Janesville.

A number of parks are operated in connection with this system, including Harlem and Love's park at Rockford; Ho-no-ne-gah and Yost parks, on the Beloit and Janesville division, and Washington park on the Belvidere division. These parks are well equipped and afford ample opportunity for the entertainment of picnic and outing parties.

The City lines of Rockford operated by this company have been carefully planned and laid out to cover the entire business and residence portions of the city and all points of interest.

The company offers special rates to churches, Sunday schools, lodges and clubs, and special service and attention are given to this branch of the business.

The company employs over two hundred people and has an annual pay roll of over $200,000.00, and, with over 100 cars, makes ample equipment for the handling of large crowds.

During the period of extension a number of reorganizations and consolidations have taken place, the present owners being a syndicate of eastern capitalists who acquired this property last June.

This syndicate is a large operator of Electric properties throughout the country and has planned numerous extensions and improvements for the Rockford and Interurban Lines.

SCENE ALONG ROCKFORD, BELOIT & JANESVILLE RAILWAY NEAR BELOIT.

*Growth rates reflect overall percent change in population between U.S. Decennial Census Years (1900, 1910, and 1920)
Source: Beloit Historical Society

Assumptions

This study analyzes potential future benefits of passenger rail transit between the Greater Madison, Janesville, Beloit, and Rockford MPAs. Through a data-driven approach which analyzed data at multiple levels – the **unique characteristics of Station Areas**, **trends for broader county and metro areas**, and **key findings from benchmark communities** – reasonable levels of growth were estimated.

The notion that transit **influences the development fabric of urban areas – and has the capacity to support more dense, walkable development (a framework known as Transit Oriented Development, or TOD) over time** – is implicit in this study. While these patterns vary by geographic and economic context, among other factors, this linkage between transit and development has been reinforced over time through research and project case studies. Transit has been linked to increased levels of development and higher property values, as well as improved air quality and other environmental benefits. Additionally, the development of transit has been linked to an increased density in population and employment, given the improved access to jobs, services, and amenities.

Key assumptions underpinning this analysis include the following:

- Direct, indirect, and induced impact is **forecasted to 2050** – this also aligns with the 2021 Passenger Rail Study's future scenario.

- These impact estimates are preliminary, and **not intended to validate any specific program**. Estimates are **illustrative in nature**, examining the attributes of prospective Station Areas in the context of broader regional economic trends to determine a reasonable expectation of future growth – and how the region as a whole could benefit. It is assumed that further, comprehensive evaluation will be undertaken once project details are determined.

- Regional transit investments have been announced in recent years and include **Metra service from Chicago**, **terminating in Downtown Rockford** near the intersection of Chestnut Street and the Rock River; **Bus Rapid Transit (BRT) service in Downtown Madison**, with service to the Capital Square; and planned **Amtrak service between Chicago and Minneapolis**. Other Wisconsin communities have similar passenger/commuter rail impact studies currently underway, including Racine, in southeastern Wisconsin. Station Area locations in this study align with reported sites for these planned projects.

Top image shows the downtown Janesville; bottom image shows downtown Beloit
Source: Janesville Area CVB; Visit Beloit

Stakeholder Engagement

Given the broad reach of this study, stakeholder engagement was integral in understanding the challenges and opportunities of unique areas along the Corridor from a development standpoint. Stakeholder engagement involved interviews with neighboring cities and MPOs along the prospective passenger rail route. These conversations highlighted several key trends: patterns of **increasingly dense, mixed-use development in downtown areas**; **interest in revitalizing passenger rail transit** options, particularly in communities where it previously existed; **residential growth in exurban areas**, on the outskirts of urban areas at large greenfield sites; and the **need for revitalization in downtown and suburban areas**, particularly at underutilized commercial or industrial sites.

Stakeholder conversations were held with the following entities:

- City of Beloit
- City of Edgerton
- City of Janesville/ Janesville Area MPO
- City of Madison
- City of Rockford
- Village of Rockton
- City of South Beloit
- Greater Madison MPO
- Region 1 Planning Council (Rockford MPO)

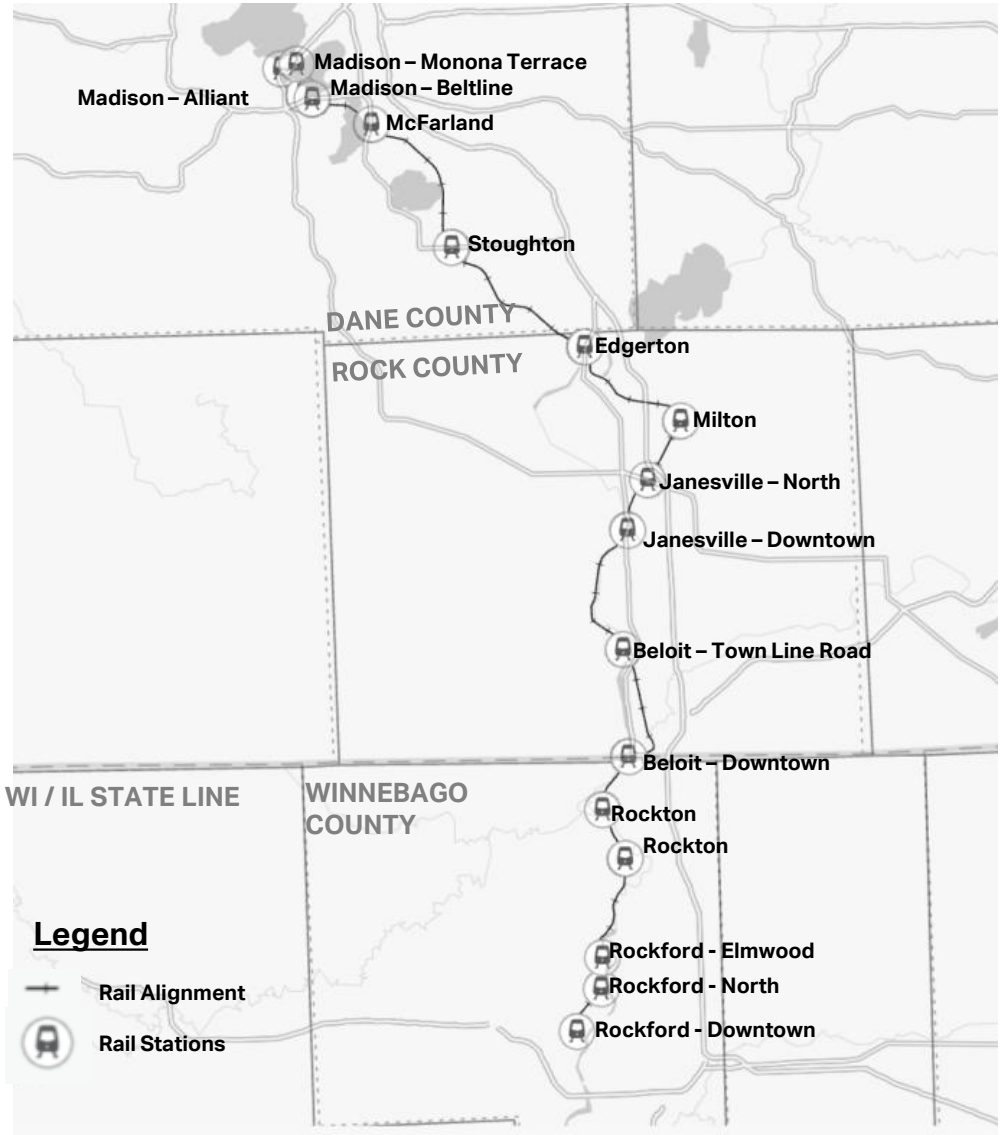
Section 2:
Station Area Demographic Analysis

Station Area Demographic Analysis

Station Area Definition & Methodology

- To analyze the demographics of each station, a 1-mile buffer around each station was constructed. This 1-mile buffer is defined as the **Station Area**.
- Within each Station Area, census tract data from the American Community Survey (ACS) was collected and analyzed for the years 2010 and 2022.* Analyzed topics include population, employment, financial and household characteristics, and transit access.
- A total of 16 stations were examined, encompassing a combined Station Area population exceeding 128,000 individuals and 52,000 households (as of ACS 2022 estimates).
- Over the course of this report, Station Area estimates are compared to the following benchmarks:
  - **All Station Areas:** This benchmark is the sum or average (depending on the metric being examined) of all available Station Areas.
  - **Dane, Rock, and Winnebago Counties:** This benchmark is the sum or average (depending on the metric being examined) of Dane, Rock, or Winnebago County totals.
  - **Madison, Janesville-Beloit, and Rockford Metro Areas:** This benchmark is the sum or average (depending on the metric being examined) of Madison, Janesville-Beloit, or Rockford totals. These metro areas also align approximately with the Dane, Rock, and Winnebago County boundaries.
  - **3-County (Combined) Region:** This benchmark is the sum or average (depending on the metric being examined) of Dane, Rock, and Winnebago Counties.
  - **United States:** This benchmark represents the metric being examined at the national level.

Map 1: Stations and Station Areas



*Note: At the time of data collection in June 2024, the 2022 dataset was the most recent US Census data released.

Station Area Demographic Analysis

Station Area Definition & Methodology

In this section, demographic data was collected to further understand the trends within individual station areas, as well as the Corridor and region as a whole. Throughout this section, the Station Area (1-mile radius) is often placed in broader context of Counties, Metropolitan Areas, and the Corridor as a whole; these larger geographies provide a basis of simple comparison of sections of the Corridor. While data was collected for all Station Areas, broader trends are often presented as County or Metro averages.

The following metrics were collected in order to understand demographic trends along the Corridor. This set of metrics provide necessary context on the size and character of the Corridor "market", with specific focus placed on critical differences between Counties:

- Population
- Employment (total and composition, by industry)
- Educational Attainment
- Household Income
- Home Values
- Modes of Transport and Access to Transport
- Work from Home (WFH)

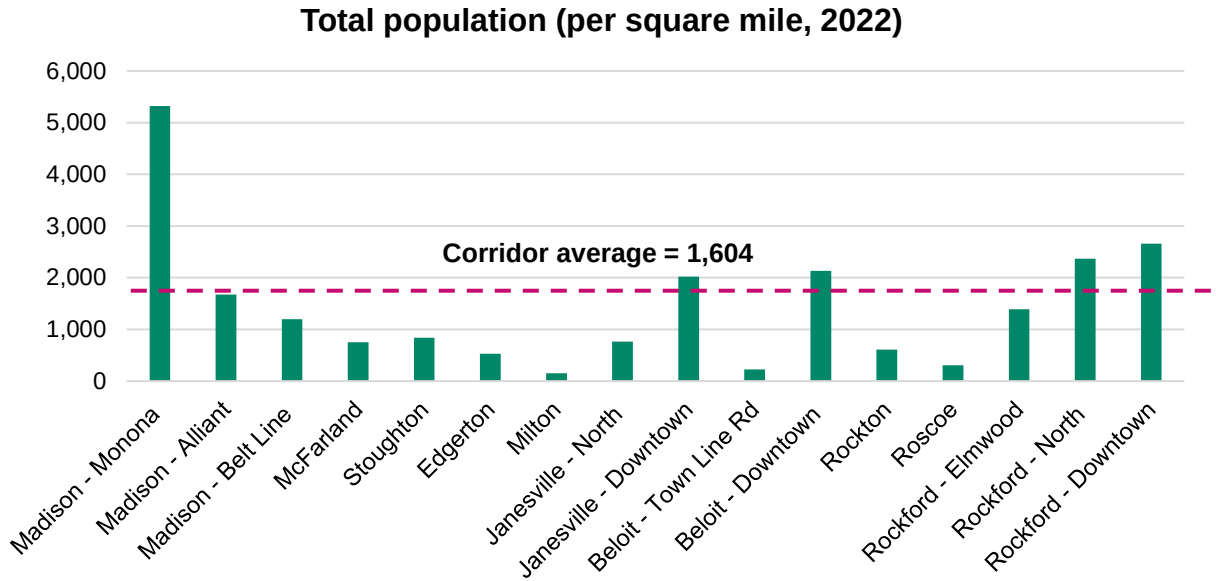
Source: ACS, 2010-2022

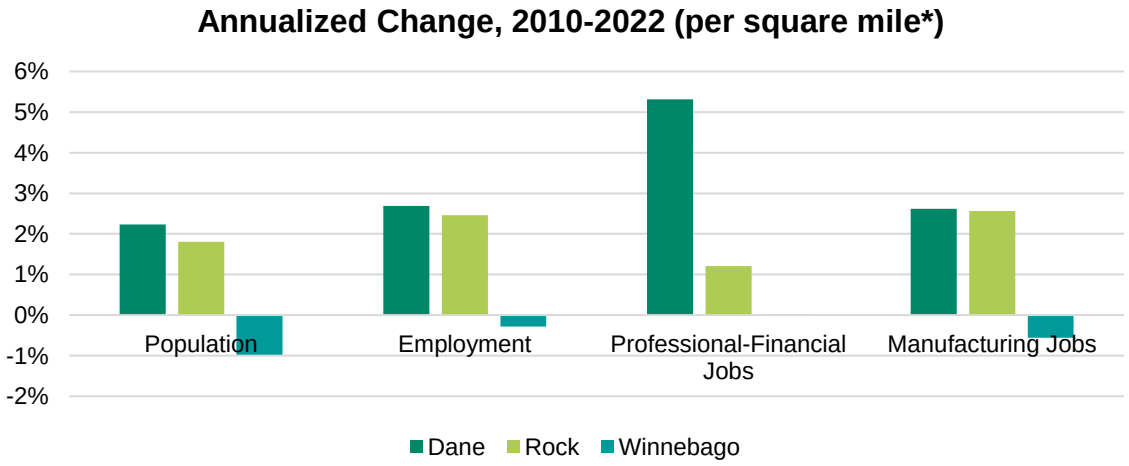
Station Area Demographic Analysis

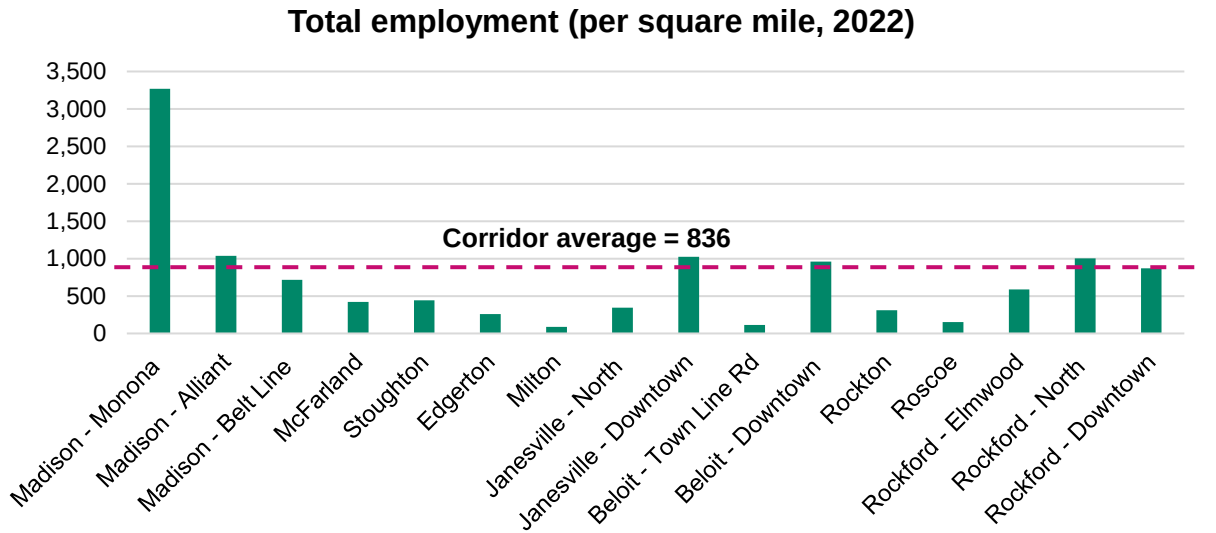
Population & Employment

Population & employment data was collected to understand the size and composition of different communities along the Corridor. Generally, Downtown Madison and Beloit have seen population and employment growth over the past decade, while Rockford and Greater Rock County communities have declined.

- Downtown Beloit saw the greatest increase in population (+5%) from 2010 to 2022.
- Edgerton, Milton, Rockton, and all three Rockford Station Areas saw decreases in population between 2010 and 2022.
- While Dane and Rock County Station Areas saw growth in both advanced industries (i.e., Professional-Financial) and legacy Manufacturing industries, Winnebago County saw decline in these categories.







**Per square mile is reflective of the square-mile radius around rail station areas.*
Note: Winnebago had 0% change in Professional-Financial Jobs between 2010 and 2022.
Source: ACS, 2022

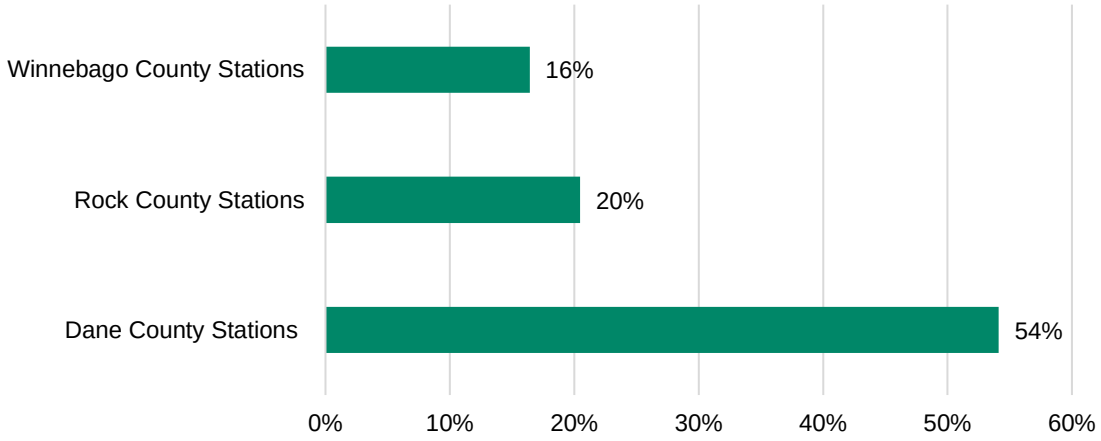
Station Area Demographic Analysis

Educational Attainment

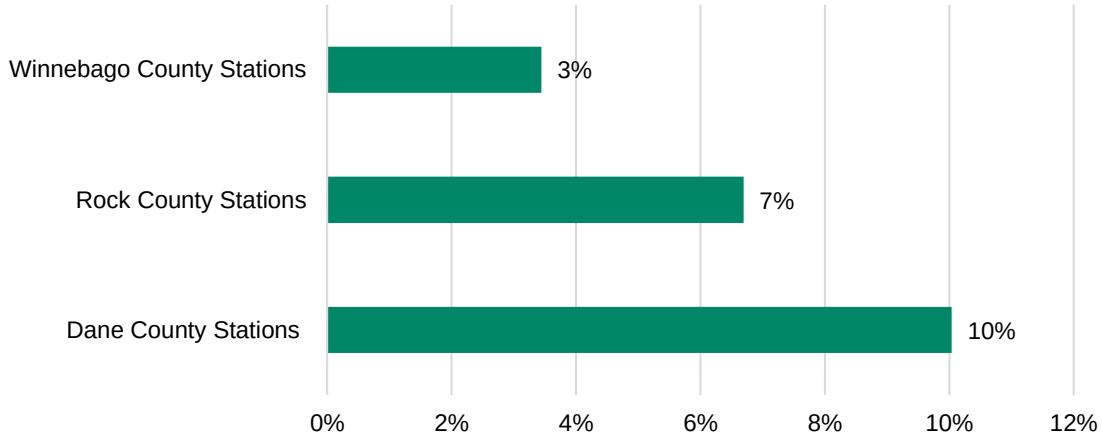
Educational attainment data provides insight into the nature of the workforce, and the talent pipeline for different skilled/non-skilled industries. Generally, there is a pattern of decreasing levels of educational attainment from north to south, with educational attainments highest in Madison Station Areas, and lowest in Winnebago Station Areas.

- Dane County stations have the highest educational attainment of all Station Areas – in 2022, over half of residents living within a 1-mile radius of a prospective rail station held a Bachelor's Degree or higher. By contrast, approximately 20% of residents living adjacent to Rock and Winnebago stations have a Bachelor's Degree or higher.
- Between 2010 and 2022, all Station Areas saw increases in educational attainment levels, but the greatest gains were in Dane County.

Share of Station Area population with bachelor's degrees or higher, 2022



% change in attainment of bachelor's degree or higher, 2010-2022



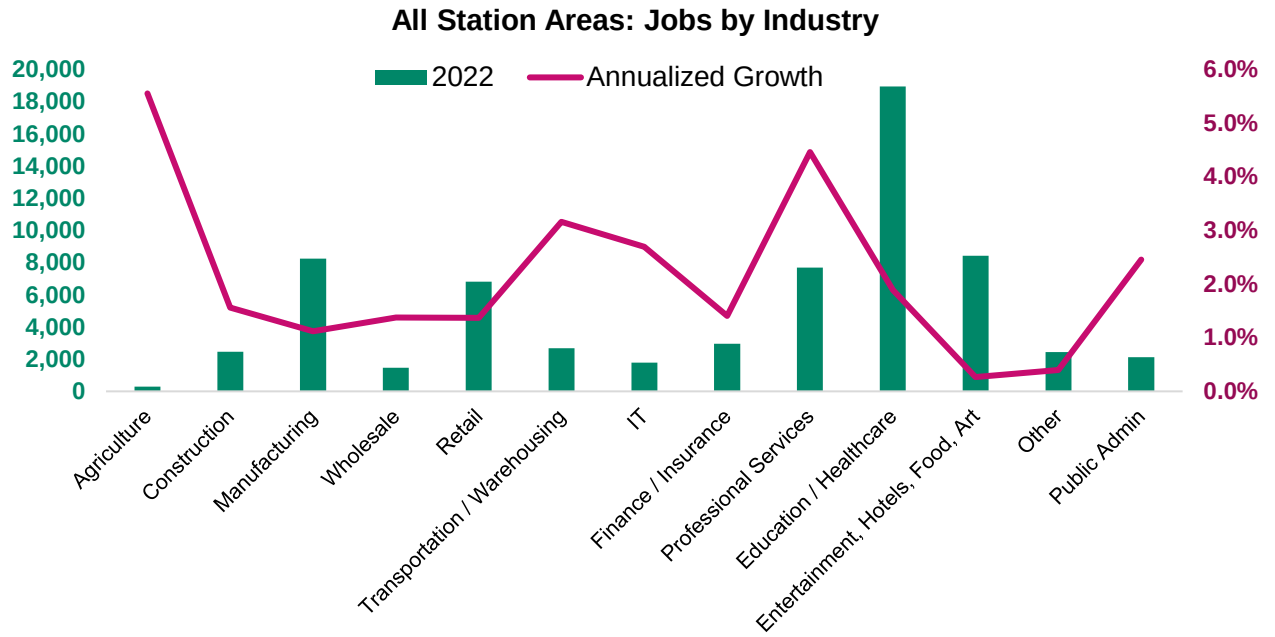
Source: ACS, 2010-2022

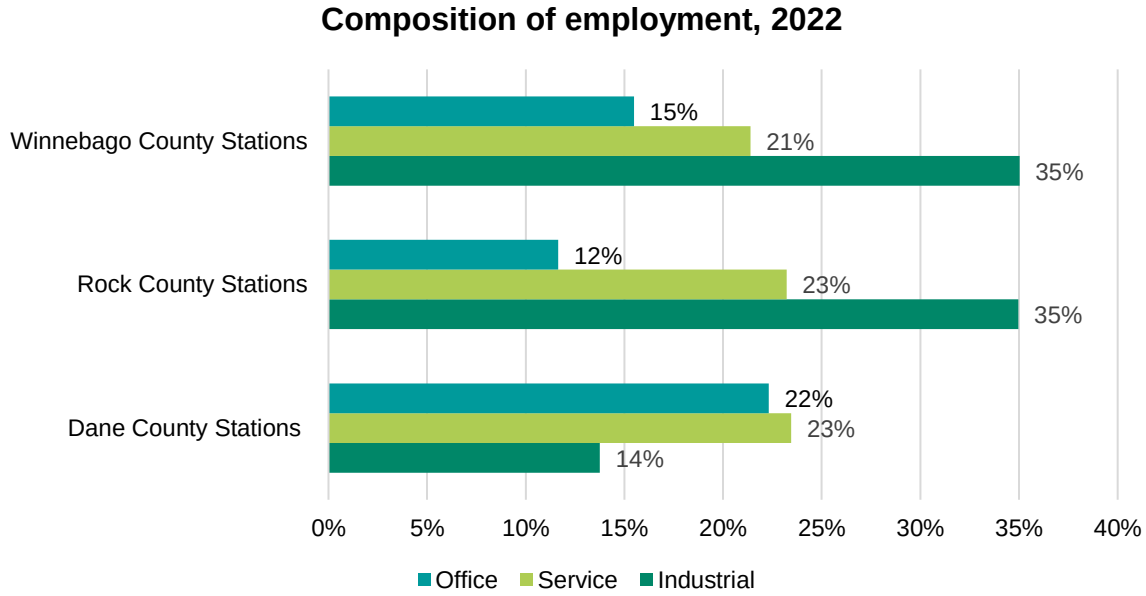
Station Area Demographic Analysis

Employment Composition

Detailed industry data illustrates the composition of the workforce in a given area. Across the Corridor, Service industry jobs comprise approximately 20% of employment, while Rock and Winnebago Counties have relatively higher shares of jobs in Industrial sectors, and Dane County has more traditionally more Office jobs.

- Across all Station Areas, Education & Healthcare is the highest employment industry, followed by Manufacturing, Retail, Professional Services, and Entertainment, Hotels, Food, & Art.
- Though Agricultural employment grew at a high rate over the past decade, it is small in terms of number of jobs.
- Of the high-employment industries, Professional Services has seen impressive growth over the last decade, adding jobs at a rate of 4.5% per year.
- Looking at the composition of employment in individual Station Areas, there is an increase in the proportion of industrial jobs from north-to-south. Other takeaways include:
  - Downtown Madison has a higher proportion of Service jobs, and all three Madison Station Areas have high proportions of Office Jobs.
  - The three Rockford Station Areas have some of the highest proportions of Industrial jobs.





Source: ACS, 2010-2022

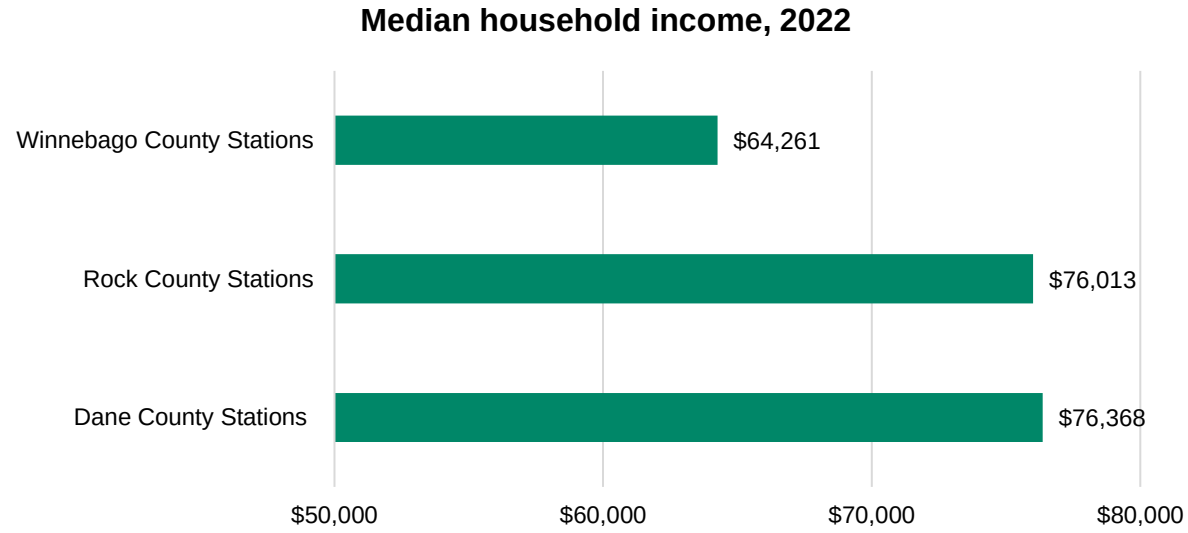
Station Demographic Area Analysis

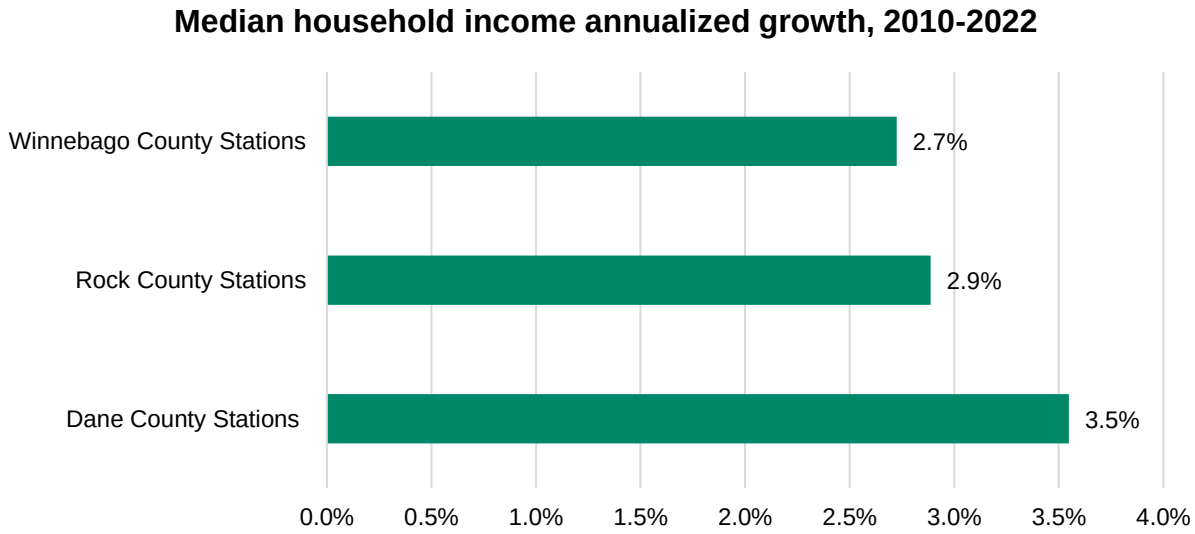
Median Household Income

Median household income data informs employment and housing analysis. Given that housing is often the most significant annual cost in a household budget, it is critical that housing costs are correlated with incomes. The next slide digs deeper into the relationship between income and housing costs.

While median household incomes don't seem to follow a clear geographic pattern, the annualized growth does show some evidence of higher increases in income in northern Station Areas.

- For most Station Areas, median household incomes in 2022 ranged from $60,000 to $90,000.
- McFarland and Roscoe stand out as the two Station Areas with the highest incomes, while Beloit-Town Line Road, Beloit-Downtown, and Madison-Monona Terrace had some of the lowest incomes – these low incomes are also influenced by the large share of students living in these Downtown areas.
- Several Station Areas saw below-average growth in median incomes between 2010 and 2021, with annualized growth close to 2%, compared to the 3-County Region average of 2.7% and the national average of 3.1%.





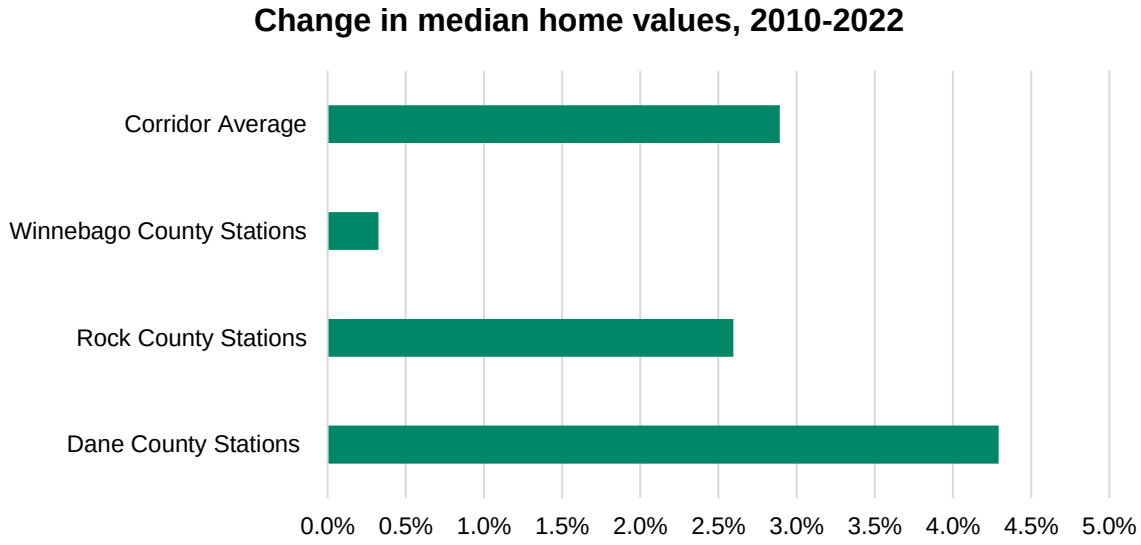
Source: ACS, 2010-2022

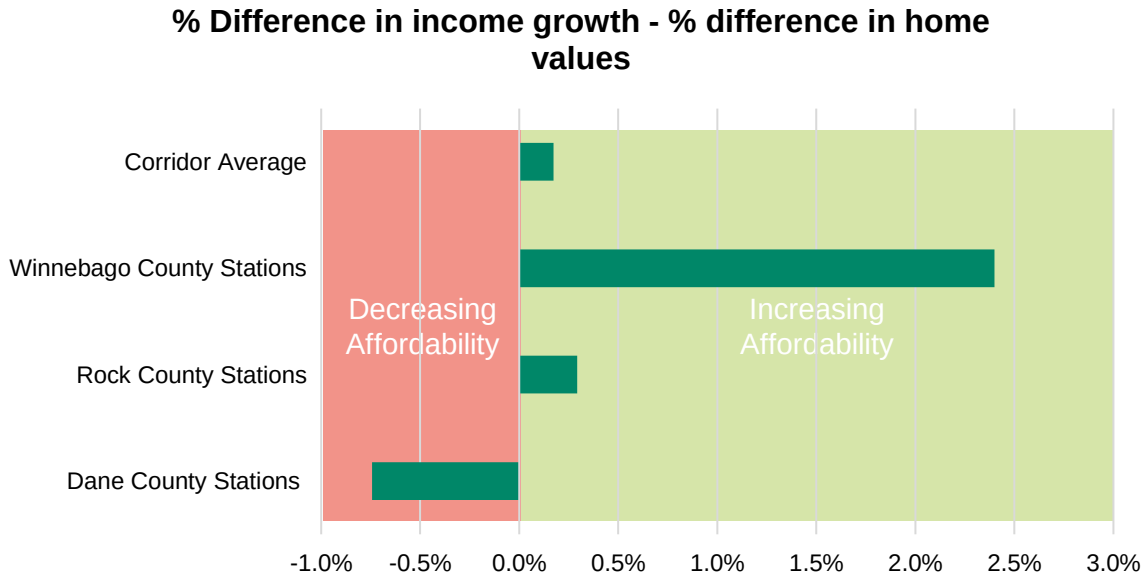
Station Demographic Area Analysis

Home Values and Housing Affordability

Median home values provide insight into affordability challenges in a given area. Home value data for the Corridor shows a pattern of decreasing value from north-to-south, with home values in the northern Station Areas significantly higher than those in the southern Station Areas. Generally, the Corridor is relatively "affordable", given that incomes seem to be growing faster than housing costs.

- There is a negative difference between income growth and home value growth in the Madison-Monona Terrace, McFarland, Stoughton, Janesville-North, and Beloit-Town Line Road Station Areas, indicating that housing costs grew faster than income; between 2010 and 2022, housing became increasingly unaffordable.
- In most Station Areas, however, incomes grew faster than housing costs, and housing in these Station Areas has become more affordable.
- Averaging across all Station Areas, incomes grew 0.2% faster per year than housing costs. This is dissimilar to the national trend, where growth in housing costs outstripped growth in income.





Source: ACS, 2010-2022

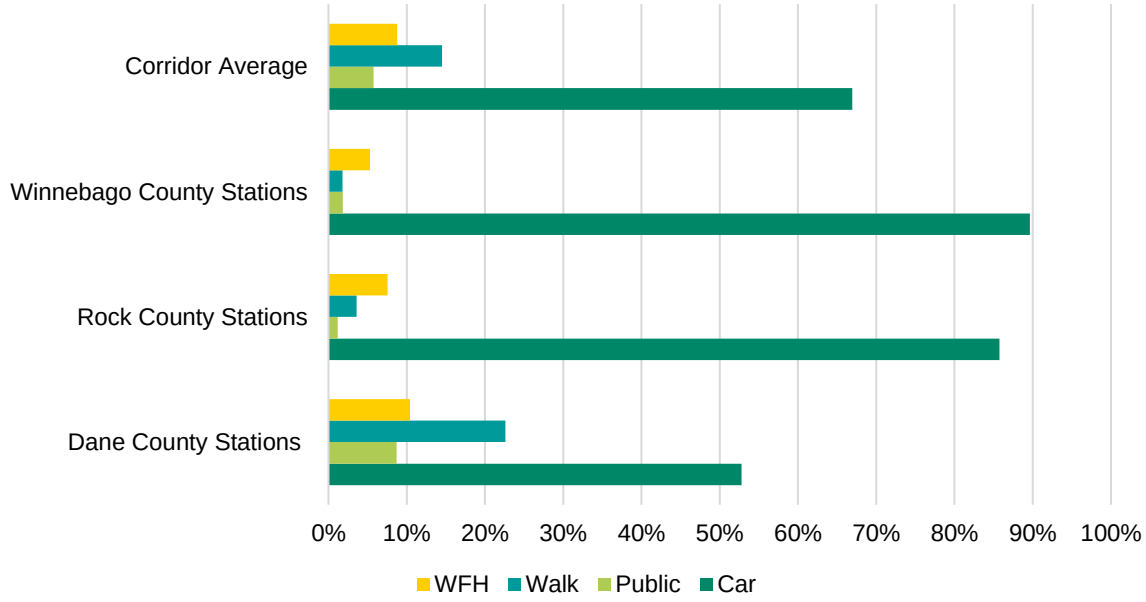
Station Demographic Area Analysis

Mode of Transport & Work From Home

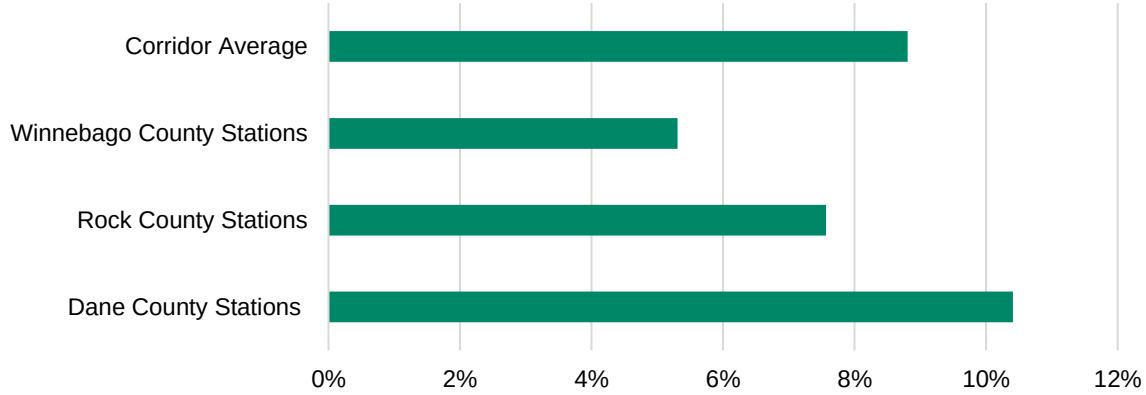
Transportation mode and work from home (WFH) data illustrate the level of reliance on transit in a given community. For most Station Areas along the Corridor, a private car is the primary method of transport to work, with close to 80% of the population using this method; downtown areas are less reliant on private car, and more reliant on public transit.

- Downtown Station Areas have smaller proportions of car-reliant population – residents here tend to use public transport, bike, or walk to get to work (or are in a work from home arrangement).
- Across all Station Areas, 60% of residents rely on cars, approximately 14% rely on public transport, while the remaining 26% walk/bike to work or work from home. Compared to the 3-County Region and the nation, the Station Areas are considerably less car-reliant.
- For work from home statistics, there is a subtle correlation between the northern stations and higher proportions of work-from-home arrangements.
- Across all Station Areas, 8.8% of residents work from home. This is considerably lower than the 11.9% that work from home in the 3-county region and the 11.7% that work from home across the nation.

Primary mode of transport to work, 2022



Percentage of people working from home, 2022



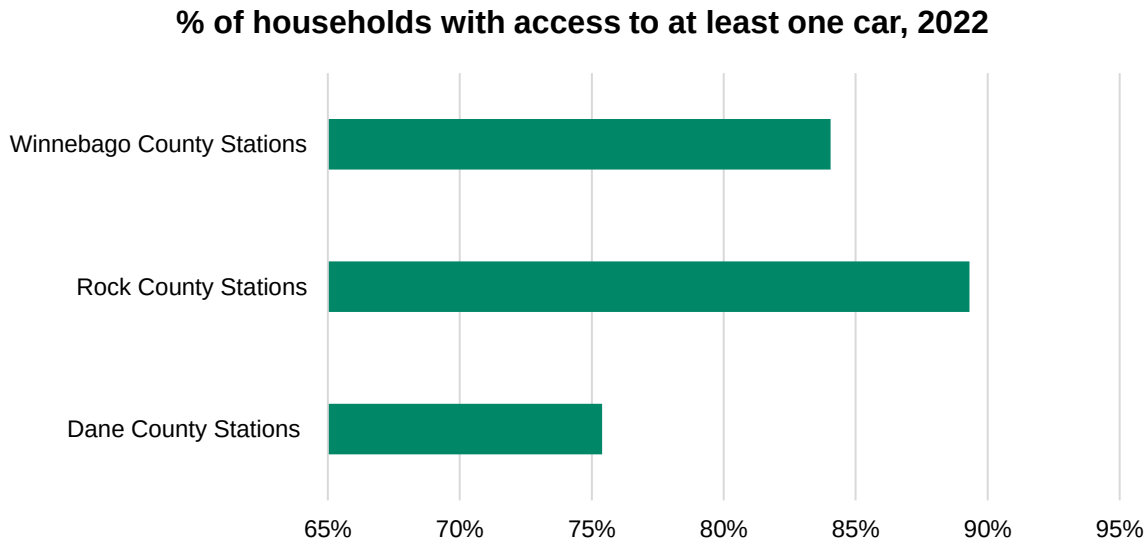
Source: ACS, 2010-2022

Station Demographic Area Analysis

Access to Transport

While the proportion of households that have access to at least one car is above 90% in most Station Areas, the downtown stations have lower rates of car access. These downtown stations (particularly Madison-Monona Terrace and Rockford-Downtown) also have – on average – a sizable lower income population that could benefit from expanded transit access.

- Madison-Monona Terrace has the lowest access to a private vehicle, with only 64% of households in the Station Area having their own car. From the previous slide, approximately 65% of the residents in this Station Area do not rely on cars to get to work.
- Within the Rockford-Downtown Station Area , 71% of households have access to a vehicle. In this Station Area , the primary mode of commute is still a private vehicle – the lack of vehicular access has bigger impacts in such an area.
- According to a correlation analysis, there is a relationship between vehicular access and income. Station areas with a larger share of low-income households (including those in downtown Madison, Janesville, Beloit, and Rockford) are more likely to also have larger shares of households lacking vehicular access.



Source: ACS, 2010-2022; AECOM

Demographic Analysis

Summarizing Findings

Population Change Unevenness	North-to-South Disparities
Several Station Areas, particularly the three in Rockford, have experienced negative population growth over the last decade. By contrast, Madison Station Areas have grown in population, indicating a difference in growth potential in distinct parts of the rail Corridor.	For several indicators, patterns have been discerned from the disparities that have arisen between the northern and southern Station Areas. There is a pattern of decreasing median income, educational attainment, and median home value from north to south.
Housing Demand Growth	**Disparities in Transport Access**
Several Station Areas (Madison-Monona Terrace, Stoughton, Beloit-Town Line Road) have seen home values increasing faster than incomes, indicating that housing is becoming less affordable. There is a need to preserve affordability through supply or demand measures.	While overall vehicular access across Station Areas is high, Station Areas with lower incomes have significantly lower access to private transport. Improving these individuals' access to transit would be transformative.

Section 3:
Real Estate Market Forces

Real Estate Market Forces

Methodology

Understanding the performance of the real estate market within each Station Area and in the 3-county region as a whole provides valuable context for estimating the market demand for a specific property segment. **Real estate development is influenced by multiple factors (interest rates, construction costs, inflation, population and job growth/decline, etc.)** that have direct bearing on the private and public sectors' ability to finance and deliver new inventory to the market.

While studying the performance of the real estate market provides valuable context for estimating development in the future, it cannot predict occupancy/market supportability and saturation for an area. It is therefore important to **consider real estate performance indicators (i.e., vacancy, absorption, rent, sales price) with other market indicators (i.e., population and job growth/decline, land use and zoning restrictiveness, etc.) to understand how successful a given development might be**. It is also important to consider absorption trends, which indicate the pace at which inventory is leased/sold when it becomes available on the market.

Additional notes on the real estate market analysis include the following:

- CoStar was the primary source used, along with US Census and Redfin for residential data.
- Data was pulled in June 2024, with 2023 being the most recent annual data available.
- Office, industrial, retail, and residential were the primary real estate segments analyzed.
- Property segment analysis includes data on average age of inventory, vacancy, and rent per square foot (PSF)* – these are common indicators of demand in a market for a particular type of property. Generally, older inventory, higher vacancy, and lower rents indicate relatively low market demand. That being said, this would also signal an opportunity to recapitalize or redevelop property.
- Similarly to the previous Demographic Analysis section, Station Areas comprise the 1-mile radius around a prospective rail station.
- While property level data is relatively comprehensive, it does not represent a complete count of all properties in a given area; some Station Areas, particularly those in more rural settings, are lacking complete property data in a given segment (i.e., office).
- County, and 3-county region, averages are often used to give insight into Corridor differences, and to effectively "smooth" out unique Station Area differences – and control for data gaps, given that some suburban or exurban station areas lack property level data.

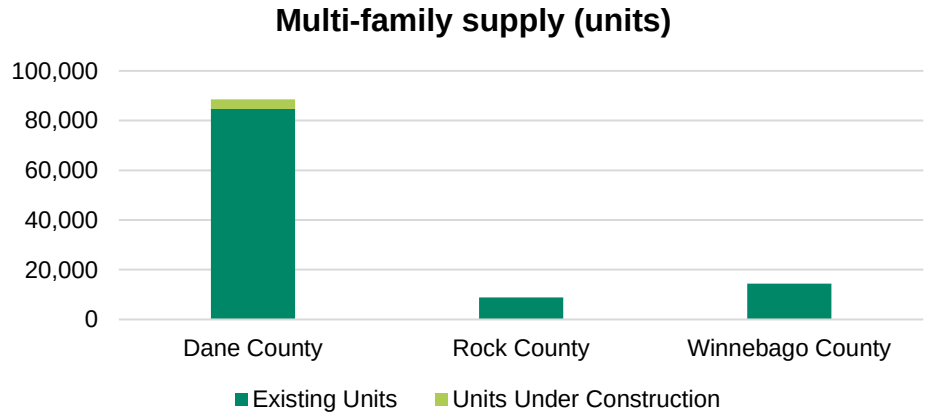
**Note: Rents are reported as "Triple-Net" (Net-Net,-Net, or NNN) for office and retail segments, and overall for industrial. These represent forms of leases that are typical for different kinds of property. Multi-Family rents are reported as per-unit, and are calculated using CoStar's Data and Forecasting Model which aggregates apartment rent data points daily from Apartments.com and other sources.*

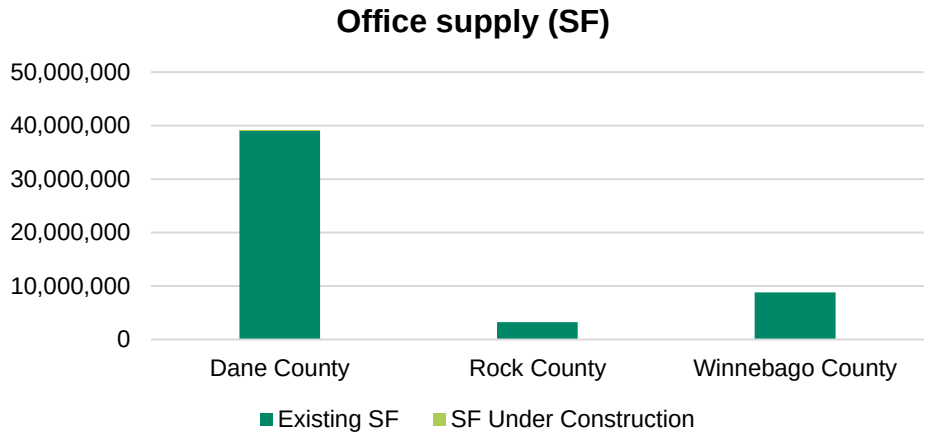
Real Estate Market Forces

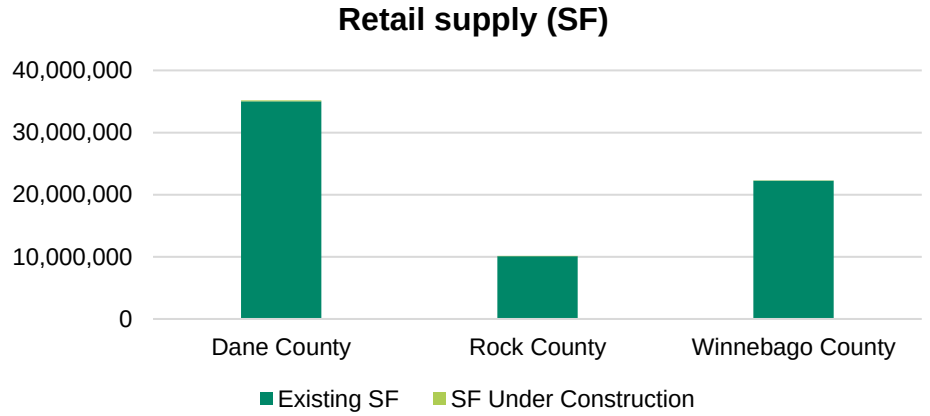
Existing Supply

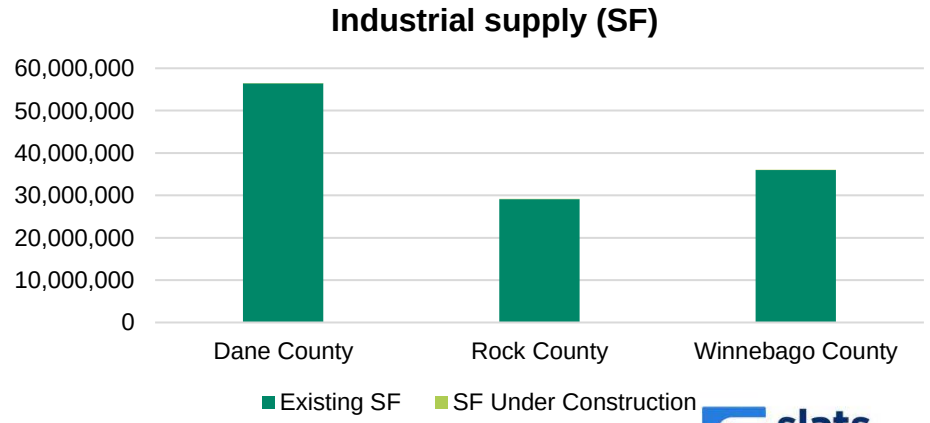
Supply provides insight into an area's total universe of real estate development. Dane County comprises the majority of existing real estate supply across property segments; industrial supply is the most evenly split between the 3 counties.

- The 3-county study region (i.e., Winnebago County, Rock County, and Dane County) is home to approximately 51 million square feet (SF) of office space, 108,000 multi-family units, 67 million SF of retail space, and 121 million SF of industrial space.
- Within the 3-county region, Dane comprises most of the inventory in all property types. Most of the real estate pipeline (i.e., proposed, final planning, under construction) is also located in Dane County.
- Among the Station Areas, Downtown Madison Station Areas have the most office and multi-family inventory (6.3 million SF and 10,600 units, respectively), while Janesville – North has the most retail and industrial inventory (3.3 million SF and 3 million SF, respectively).









Note: analysis is representative of county-wide averages
Source: CoStar; data pulled in June 2024

Real Estate Market Forces

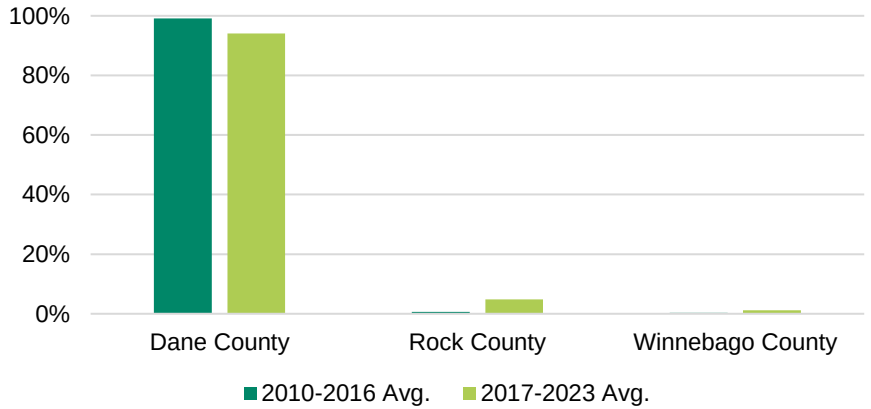
New Supply (Deliveries)

When new real estate supply is developed in a community, it is generally an indication that there is an unmet need for space. Deliveries indicate new demand for a given type of property (i.e., office, retail, residential), and signals that an area is growing from a population and employment perspective.

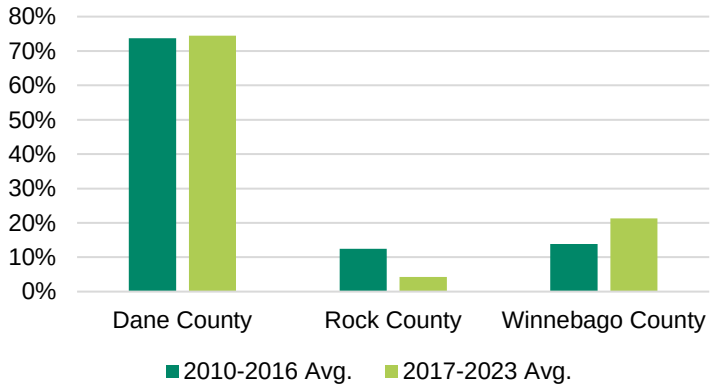
Dane, Rock, and Winnebago Counties have all added new real estate inventory over the years as communities have grown, particularly downtown areas.

- Among the 3 counties, Dane County has accounted for most of the new real estate supply since 2010, particularly among multi-family and office properties; roughly 70% of retail (SF), and half of industrial (SF) space added has been in Dane County.
- In addition to tracking deliveries, planned development (i.e., properties that are proposed, in final planning, or under construction) is another indicator of expected new demand in a community. Similarly to deliveries, the planned development indicates that downtown areas account for the majority of new growth.

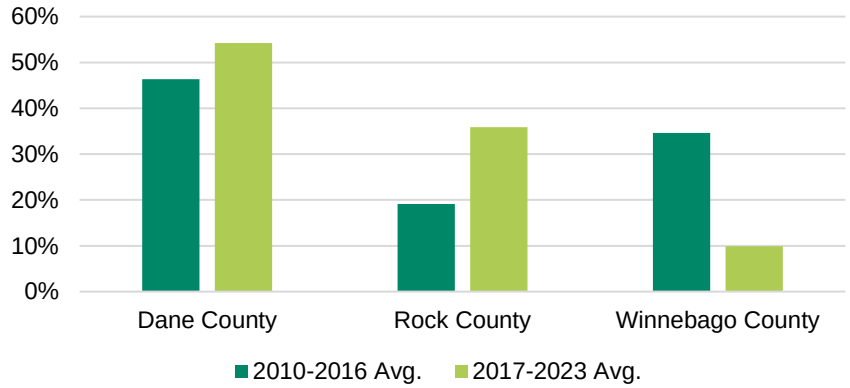
Multi-family deliveries (units), as % of 3-county total



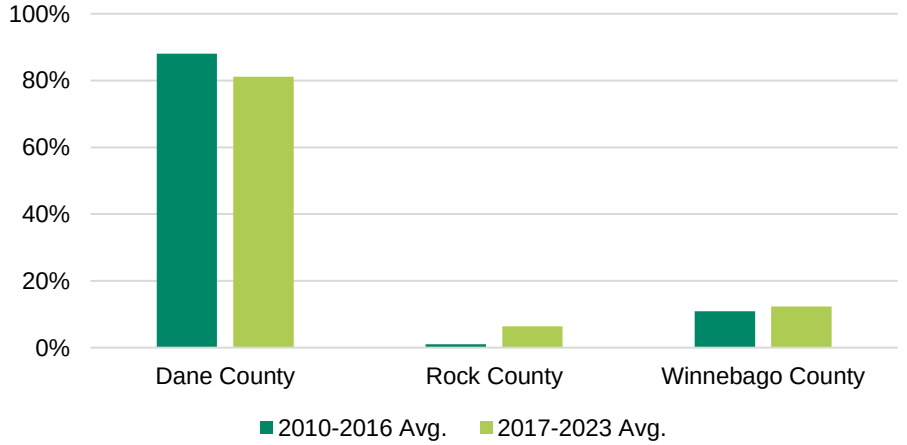
Retail deliveries (SF), as % of 3-county total



Industrial deliveries (SF), as % of 3-county total



Office deliveries (SF), as % of 3-county total



Note: analysis is representative of county-wide averages
Source: CoStar; data pulled in June 2024

Real Estate Market Forces

Supply by Decade of Construction

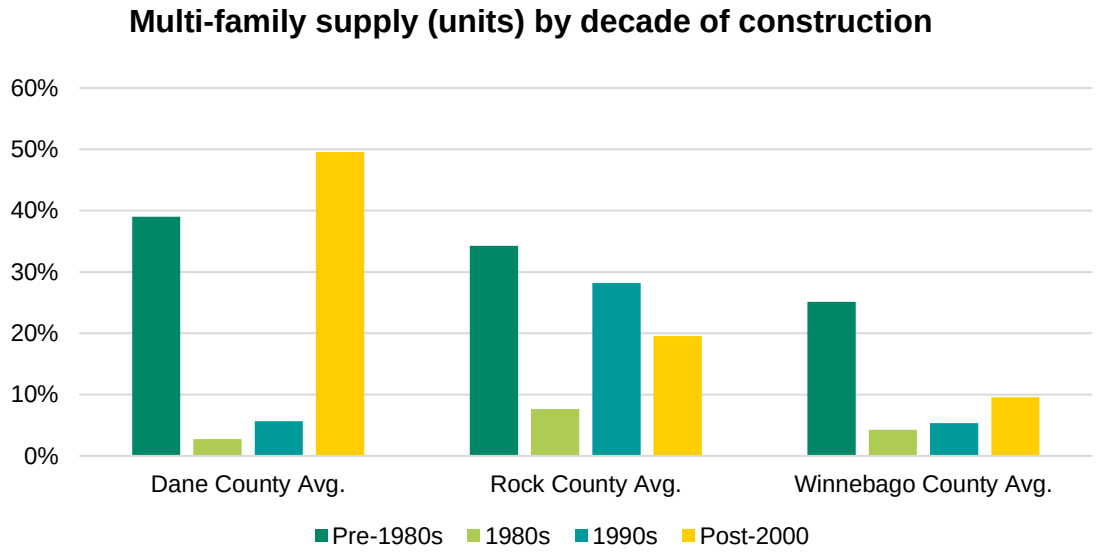
Analyzing supply by decade of construction provides insight into the age and character of different real estate segments. With the exception of the multi-family segment, the Corridor is dominated by inventory that is 50+ years old.

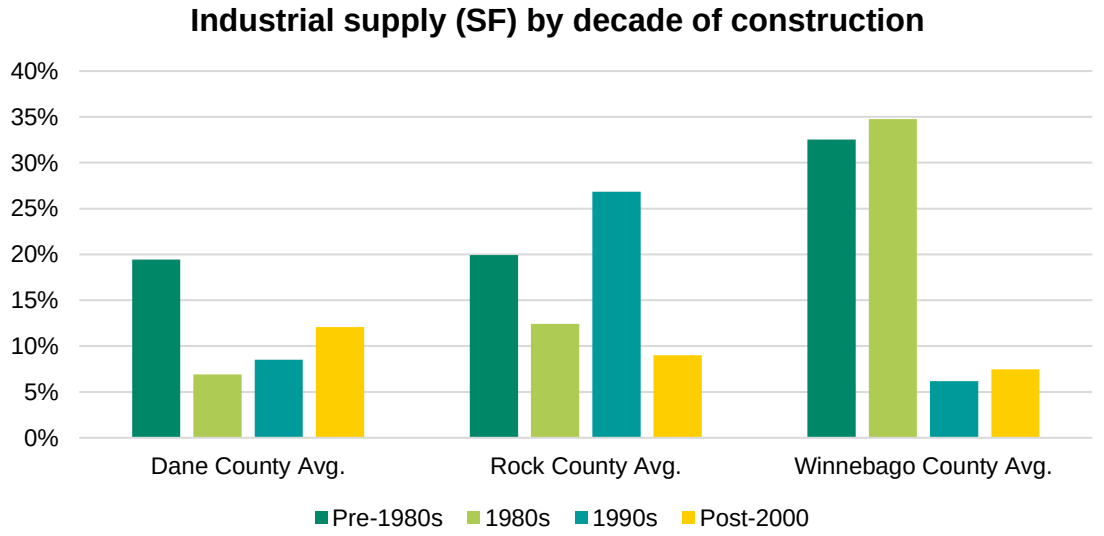
Multi-Family:

- The Madison-Alliant and Madison-Beltline Station Areas have the highest shares of pre-1980s multi-family inventory (80% and 75%, respectively). These Station Areas generally developed in the 1970s.
- McFarland has nearly 2/3 of its multi-family inventory built since the 2000, with nearly 20% of its inventory built in the 2020s.

Industrial:

- Rockford-North and Madison-Monona Terrace have the highest proportion of pre-1970s industrial inventory (81% and 70%, respectively).
- Beloit-Town Line Road has the most newly developed industrial supply – approximately 60% of its industrial supply was constructed in the 2020s.
- The 1990s were an active time for industrial development along this Corridor – several Station Areas have a sizable share of inventory built in the 1990s, including Rockton (75%), Downtown Janesville (58%), and Beloit-Town Line Road (39%).





Note: analysis is representative of averages among Station Areas located within each county – not overall averages for entire counties
Source: CoStar; data pulled in June 2024

Real Estate Market Forces

Supply by Decade of Construction, Cont.

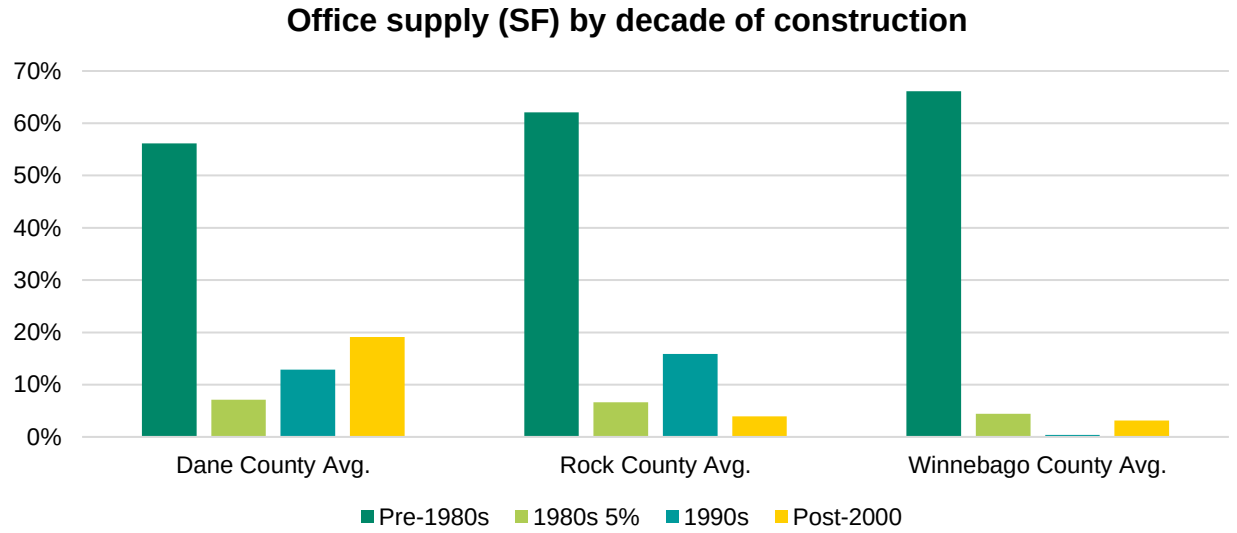
Office:

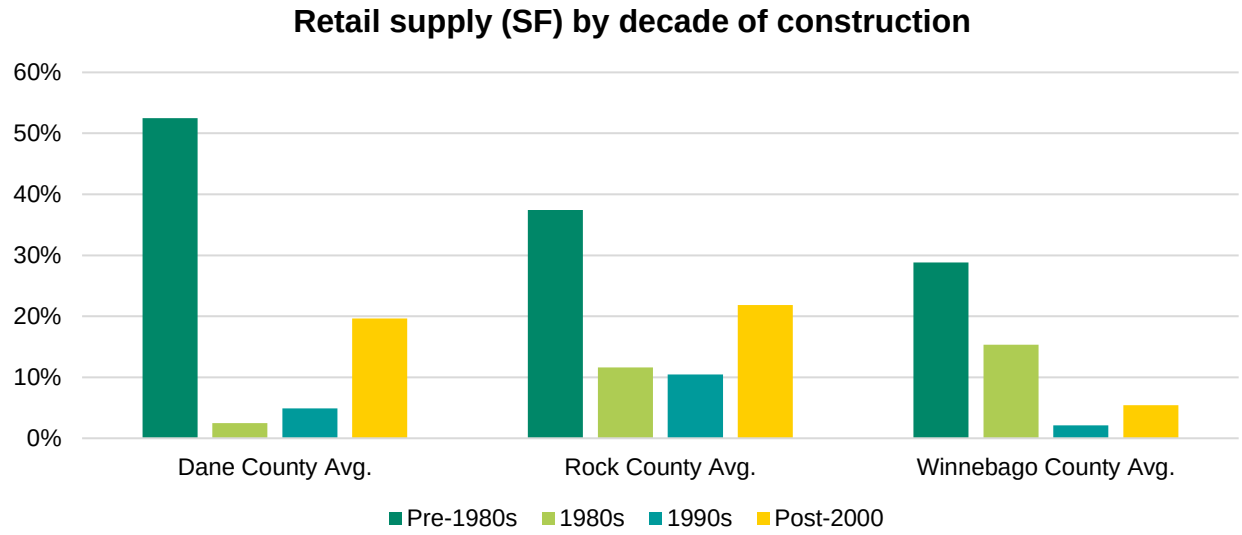
- Downtown Beloit has the highest proportion of pre-1980s era office space (79%), followed by Downtown Rockford (72%).
- Generally, the downtown areas along the Corridor have the largest shares of pre-1980s inventory.
- Madison – Beltline and Rockton have the newest office inventory, with nearly ½ of total SF built since 2000.

Retail:

- Downtown Janesville has the highest share of pre-1980s era retail space (84%), followed by Madison – Monona Terrace (77%).
- Madison – Belt Line has the newest retail inventory, with 44% of total SF built since 2000.

Above image shows aging retail development adjacent to Stoughton train station
Source: AECOM





Note: analysis is representative of averages among Station Areas located within each county – not overall averages for entire counties
Source: CoStar; data pulled in June 2024

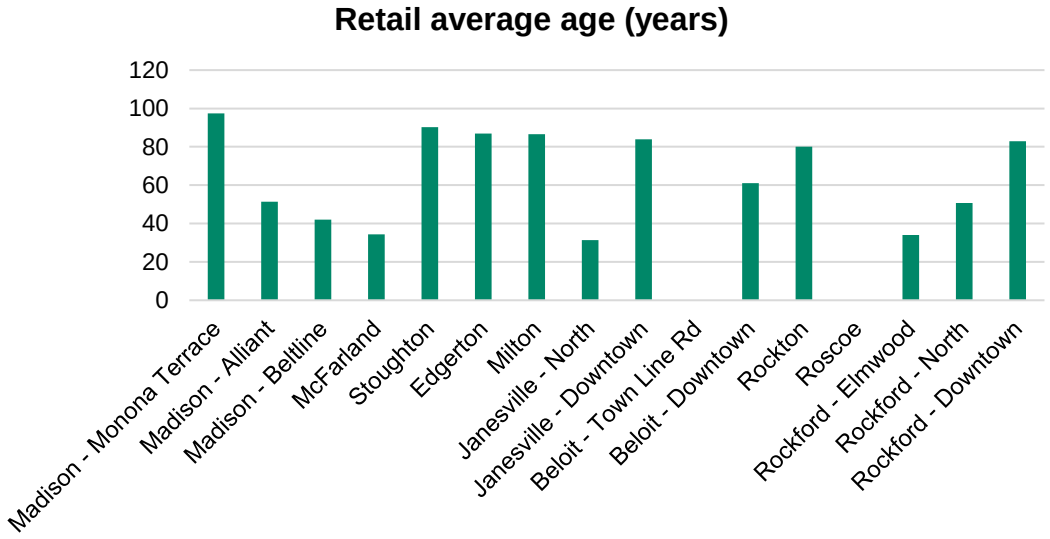
Real Estate Market Forces

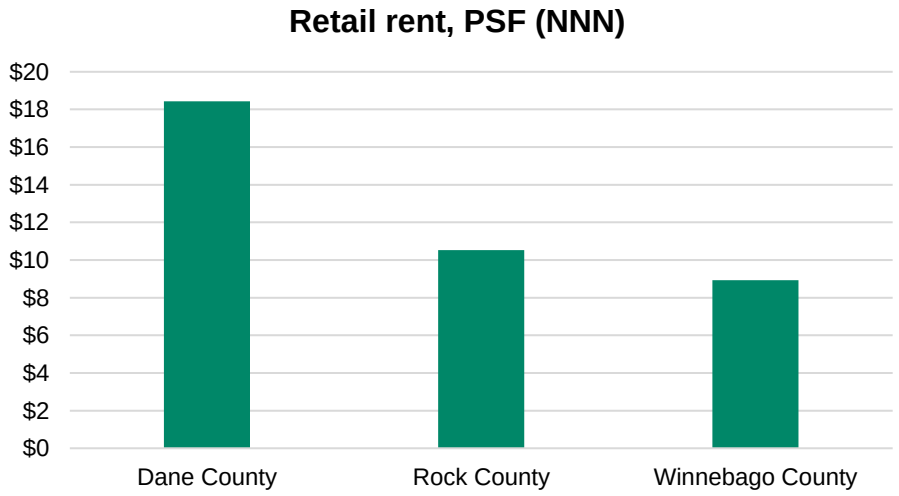
Retail Market

The following slides provide detailed analysis on the core real estate property types (retail, office, industrial, and residential). The key indicators influencing demand in this analysis are: age, rent, and vacancy. Generally, higher rents and lower vacancy indicates positive performance of a property, while older age often indicates lack of new investment.

Despite having the oldest retail inventory, Madison-Monona Terrace has the highest average per square foot (PSF) rents* of any Station Area.

- Station areas generally have low retail vacancy, except for Rockford-North (nearly 30%).
    - In Rockford-North, two large properties drive up the vacancy: the 100,000 SF neighborhood center at 3702 Main St is only 41% leased, and 3007 N Main (2,100 SF) is on the market and 0% leased – these factors push Rockford North to such a high vacancy rate
- The average age of retail throughout the Corridor ranged from 31 years in Janesville-North to 94 years in Madison-Monona Terrace.
- All the Station Areas except Rockford-North are in line with the national vacancy rate. However, all the Station Areas are lower than the national average for rental rates. Madison-Monona Terrace is the closest to the national average at $26 per SF – approximately 76% of the national average.





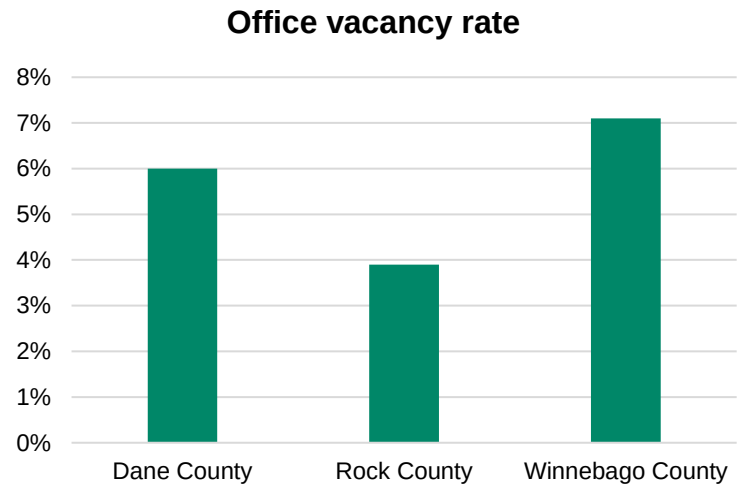
**Retail and office rents are reported as "Triple-Net" (Net-Net-Net, or NNN), a form of lease agreement that only charges for rent, and excludes other expenses such as property taxes, insurance, and utilities.*
Note: some Station Areas have no reported inventory of a given property type
Source: CoStar; data pulled in June 2024

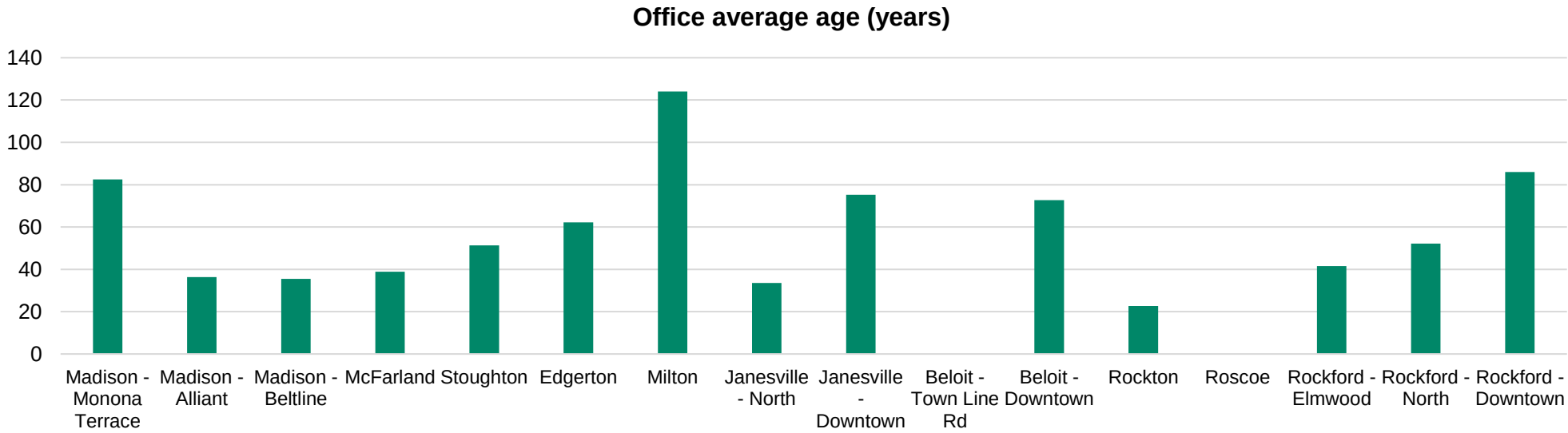
Real Estate Market Forces

Office Market

Downtown Station Areas have the majority of office inventory along the Corridor, and the oldest – on average, office inventory is ~80 years old. As is the case with retail, Madison Station Areas have the lowest vacancy rates and highest rental rates; however, office is struggling nationwide and has not recovered to pre-2020 baselines..

- According to Cushman & Wakefield's *U.S. Office Q2 2024 Report*, national vacancy rate was 20.5% with the average rent per square foot at $37.91. The Corridor collectively is outperforming the national average in terms of vacancy rate. The highest vacancy in the Corridor was 11% in Janesville-North.
- Simultaneously, the Corridor underperformed the national average, in terms of rental rates. The only Station Area over $20 per SF is Madison-Monona Terrace. The rest of the Corridor sits around $15 per SF – this can be attributed to the average age of office building at approximately 80 years old.
- Nationwide, the office segment has recently been influenced by the trend of "flight to quality". As office tenants look to downsize their footprints due to the prevalence of work from home (WFH), they are also seeking out leases in newer, amenity-rich buildings. Given the age of the inventory on the Corridor, there will be a need to recapitalize office inventory to accommodate these prospective office tenants.





Note: some Station Areas have no reported inventory of a given property type
Source: CoStar; data pulled in June 2024

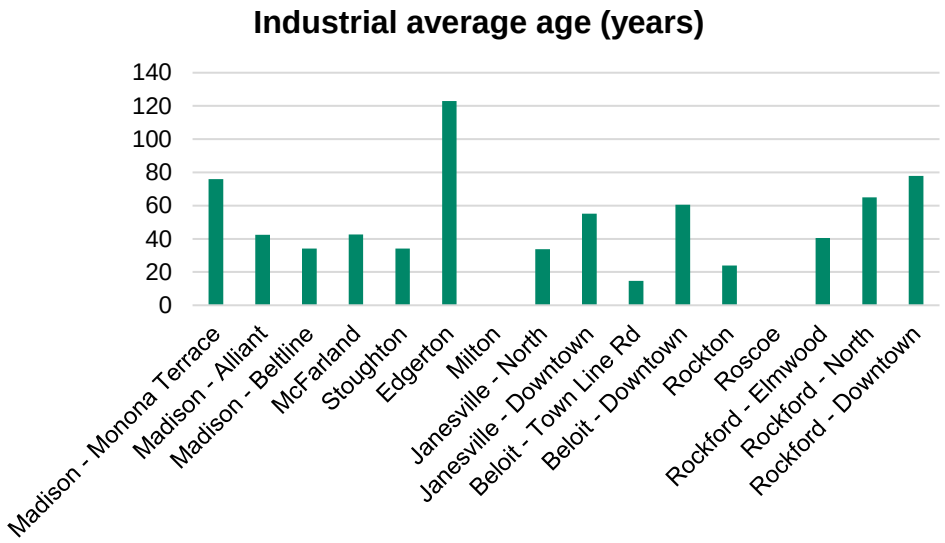
Real Estate Market Forces

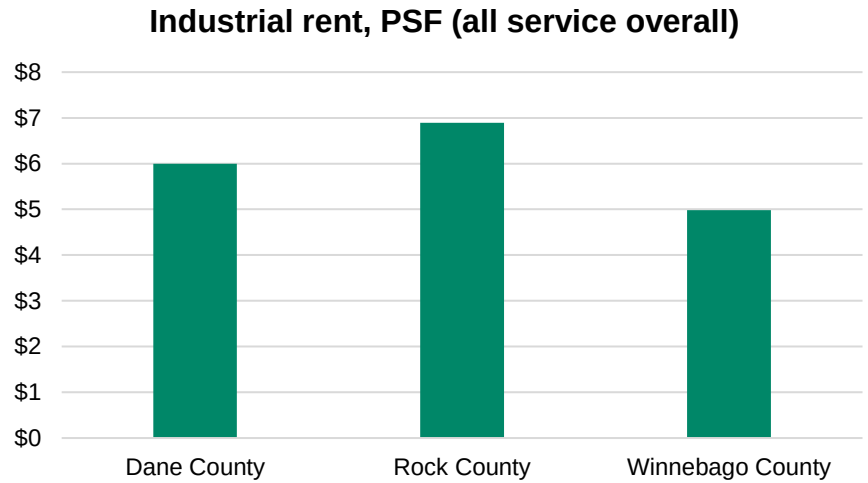
Industrial Market

Similarly to the office segment, industrial inventory on the Corridor is generally quite old, around 50+ years old, on average. Despite the age of inventory in Madison Station Areas, demand is high in this area. Exurban areas (i.e., McFarland, Stoughton, Beloit-Town Line Road) have also seen demand growth, given limited available land in downtown areas and the recent trend of "on-shoring" manufacturing and other industrial activities – this was motivated by the COVID-19 pandemic and other macroeconomic forces.

- According to Cushman & Wakefield's *U.S. Industrial Q2 2024 report*, the national vacancy rate for industrial was 6.1% with the average rent per SF* of $9.97.
- The Corridor collectively, is in line with national vacancy rates, with the exception of Beloit – Downtown and Rockford – Elmwood, which are significantly higher than national averages (15% and 20%, respectively); industrial inventory is also fairly limited in these Station Areas.
- However, the Corridor is significantly lower than the national average in terms of rent per SF. The highest rent per SF in the study area is $11, in McFarland, above the national average while the rest of the Station Area's fall below the national rent per SF of $9.97.

707 Fulton Ave, Rockford, IL – the 645,384 SF building - renovated in 2022 - is the largest industrial building along the Corridor
Source: camozzigroup.com





**Industrial ents are reported as "All Service Overall", a form of lease agreement that charges for rent, and includes other expenses such as property taxes, insurance, and utilities.*
Note: some Station Areas have no reported inventory of a given property type
Source: CoStar; data pulled in June 2024

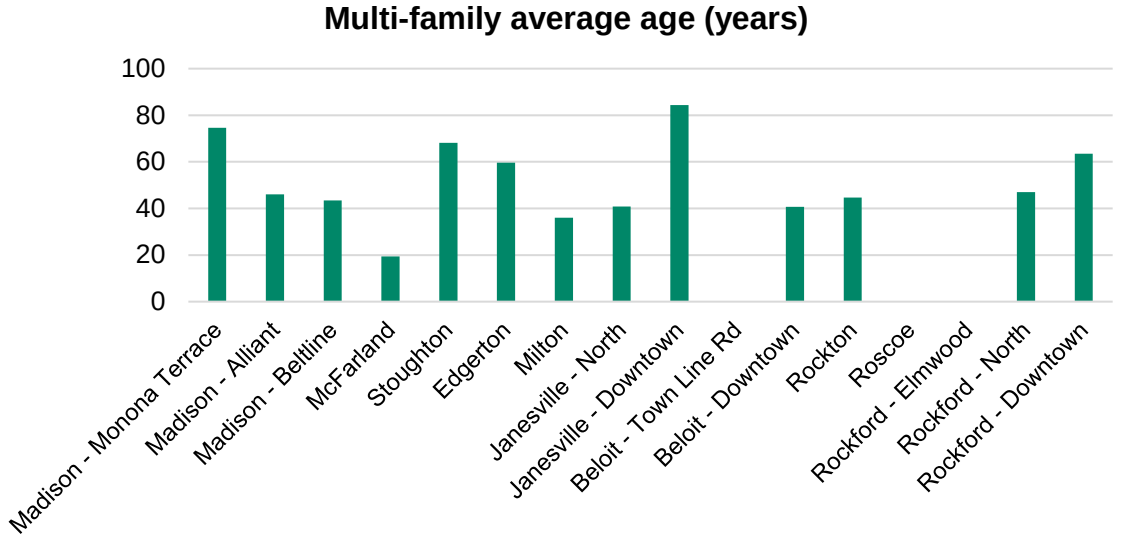
Real Estate Market Forces

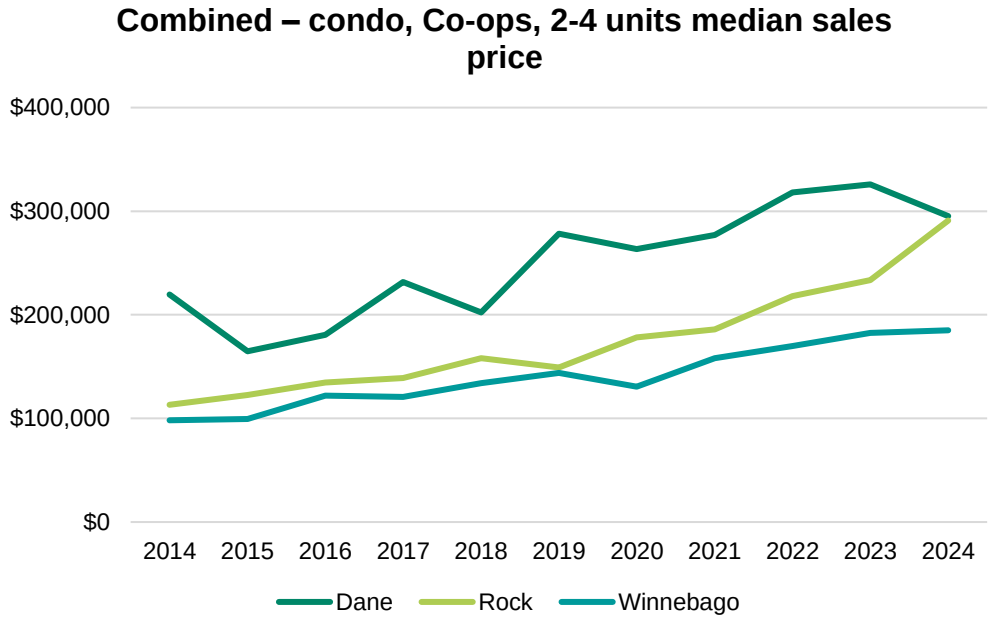
Multi-Family Market

Corridor-wide, there have been increases in median rents and sales prices. Despite old inventory, prices are rising and vacancy rates are low. That being said, the Corridor is still relatively "affordable" compared to national averages. Given increasing housing costs and constraints on the market, it is expected that demand will increase in more affordable markets in Rock and Winnebago Counties.

- Madison-Monona Terrace is generating asking rents per unit* above the national average, while the rest of the Corridor is substantially under the national average. Per-unit rents in the Corridor ranged from $800 - $1,200 on average with Edgerton generating the lowest rent at $474.
- While the Corridor is underperforming in terms of rent, the Corridor is doing extremely well in terms of vacancy rate compared to the national average. The highest vacancy in the Corridor is Madison-Alliant at 5.3% - substantially lower than the national average of 8.6%. The rest of the Corridor is between 2%-4% vacancy rate.
- The median sales prices for condos, Co-Ops, and 2-4 Unit dwellings Year-to-Date (YTD) in 2024 is $295,333 in Dane County, $290,990 in Rock County, and $185,049 in Winnebago County.

Above image shows Preston Place in McFarland, duplex design; source: AECOM
**Multi-Family rents are reported as per-unit, and are calculated using CoStar's Data and Forecasting Model which aggregates apartment rent data points daily from Apartments.com and other sources.*
Note: some Station Areas have no reported inventory of a given property type
Source: CoStar; data pulled in June 2024



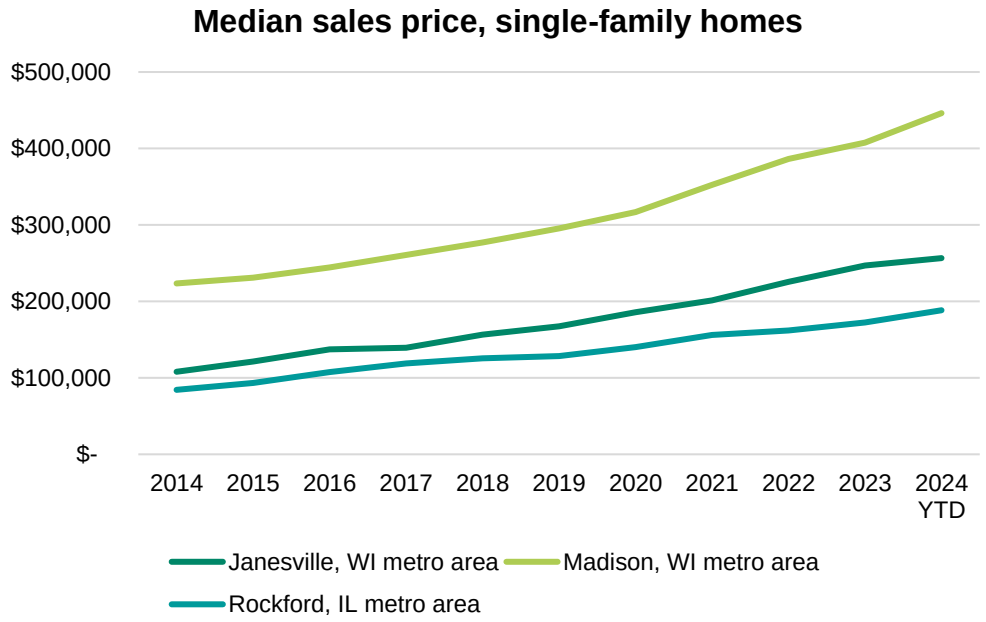


Real Estate Market Forces

Single-Family Market

Similarly to multi-family housing, the market demand for single-family units is also increasing across the Corridor. While the Corridor is relatively affordable compared to national averages, median sales prices have grown in all metro areas over the past decade.

- The Madison, WI metro area* had the highest median sales price at $446,200, while the lowest median sales price is in the Rockford, IL metro area ($188,400). That being said, the median sale price for single family homes has steadily increased in all three metropolitan areas.
- All three metro areas had a significantly higher Compound Annual Growth Rate (CAGR)** - otherwise known as an annualized growth rate – compared to the national median sales price CAGR in the same period which was 4%.
    - The Madison metro median sale price has increased at the lowest annual growth rate, 7%, among the three areas.
    - Both Janesville and Rockford metro areas experience very high annual growth rates at 10% and 8%, respectively.
- Median sales price was below the national median in the Janesville and Rockford metro areas, while the Madison metro area was in line with the national median.
- Over the decades long period, the Madison metro area has the most single-family homes sold (over 70k) compared to 40k sold in the Rockford metro area, and 20k in the Janesville metro area.



Redfin metro areas rely on standard Metropolitan Statistical Area (MSA) definitions: Madison metro area encompasses Dane County (i.e., McFarland, Stoughton); Janesville metro area includes Beloit, and other Rock County communities (i.e., Edgerton); and Rockford metro area includes Boone, Ogle, Stephenson, and Winnebago County communities.
***Compound Annual Growth Rate (CAGR) is the annualized growth rate over a given time period.*
Source: Redfin Data Center

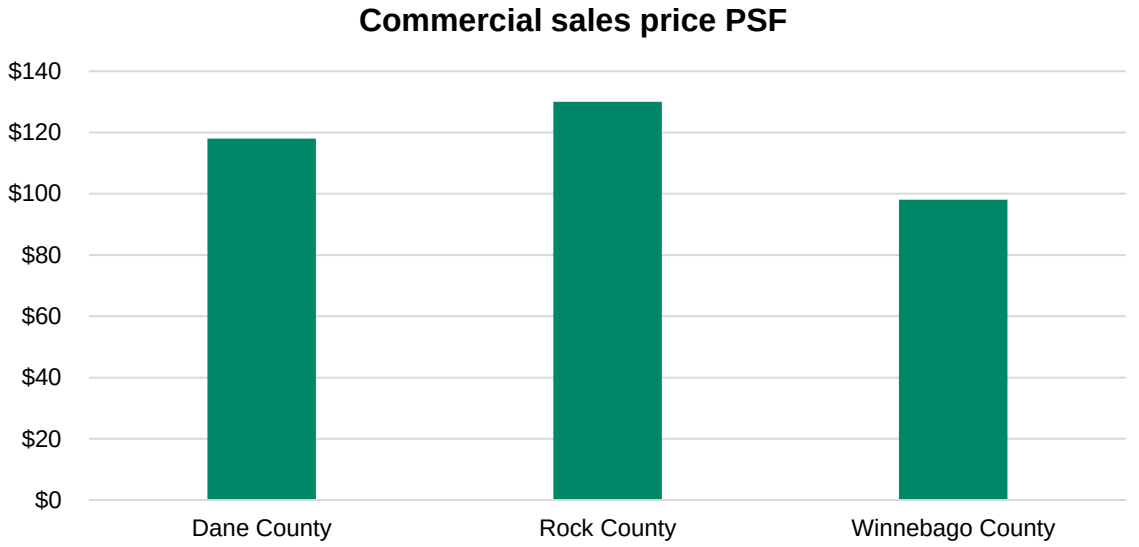
Real Estate Market Forces

Value Per Square Foot

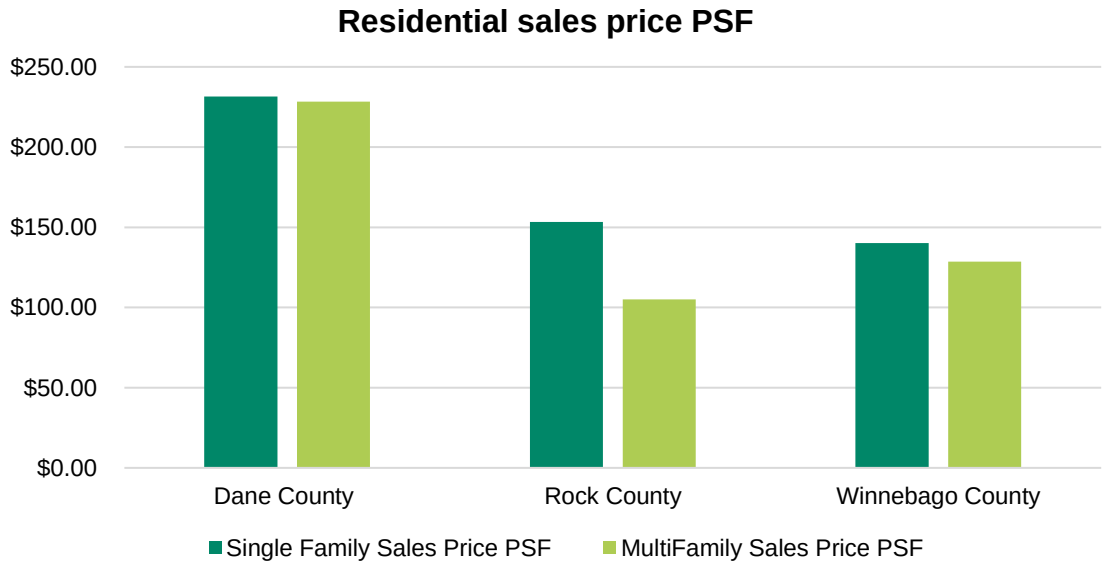
Real estate value indicates the price (often presented as per-square-foot or per-unit) that buyers are willing to pay for a specific property type. Generally, higher value indicates higher demand in a given market.

Rock County commands the highest values per SF for commercial properties, while Dane County has the highest values for residential properties.

- The highest commercial value per SF was in Rock County at $130 per SF, Dane County is closely behind with $118 per SF, and lastly Winnebago County was $98 per SF
- Residential value per SF did not follow the same pattern. For single family homes, the highest value per SF was $232 in Dane County, followed by Rock County at $153 per SF, followed by Winnebago County at $140 per SF
- For multi-family dwellings, Dane County had the highest per SF value at $228, followed by Winnebago County at $128 per SF; Rock County was significantly lower at $105 per SF



Source: CoStar (2023)



Source: Redfin (2023)

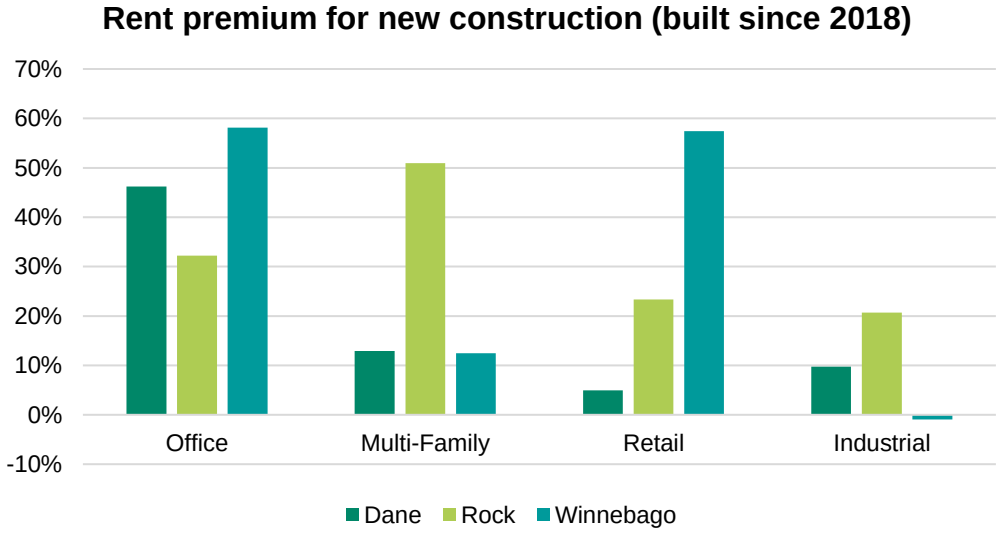
Real Estate Market Forces

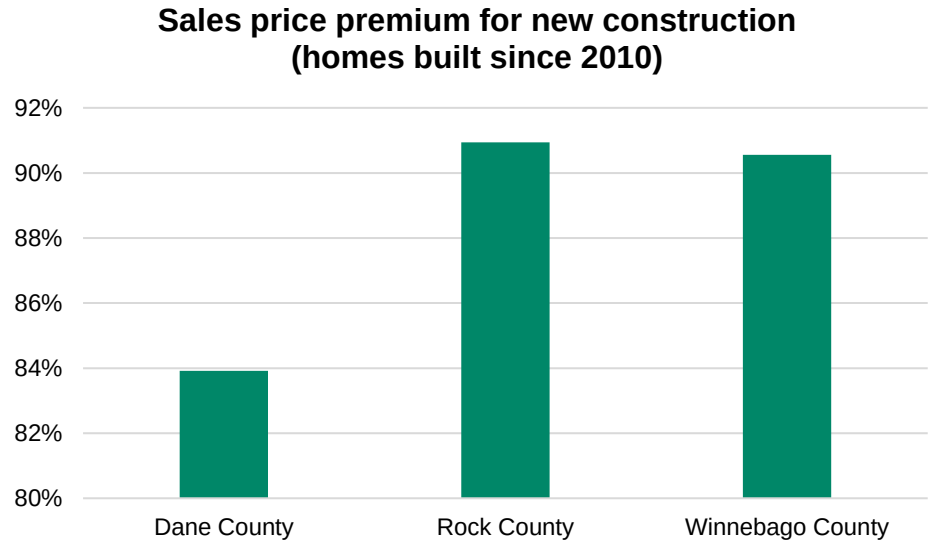
Value Premium for New Construction

Buyers are often willing to pay a higher price for newly constructed real estate, given that the product is – in many situations – of a higher quality. Given that any future development along the rail Corridor would theoretically be new construction, it is important to understand how much more buyers are willing to pay for new construction; this difference in value between older and newer real estate is known as the "value premium", and is often calculated as a percent difference between prices of the two products (i.e., old and new).

Across the Corridor, there is a clear difference in value between old and new construction for all property types; this difference is clearest for residential properties.

- For the purposes of this analysis, average rent and sales prices were collected for both older and newer properties (i.e., office, multi-family, retail, and industrial). The percent difference between these average prices represents the premium for new construction.
- This analysis indicates a clear premium for new construction. For rental properties, the premiums are the highest for office and multi-family, and Winnebago County generally has the clearest difference in value between older and newer inventory. That being said, industrial property in Winnebago proves to be an exception – older inventory actually has higher rents than newer inventory; this could be attributed to high vacancy.
- In market areas with lower values, there appear to be higher premiums for new construction. And, in markets with older inventory, premiums tend to be higher; however, downtown Madison is an exception, given that it has higher commercial real estate values, older inventory, and also high premiums – this is generally due to high demand and supply constraints in the market.





Source: CoStar (data pulled in June 2024); Redfin (2023)

Real Estate Analysis

Summarizing Findings

New Development in Madison	Lagging Retail, Office Demand
Over the past 5 years, Madison Station Areas have captured the majority of new commercial real estate development. Madison also has the most sizable inventory of development currently under construction.	Due to the COVID-19 pandemic and other macroeconomic factors, demand has shifted for these property segments. In general, retail and office inventory along the Corridor is old and relatively low value – this signals a need to redevelop in the future to a "highest and best use".
Strong Industrial Growth	**Housing Affordability Needs**
Madison and exurb communities along the Corridor have seen growth in industrial demand, reflective of nationwide trends towards on-shoring industrial activities. This segment is expected to grow in the future – there is a broader need to provide flexible spaces, close to customers.	As housing affordability continues to be an issue nationally, the Corridor represents an opportunity to provide new, more dense housing inventory at attainable price points. Downtown areas and exurban areas could support new multi-family supply.

Section 4:
Station Area Synthesis

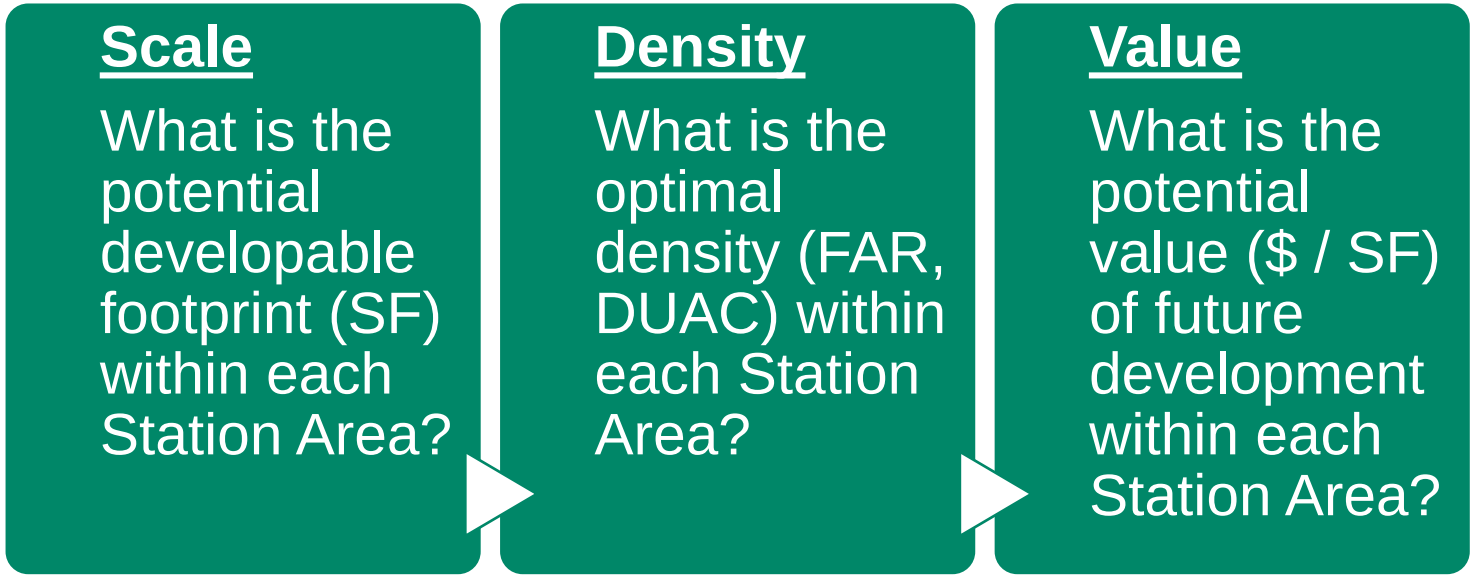
Station Area Synthesis

Methodology

Station Area Synthesis builds off the Demographic and Real Estate analysis tasks, and derives key benchmark assumptions that serve as the basis of impact modeling. These key assumptions relate to the **scale**, **density**, and **value** of future Station Area development. Station Area Synthesis combined the Susceptibility to Change analysis, as well as the Station Area Typologies analysis to estimate development potential within Station Areas along the Corridor.

Susceptibility to Change (also known as redevelopment susceptibility) is an analysis conducted to understand development trends in Station Areas. Parcel data from County assessor offices and Urban Footprint was analyzed, and parcels are evaluated for development readiness based on several key characteristics (i.e., lot coverage, proximity to flood plain, vacancy, etc.) This analysis culminates in a total area (in square feet) of land within each Station Area that has a high potential to be redeveloped.

Development typologies are simple profiles to generalize development potential in distinct Station Areas based on understanding of a given area's supply, demand, and overall prevailing character. CoStar property data was collected in order to understand trends in recent and planned development throughout the Corridor. The typology profiles characterize development through character (i.e., allowed uses, design), as well as density and size (i.e., FAR, number of units, square footage, etc.)



Station Area Synthesis

Parcel Analysis

To understand the scale of redevelopment opportunity in individual Station Areas, and identify trends related to land use and property valuation throughout the Corridor, parcel-level assessment data was collected. The key factors that were considered in this analysis included **size, lot coverage, market value of property, and vacancy**. Additionally, flood plain data was considered as a factor influencing the developability of parcels; flooding is particularly an issue in communities along the Rock River.

Parcels were analyzed for redevelopment susceptibility based on the following process:

- Collect parcel data, and identify all parcels within a 1-mile buffer area of the Station Area.
- Analyze parcels based on several factors: vacancy, lot coverage, parcel value, and proximity to wetland areas.
- Identify high potential redevelopment parcels based on the following criteria: underutilized (i.e., vacant, low lot coverage), high land value ratio (i.e., land value is greater than 30% of total value of the parcel), and low flood risk (i.e., not abutting wetland area).

Generally, **parcels in downtown areas are higher density, with Downtown Beloit, Janesville, Rockford, and Madison exhibiting the highest lot coverage ratios, indicating a growing demand for greater density development**. Property values vary, with Downtown Madison exhibiting consistently high property values, as well as suburban Rock County. Downtown Rockford has low property values relative to other downtown areas; this is also a function of the station location, proximate to older industrial inventory. **Lower property values indicate both a challenge and an opportunity** – properties with lower values are typically better positioned for larger scale redevelopment, but also require thoughtful planning and design.

Station Area	Average Lot Coverage Ratio (All Parcels)	Average Fair Market Value (All Parcels)
Downtown Madison	20%	$726,000
Greater Dane County	16%	$320,000
Greater Rock County	15%	$384,000
Downtown Janesville	21%	$181,000
Downtown Beloit	24%	$122,000
Greater Winnebago County	16%	$155,000
Downtown Rockford	21%	$72,000

Source: Dane, Rock, and Winnebago County Assessors; AECOM

Station Area Synthesis

Development Typologies – Residential

Residential typologies were formed by evaluating trends in recent development throughout the Corridor, as well as estimating outlook for growth. Generally, future residential development within **downtown Station Areas is expected to be mid- to high-density, whereas exurban and suburban Station Areas are expected to remain low- to mid-density.** That being said, these development patterns could change depending on several supply (i.e., zoning, density bonuses, development incentives, etc.) and demand (i.e., growth in residents and jobs, growth in incomes, etc.) side factors.

- A typology of **RES 1, RES 2, and RES 3** was generated to align with low, medium, and high-density development.
- **Floor Area Ratios (FAR)** were assigned for each typology according to new development projects in the Corridor and can be seen in the below table. These FAR assumptions are used to scale the residential development program within each Station Area.

Given the TOD framework of this study, it is assumed that future development at station areas will be increasingly dense and walkable, particularly in downtown areas where this trend is already underway. The following slides show examples of higher density residential typologies expected to occur throughout the Corridor.

Code	Description	FAR
RES 1	Low Density	0.5
RES 2	Medium Density	2
RES 3	High Density	3

Station Area	Residential Typology	Typology Description
Madison - Monona Terrace	**RES 3**	High Density
Madison - Alliant	**RES 2**	Medium Density
Madison - Beltline	**RES 2**	High Density
McFarland	**RES 2**	Medium Density
Stoughton	**RES 2**	Medium Density
Edgerton	**RES 2**	Medium Density
Milton	**RES 1**	Low Density
Janesville - North	**RES 2**	Medium Density
Janesville - Downtown	**RES 3**	High Density
Beloit - Townline Road	**RES 1**	Low Density
Beloit - Downtown	**RES 3**	High Density
Rockton	**RES 1**	Low Density
Roscoe	**RES 1**	Low Density
Rockford - Elmwood	**RES 1**	Low Density
Rockford - North	**RES 2**	Medium Density
Rockford - Downtown	**RES 3**	High Density

Station Area Synthesis

Development Typologies – Res 2 - Residential – Medium Density

RES 2 is generalized as a medium density residential development typology. This typology is characteristic of urban and suburban areas that are well situated and close to transit. While Madison, Janesville, and Rockford have historically been more urban, it is also assumed that McFarland, Stoughton, and Edgerton are primed for increasingly dense, urban development. These areas have available capacity (i.e., underutilized buildings downtown) and demand for additional development, and there seems to be an interest in adding density to these areas.

Station areas characterized as RES 2 are assumed to have the future development exhibiting the following characteristics:

- 3-5 stories
- 100-150 units, with a range of unit sizes
- FAR of 2
- Average rents ranging from $1 - $1.50 per square foot

Station Area Name	Residential Type	Residential Type Description
Madison - Alliant	RES 2	Medium Density
McFarland	RES 2	Medium Density
Stoughton	RES 2	Medium Density
Edgerton	RES 2	Medium Density
Janesville - North	RES 2	Medium Density
Rockford - North	RES 2	Medium Density

The Compass – Madison, WI

FAR of 3, 5 Stories, 58 Units

Stadium Loft Apartments – Madison, WI

FAR of 3, 4 Stories, 50 Units

Source: CoStar

Station Area Synthesis

Development Typologies – Res 3 - Residential – High Density

RES 3 is generalized as a higher density residential development typology. This typology is characteristic of downtown, urban areas with access to regional transportation networks. While several suburban areas along the Corridor are poised for more density, it is assumed that the higher density residential development will be reserved for Station Areas located in existing, developed downtown areas. These areas are well established bases with access to major employers and higher educational institutions. While this typology is relatively higher density, it is assumed that these downtown areas will generally not be podium construction characteristic of "high rise" development.

Station areas characterized as RES 3 are assumed to have the future development exhibiting the following characteristics:

- 5-7 stories
- 150-250 units, with a range of unit sizes
- FAR of 3
- Average rents ranging from $1 - $1.50 per square foot

Station Area Name	Residential Type	Residential Type Description
Madison - Monona Terrace	RES 3	High Density
Madison - Beltline	RES 3	High Density
Janesville - Downtown	RES 3	High Density
Beloit - Downtown	RES 3	High Density
Rockford - Downtown	RES 3	High Density

Wright and Wagner Lofts – Beloit, WI

FAR of 4, 6 Stories, 83 Units

The Saddlery – Madison, WI

FAR of 5, 4 Stories, 46 Units

Source: JLA Architects; CoStar

Station Area Synthesis

Development Typologies – Commercial

Commercial typologies were formed by evaluating trends in recent development throughout the Corridor, as well as estimating outlook for growth. Generally, future commercial development within **downtown Station Areas is expected to be mixed-use and higher density, whereas exurban and suburban Station Areas are expected to remain predominately single use and less dense in character.** However, as is the case with residential development, these patterns could change with supply or demand side factors influencing development.

- A typology was assigned of **COM 1, COM 2, COM 3, COM 4, and COM 5**. These typologies represent mid-rise office, town center retail (TCR), industrial, mixed-use residential and retail (R+R), and mixed-use residential, retail, and office (R+R+O) respectively.
- Typologies COM 1, COM 2, and COM 3 represent traditional stand-alone projects with moderate FARs, whereas COM 4 and COM 5 represent the high-density mixed-use project that typically anchor TOD projects.
- Floor Area Ratios (FAR) for each typology was formulated based on new development projects in the Corridor and can be seen in the table below

The following slide shows examples of high-density mixed-use projects in the Corridor.

Code	Description	FAR
COM 1	Office – Mid Rise	0.5
COM 2	Town Center Retail	0.5
COM 3	Industrial	0.5
COM 4	Mixed-Use (R+R)	2
COM 5	Mixed-Use (R+R+O)	3

Station Area	Commercial Type	Commercial Type Desc
Madison - Monona Terrace	**COM 5**	Mixed-Use (O+R+R)
Madison - Alliant	**COM 1, COM 2**	Office Mid-Rise, TCR
Madison - Beltline	**COM 2**	Town Center Retail
McFarland	**COM 2**	Town Center Retail
Stoughton	**COM 4**	Mixed-Use (R+R)
Edgerton	**COM 4**	Mixed-Use (R+R)
Milton	**COM 2**	Town Center Retail
Janesville - North	**COM 2, COM 3**	Town Center Retail, Industrial
Janesville - Downtown	**COM 5**	Mixed-Use (R+R)
Beloit - Townline Road	**COM 2, COM 3**	Town Center Retail, Industrial
Beloit - Downtown	**COM 5**	Mixed-Use (R+R+O)
Rockton	**COM 2**	Town Center Retail
Roscoe	**COM 2**	Town Center Retail
Rockford - Elmwood	**COM 2**	Town Center Retail
Rockford - North	**COM 1, COM 2**	Office Mid-Rise, TCR
Rockford - Downtown	**COM 5**	Mixed-Use (O+R+R)

Station Area Synthesis

Development Typologies – COM 4&5 – Mixed-Use

COM 4 and COM 5 are mixed use commercial development typologies. These styles of development are characteristic of urban and suburban areas that are well situated regionally, and close to major centers of residential and employment growth. While Madison, Janesville, Beloit, and Rockford have historically been more urban, it is also assumed that McFarland, Stoughton, and Edgerton are primed for increasingly dense, urban development. These areas have available capacity (i.e., underutilized buildings downtown) and demand for additional development, and there seems to be an interest in adding density to these areas.

Station areas characterized as COM 4 & 5 are assumed to have the future development exhibiting the following characteristics:

- 5-7 stories
- FAR of 2-3
- Average rents ranging from $15 - $20 per square foot

Station Area Name	Commercial Type	Commercial Type Description
Madison - Monona Terrace	COM 5	Mixed-Use (O+R+R)
Stoughton	COM 4	Blended Mixed-Use (R+R)
Edgerton	COM 4	Blended Mixed-Use (R+R)
Janesville - Downtown	COM 5	Blended Mixed-Use (R+R)
Beloit - Downtown	COM 5	Mixed-Use (O+R+R)
Rockford - Downtown	COM 5	Mixed-Use (O+R+R)

One09 – Madison, WI - COM 4
FAR of 6, 14 Stories, 337 Units
17,000 SF of Commercial and Ground floor retail

430 E Grand Ave – Beloit, WI – COM 3
FAR 3, 4 Stories, 27 Units
10,000 SF Ground Floor Retail

Source: LiveOne09.com; CoStar

Station Area Synthesis

Summarizing Findings

Downtowns Poised for Density	Need for Multi-Family Development
Given the preexisting clustering of commercial activity, the downtown Station Areas (Rockford, Beloit, Janesville, Madison) are good candidates for future TOD that is mixed-use and higher density. There are recent examples of the trend towards mixed-use, including in Beloit.	There is a Corridor-wide need for additional housing supply proximate to transit options, particularly in Dane County. Suburban and exurban Station Areas represent opportunities for adding higher density, multi-family housing at a variety of price points.
Future Greenfield Opportunities	**Ample Brownfield/Greyfield Sites**
While most Station Areas would be characterized as downtown or suburban, there are a few greenfield sites in Station Areas (Milton, Beloit-Town Line Road, Rockford-North) that hold long-term opportunity to add large-scale development.	Several Corridor areas have ample brownfield and greyfield* sites that are poised for redevelopment, particularly in downtown (Rockford, Janesville) and suburban Station Areas that become underutilized.

**According to Chester County Planning Commission, Greyfield sites are sites with commercial development and public utilities that become underutilized over time due to changing market demand, lessened buying power, changes in consumer habits, or other factors.*

Section 5:
Opportunities & Impacts

Opportunities & Impacts

Purpose

The development of passenger rail to serve the SLATS and neighboring MPAs would have transformative benefits for the region. This section aims to illustrate these benefits using analysis and assumptions derived from earlier tasks (shown in **Sections 2-4**) and culminates in the estimate of impact of the rail system.

Rather than validating a specific program, **these impacts are meant to be illustrative, examining the attributes of prospective Station Areas in the context of broader regional economic trends** to determine a reasonable expectation of future growth – and how the region as a whole could benefit.

This section incorporates the following analysis:

- **General Transit Feed Specifications (GTFS)** analysis uses scheduling information from transit feeds to calculate potential origin-destination pairs under different levels of service (i.e., existing, local service, hybrid service, and express service) and trip times (i.e., 60-120 minutes).
- **Population and Employment Growth** analysis uses two methods to understand future growth projections for the SLATS and neighboring MPAs: use of publicly available data from cities, MPOs, and other entities to develop a "**conservative**" outlook of growth relying on historic trends; and the use of data from communities served by benchmark transit systems to develop a more "**aggressive**" outlook of growth, relying on aspirational densities achieved, influenced in part through passenger rail.
- **Capital Cost** analysis uses estimates from benchmark passenger rail systems to determine reasonable capital costs to implement service. Given that the Corridor is outside a major, single transit node, it is assumed that service to the Corridor would follow a "hybrid" format. The hybrid service format can be summarized through the following characteristics: higher frequencies throughout the day; more station-to-station travel possible; less reliance on a single node like a center city; use of a national system of railroads; and use of smaller-capacity trains known as diesel multiple-unit trains (DMUs).
- **Economic & Fiscal Impact** analysis incorporates key assumptions from prior tasks (including demographic analysis, real estate market analysis, parcel analysis, development typologies, and population & employment growth analysis) to estimate reasonable direct and indirect/induced benefits associated with passenger rail transit. These impacts would be marginal, associated with "net new" development that is TOD in character (i.e., relatively dense, walkable, and mixed-use).

Opportunities & Impacts

GTFS Analysis

Developing rail transit to connect Rockford, Beloit, Janesville, and Madison would unlock potential opportunities – including housing, jobs, healthcare, and other amenities – and enhance connectivity within the region. These opportunities are arguably greatest for residents of communities in the center of the corridor since they are currently located furthest from major employment centers at the nodes (i.e., Madison, Rockford), and stand to benefit most from trip time savings.

A **General Transit Feed Specifications (GTFS) analysis** was conducted to understand transit accessibility under different scenarios. The GTFS analysis uses transit schedule data to calculate how far one can travel by transit under different levels of service. The levels of service analyzed are defined below:

- **Existing –** The current public transit options on the Corridor include the Beloit Transit System, Janesville Transit, Metro Transit, Rockford Mass Transit District, and the expected extension of Metra service to Rockford.
- **Local –** Existing, plus rail service serving all stations along the Corridor (every few miles, represented by black dots on the map). Frequent stops means more coverage but slower speeds.
- **Hybrid –** Existing, plus rail service serving stations in downtown areas and a few growing, suburban destinations just outside of downtown. Coverage and speeds are moderate.
- **Express** – Existing, plus rail service serving downtown areas (Rockford, Beloit, Janesville, Madison) only, resulting in the fastest travel times.

In addition to time savings to a specified destination, there are benefits associated with additional transportation options other than private vehicle. Currently, a driver can depart Beloit-Downtown during morning peak (leaving between 6 and 7 am) and make it to Rockford-Downtown in approximately 45 minutes, to Janesville-Downtown in 30 minutes, and to downtown Madison in 1 hour and 15 minutes. These trip times are heavily dependent on traffic, particularly around downtown areas. Under a scenario with Express train service from Beloit-Downtown, the potential universe of destinations in a specified timeframe is significantly expanded. Departing from Beloit, a train passenger could reach downtown Madison in approximately an hour, and Janesville and Rockford in under 20 minutes. Under a Local service scenario, those travel times are increased to just under 2 hours to Madison and about 35 minutes to Rockford and Janesville.

These scenarios are analyzed further in forthcoming slides.

Source: GTFS data from transit agencies in Madison, Beloit, Janesville, Rockford; AECOM-generated GTFS data for Rockford-Madison rail service, as well as Rockford extension of Metra service. Analysis is based on sets of transit agency route networks and timetables published in a common format for use in software applications.

Opportunities & Impacts

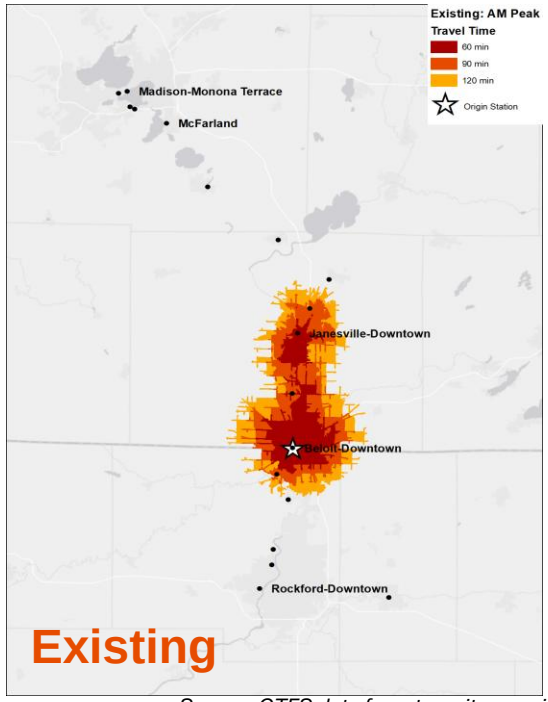
GTFS Analysis

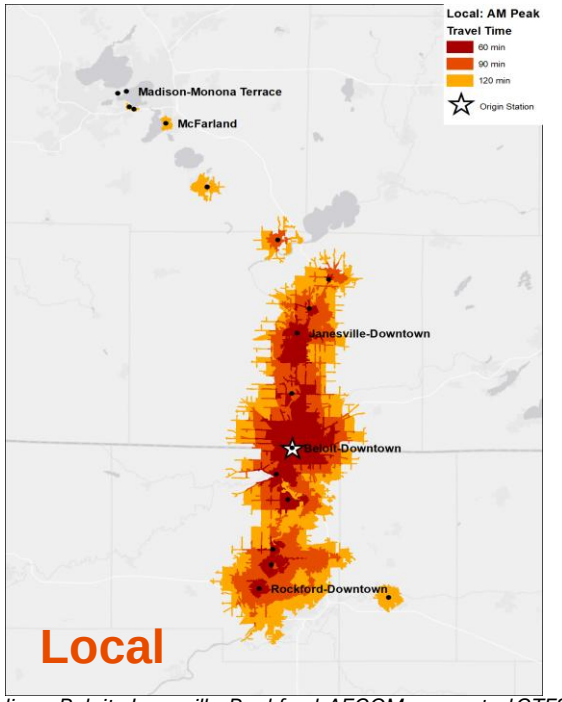
The maps below illustrate the **growth in destinations accessible via transit under the different rail service scenarios, using passengers boarding at a prospective station in Downtown Beloit during the AM peak as an example**.

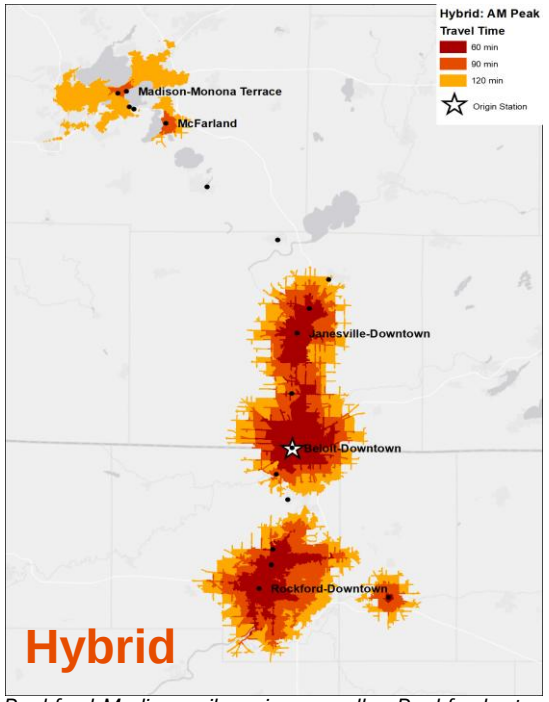
In the **Existing** scenario, the only locations that a traveler can reach by transit are within Beloit and Janesville (due to the presence of Beloit Transit System and Janesville Transit bus service). Given the limitations of the transit network, this map shows levels of access (in red/yellow colors) declining south of Beloit; passengers must seek other modes to complete trips (i.e., car, walk).

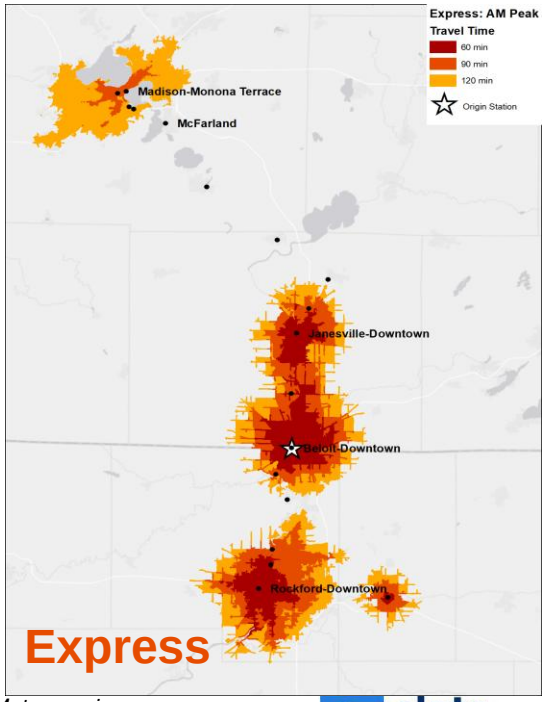
Under **Local** service scenario, a passenger departing from Beloit gains quality transit access to Rockford destinations, given direct access to downtown Rockford and nodes in northern suburbs, as well as connections to the Rockford Mass Transit District bus network. However, travel times to the smaller communities between Janesville and McFarland are likely too long to make this an attractive tradeoff. Travel times to Madison (~2 hours) are likely too long for all but the most dedicated commuter. There may be opportunities to connect to the Rockford Extension of Metra service to reach the Chicago recreational travel market for occasional trips.

The maps indicate that **Hybrid** or **Express** options are more likely to provide high quality service to a limited number destinations. With direct or near-direct service to downtown Madison in approximately 60 minutes, and opportunities to leverage connections to its Metro Transit bus network, transit becomes a viable option for commuters who would prefer to avoid the traffic and cost of driving into downtown Madison. However, the tradeoff between Hybrid/Express and Local service is that there is no change in transit accessibility for other communities along the alignment (e.g., Stoughton, Edgerton), which reduces the potential market of riders.









Source: GTFS data from transit agencies in Madison, Beloit, Janesville, Rockford; AECOM-generated GTFS data for Rockford-Madison rail service, as well as Rockford extension of Metra service.

Opportunities & Impacts

GTFS Analysis

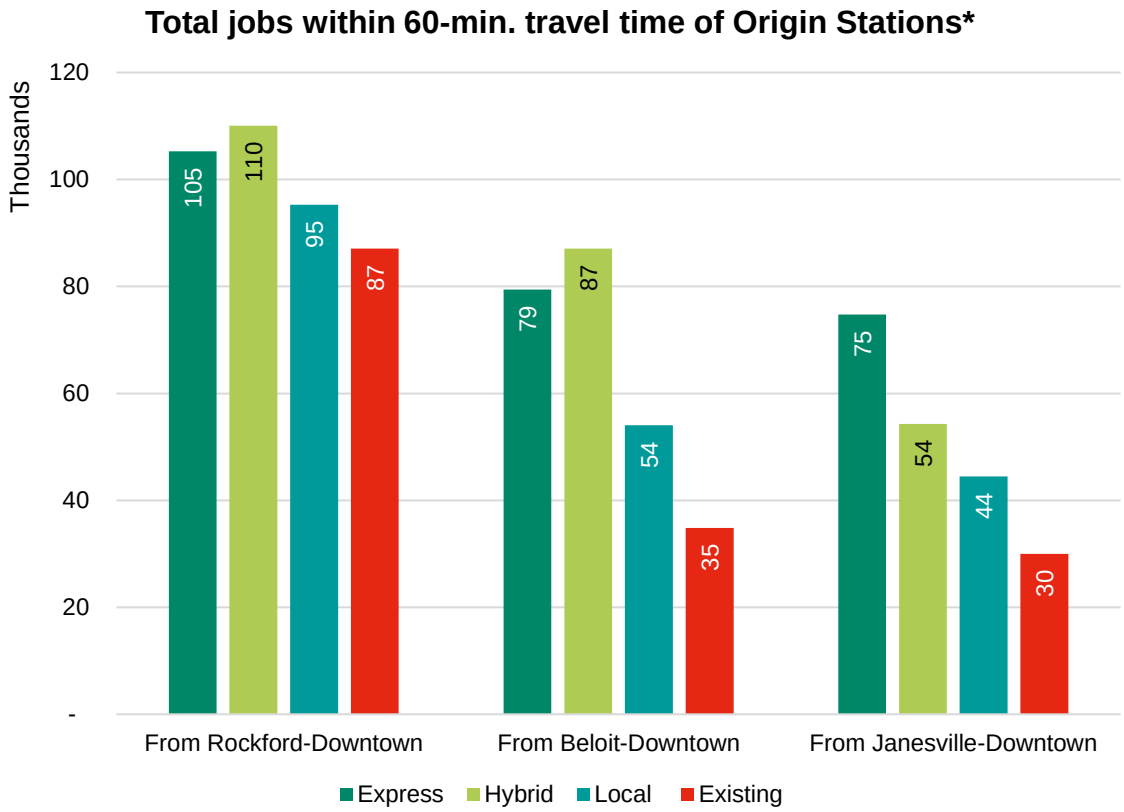
GTFS is intended to model transit accessibility under different level of service scenarios. **Increasing access to transit has many impacts on the population and employment trajectory of a given area.** For instance, residents without vehicle access can access jobs and other opportunities (i.e., housing, healthcare, education) located throughout the broader region.

When GTFS trip data is overlaid with demographic data, it becomes possible to understand potential futures under different scenarios. Census data was used to quantify the incremental difference between the size and character of transit sheds under the Existing scenario, and scenarios with rail transit under differing levels of service. Note that all scenarios include the Metra extension to Rockford, expected to begin service in 2027.

Downtown areas along the Corridor were the focus of this analysis, given that these are the most convenient station locations for the greatest potential number of riders. The chart at right shows the number of jobs accessible within one hour from each of the **Origin (i.e., boarding) Stations.**

The GTFS analysis shows a clear marginal increase in jobs under scenarios in which transit is added (i.e., Local, Hybrid, and Express service). This difference is **most significant for communities such as Beloit and Janesville that are located outside of larger urban centers**, such as Rockford and Madison. For instance, under the Express scenario, the transit shed grows significantly for Beloit-Downtown – number of jobs accessible from Beloit more than doubles, from 35,000 to 79,000; it's a similar story for Janesville. However, the difference is minimal for Madison, an area that already has large nearby market of residents and jobs.

This analysis is intended to illustrate the marginal impact of improving transit access from a population and employment perspective. **Even though this impact is most noticeable in communities where transit access is lacking and there is a smaller number of people and jobs in the immediate vicinity (i.e., Janesville, Beloit), there are benefits to be gained throughout the Corridor through improved access**. Given the large share of students and lower income individuals in Downtown Madison and Rockford, improved transit access would expand employment opportunities.



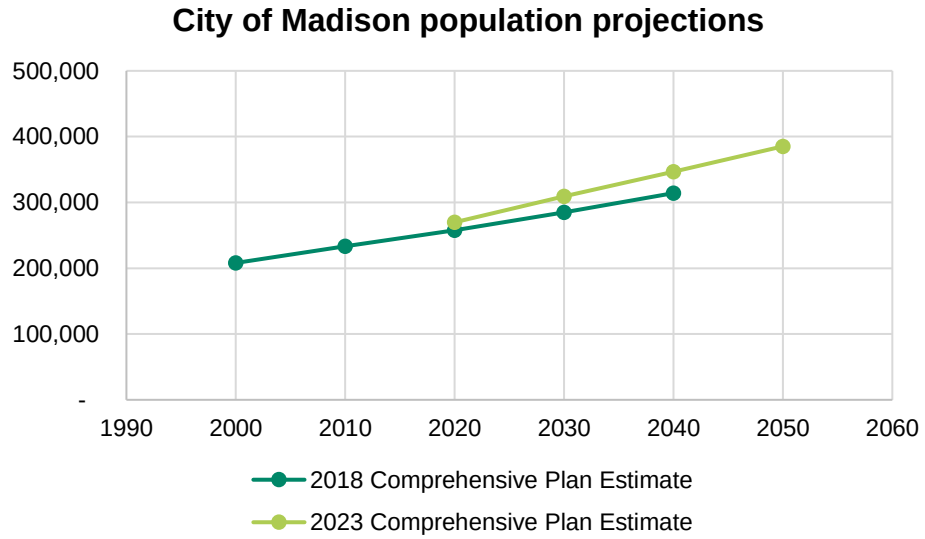
**Madison was omitted from charts due to the minimal difference in total jobs under different level of service scenarios (i.e., 167,000 jobs under Existing service and 170,000 jobs under Express service).*
Source: GTFS data from transit agencies in Beloit, Janesville, Rockford; AECOM-generated GTFS data for Rockford-Madison rail service, as well as Rockford extension of Metra service. ACS 2022 data .

Opportunities & Impacts

Population & Employment Growth

Growth projections are an integral component of the impact analysis, and inform the estimates of future impacts along the Corridor. In order to gain multiple perspectives on projected growth, several sources were consulted, including publicly available estimates from city and regional planning agencies, as well as Lightcast. Historic population and job estimates were also collected to compare projections against past trends. Given that the historic trends are not necessarily a predictor of future performance, it is critical to have several sources to compare in order to develop reasonable estimates.

Cities and counties along the Corridor are growing at different rates, with Madison communities growing the fastest. Madison has grown significantly over the past decade; population growth has outpaced projections outlined in the City's previous comprehensive plan from 2018, and Madison has since amended its projections. While Dane County comprises the majority of growth in residents projected for 2050, the workforces of Rock and Winnebago counties are expected to grow at a rate competitive with Dane County.



	2020 Households	2050 Households	Annualized Growth in Households	2020 Workers	2050 Workers	Annualized Growth in Workers
Dane County	238,722	347,785	+1.3%	336,925	477,436	+1.2%
Rock County	80,152	91,481	+0.4%	82,145	99,476	+0.6%
Winnebago County	117,226	118,424	+0.0%	151,075	174,313	+0.5%

Source: City of Madison; Winnebago County; Rock County; Dane County; WisDOT; AECOM

Opportunities & Impacts

Population & Employment Growth, Cont.

An alternative method for estimating growth is by evaluating population and employment characteristics of communities throughout the Midwest using historic census data at a granular level (i.e., 1 square mile). Several variables were analyzed, including population, employment, occupation by industry, and income. Density per-square-mile was estimated for each variable in order to easily compare across geographies.

An analysis of the Corridor communities reveals the following:

- Station areas in downtown Madison have the highest population and employment, and have also grown significantly since 2010.
- Despite their relatively low population and employment estimates, Downtown Beloit and McFarland have the highest rates of growth over the past decade.
- Rockford area stations have all declined in population and employment since 2010, with the highest rate of population decline in downtown Rockford.

	Population Density (2022)	Employment Density (2022)	Professional – Finance Job Density (2022)	Manufacturing Job Density (2022)
Dane County	2,660	1,582	324	106
Rock County	971	465	45	105
Winnebago County	1,465	585	82	122

Source: ACS, 2010-2022; AECOM

Station Area	Population Density (2022)	Population Density, Annual Growth Rate (2010-2022)	Employment Density (2022)	Employment Density, Annual Growth Rate (2010-2022)
Madison - Monona Terrace	5,322	3%	3,271	3%
Madison - Alliant	1,675	1%	1,036	2%
Madison - Belt Line	1,200	0%	717	2%
McFarland	754	4%	423	4%
Stoughton	840	0%	442	0%
Edgerton	528	0%	258	0%
Milton	154	-1%	87	0%
Janesville - North	767	1%	346	0%
Janesville - Downtown	2,019	0%	1,025	2%
Beloit - Town Line Rd	228	0%	112	0%
Beloit - Downtown	2,130	5%	962	6%
Rockton	611	0%	311	0%
Roscoe	304	0%	152	1%
Rockford - Elmwood	1,388	-1%	590	-1%
Rockford - North	2,368	-1%	1,001	-1%
Rockford - Downtown	2,656	-2%	872	0%
Corridor Average	**1,600**	**1%**	**840**	**2%**

Opportunities & Impacts

Population & Employment Growth – Benchmarks

In addition to analyzing density data for the Corridor, **benchmark communities throughout the Midwest with passenger rail networks were analyzed to generalize differences between density of jobs/residents and transit access.**

The following process was undertaken for this benchmarking analysis:

- 2010 and 2022 ACS data was collected for the U.S. at the block group level, and aggregated to 1-square mile "grids" in order to generalize data based on relative density.
- Transportation data was overlaid, and 1-square mile grids were summarized by the number of rail stops (or "touchpoints") within a buffer area, starting with "0" (indicating no rail access), and increasing to "10+" (i.e., 10 or more stops).
- Benchmark transit systems were selected based on their geography (i.e., focus on Midwestern areas, proximate to the SLATS MPA), employment composition (i.e., cities with a relatively large share of industrial jobs), and other factors.
- Benchmark data was gathered, using a 1-mile buffer area around transit stations.
- Benchmarks were analyzed at the 1-square mile grid level relative to the Corridor, including through population and employment job density metrics.

This analysis is intended to illustrate marginal differences between communities with passenger rail access. These benchmark geographies are clearly different from SLATS and neighboring MPAs in other respects, aside from transit – including industrial and employment composition, average age of development and infrastructure, and political support for transportation. All geographies associated with a transit system were included in the analysis, including downtowns, suburbs, and surrounding rural areas.

Results from this analysis are discussed in forthcoming slides.

Source: Hillrhpc; Chicago Magazine

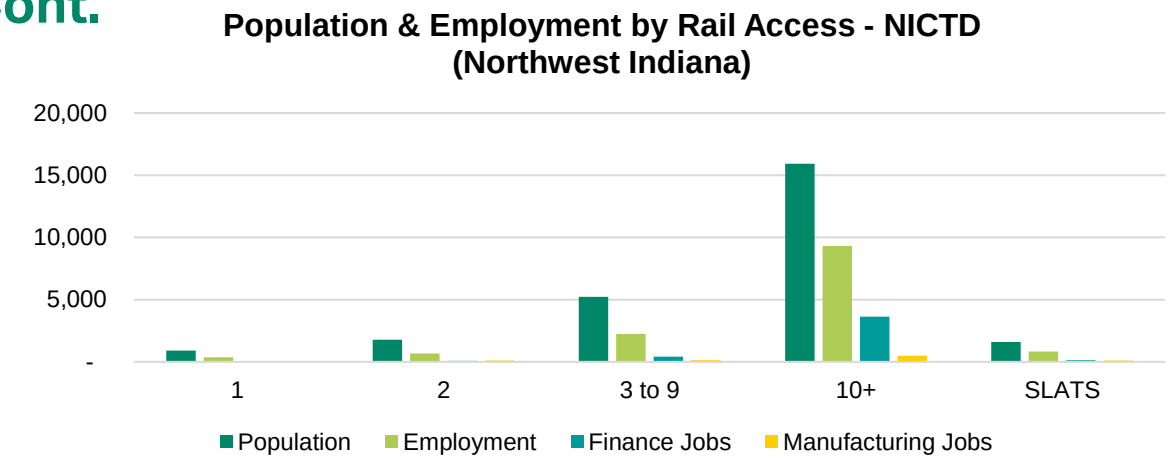
Opportunities & Impacts

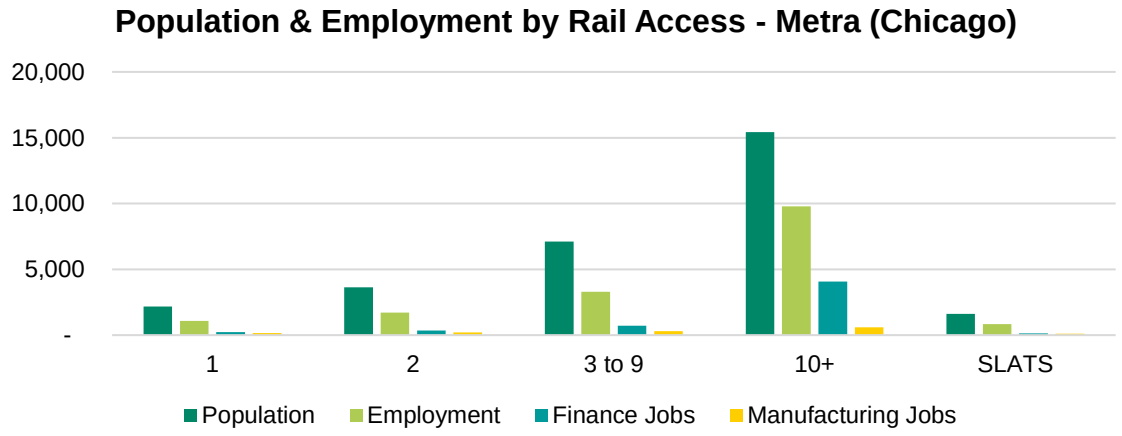
Population & Employment Growth – Benchmarks, Cont.

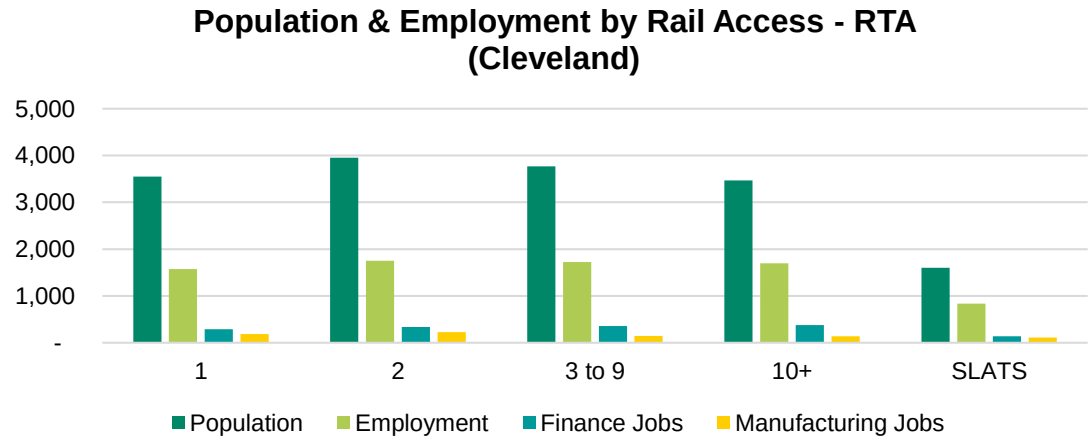
While there are clear differences between these benchmark cities that contribute to growth in population and employment aside from rail transit access, there is also a clear connection between rail access and density – although, this looks different depending on geography.

Several key takeaways from this analysis include the following:

- In Cleveland, increasing rail access doesn't necessarily correlate with more density. Cleveland Station Areas with rail show a marked increase in density, but density seems to peak when there are 2 rail stops.
- Chicagoland Station Areas show an incremental increase in density with increasing rail touchpoints.
- NICTD Station Areas indicate a clear spike in density when there are 10 or more stops.







Note: Population and employment data is shown as density per square mile
Source: ACS, 2022; respective transit agency websites; AECOM

Opportunities & Impacts

Population & Employment Growth – Benchmarks, Cont.

The Midwest passenger rail system benchmarks highlight the connection between rail access and job/resident density. **Communities served by benchmark rail systems exhibit higher population and employment density per acre, and the workforce is comprised of relatively more professional/finance jobs, and fewer manufacturing jobs (i.e., as a share of total jobs)**. However, some areas along the Corridor have outpaced rail system benchmarks in terms of growth since 2010 – this growth has been uneven, with Dane County capturing most of the job/resident growth over the past decade.

In addition to highlighting the connections between transit and job/resident density, the analysis of benchmarks provided insight into **"aspirational" density that the Corridor could achieve with the re-establishment of a passenger rail network**. On average, the Midwestern benchmarks exhibited population and employment density of over 2x the current SLATS Corridor average (i.e., 3,800 and 1,800, respectively). These benchmarks informed the "aspirational" density of the Corridor under a passenger rail scenario.

	Population Density (Per Acre, 2022)	Employment Density (Per Acre, 2022)	Professional – Finance Job Density (Per Acre, 2022)	Manufacturing Job Density (Per Acre, 2022)
SLATS Corridor - Existing	**1,604**	**836**	**141** *(17% of total)*	**108** *(13% of total)*
Greater Cleveland RTA	3,620	1,634	323 *(20% of total)*	172 *(11% of total)*
Metra	4,011	2,003	506 *(25% of total)*	200 *(10% of total)*
NICTD	3,682	1,790	508 *(28% of total)*	125 *(7% of total)*

Source: ACS, 2010 and 2022

Opportunities & Impacts

Capital Cost Implications – Overview

An element of the Passenger Rail Impact Study for the Rockford-Beloit-Janesville-Madison Corridor is to **develop initial estimates of the capital costs that would be required to implement service**. Two approaches were developed:

- **Use capital costs from passenger rail operations that provide service similar to what is is being contemplated for this Corridor** (expressed on a cost per route mile basis), and update capital costs prepared in 2008 for the South Central Wisconsin Commuter Transportation Study (SCWCTS).
- **Identify peer passenger rail operations along Corridors that do not directly serve a major center city**. As such, commuter rail services that serve work travel to the downtowns of principal cities were not included. Since the travel market is assumed to include work travel and other relatively short-haul trips, longer distance intercity passenger rail service (i.e., characterized by a limited schedule and wide station spacing) was determined not to match the service in the Corridor.

It was determined that passenger rail services labeled as "hybrid" rail best matched the service in the Corridor. These services are characterized by:

- Higher frequencies throughout the day, with more station-to-station travel possible, and less dependence on a single node like a center city.
- While work travel is likely the most important travel market, the higher trip frequencies and greater opportunity for station-to-station travel can also attract higher levels of non-work travel than is possible for commuter rail.
- Primarily operate on the national system of railroads.
- Typically operate with smaller-capacity light rail-type vehicles called diesel multiple-unit trains (DMUs).

Opportunities & Impacts

Capital Cost Implications – Benchmarks

The Federal Transit Administration's (FTA) National Transit Database (NTD) was the primary source to identify national hybrid rail operations, and provide relevant information on each system. The following table summarizes relevant information on four hybrid rail operations. All use DMUs.

Capital costs to implement each service are expressed in 2024 dollars using the Army Corps Civil Works Construction Cost Index System (CWCCIS Indices 30 September 2024). As shown, the weighted per mile cost is $19.8 million per mile.

Agency	Service	Service Start	Rte. Miles	Trains per Workday	Capital Cost (build year, $mils)	Capital Cost (in 2024 $mils)	Per Mile Adjusted to 2024 ($mils)
Denton County, TX	A-Train, Denton-Trinity Mills, Dallas, Fort Worth Region	2011	21.3	6	69	$347	$538
TriMet	Westside Express, Beaverton-Wilsonville, Portland Region	2009	14.7	5	20	$166	$278
Capital Metro	Metro Rail, north suburbs to downtown Austin	2010	32.1	10	20	$105	$169
North County Transit Dist.	Sprinter Hybrid Rail, Oceanside to Escondido, San Diego Region	2008	22.0	15	68	$477	$796
Sum/ Average			**90.1**			**$1,781**	**$19.8**

Source: AECOM estimates based on publicly available information, and stakeholder interviews/data

Opportunities & Impacts

Capital Cost Implications – Estimates

- The 2008 Transit Study for SLATS identified a network of possible passenger rail routes for further study, including the Rockford-Beloit-Janesville-Madison Corridor. The Corridor was represented by two segments, Madison-Milton-Janesville and Janesville-Beloit-Rockford. As a part of the Study, capital costs were estimated by identifying and quantifying the elements that would be necessary to implement and operate passenger rail service. These elements were then applied to unit costs based on generalized experience to rehabilitate or replace railroad infrastructure. The costing approach also included significant allowances for contingencies, given that the identified rail improvements were developed at a planning level.
- Costs were developed using assumptions to derive a low and high estimate for each Corridor. Varying assumptions included factors such as the following: acquisition of the rail right-of-way and infrastructure; the continuation of freight operations; and presence of another passenger rail operator in Rockford and/or Madison.
- The following table presents the 2008 estimates updated to 2024 dollars using the Army Corps Construction Cost Index System. The Corridors were combined to calculate Low and High cost per mile rates.
- Applying these per-mile capital costs to the proposed rail route length of 74.9 miles yields the following rough capital cost levels. This reveals that the investment is likely to be in excess of one billion dollars.

Cost Source	Per Mile Cost	Est. Cost of 75-mile Route in $mils
Hybrid Passenger Rail Systems	$19.8	$1,483
SCWCTS (low)	$16.0	$1,198
SCWCTS (high)	$21.3	$1,595

Corridor Scenario	Route Miles	Stas.	Capital Cost (in 2008 $mils)	Capital Cost (in 2024 $mils)	Per Mile, Adjusted to 2024 $mils
Madison-Milton-Janesville (low)	41	9	$386	$644	$15.7
Madison-Milton-Janesville (high)	41	9	$466	$778	$19.0
Janesville-Beloit-Rockford (low)	34	8	$333	$556	$16.3
Janesville-Beloit-Rockford (high)	34	8	$492	$821	$24.2
Sum/ Average (lows)	**75**			**$1,200**	**$16.0**
Sum/ Average (highs)	**75**			**$1,599**	**$21.3**

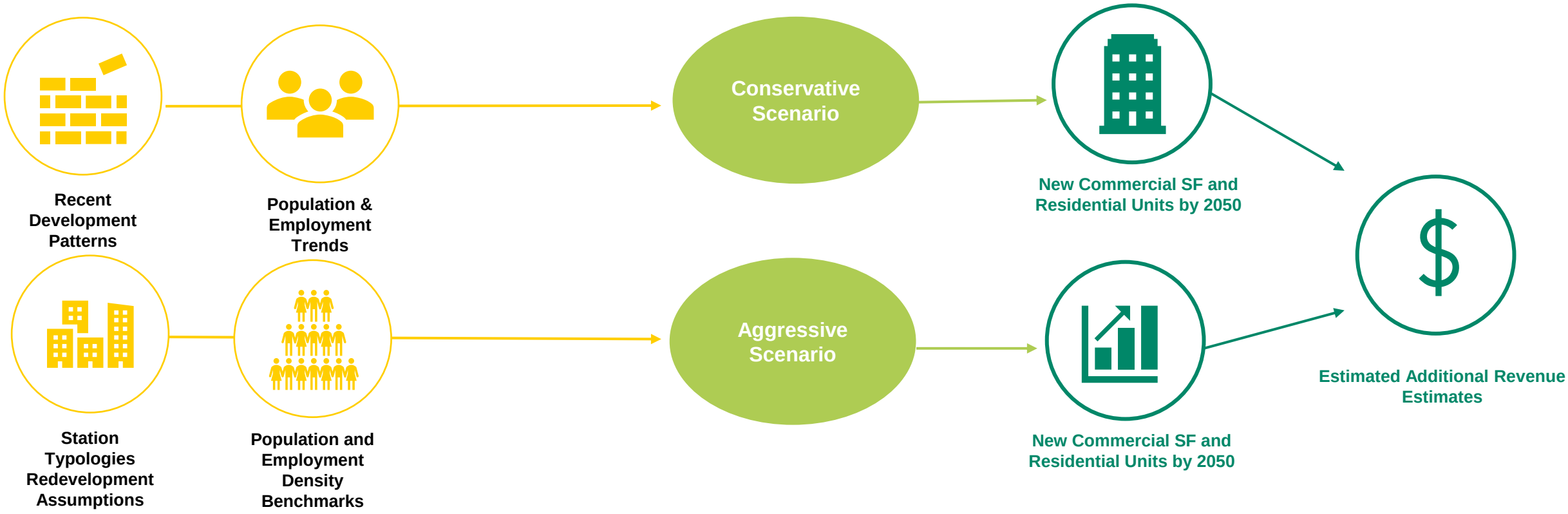
Source: AECOM estimates based on publicly available information, and stakeholder interviews/data

Opportunities & Impacts

Economic & Fiscal Impact – Methodology

With the development of passenger rail transit comes opportunities for new residents, housing units, jobs, and businesses along the Corridor between Rockford and Madison. The Impact Modeling exercise aims to **illustrate the marginal benefits of transit, in terms of direct, indirect, and induced benefits to the Corridor**. These benefits are estimated on an aggregate basis, for the Corridor as a whole.

The **Conservative Scenario** is developed through historic development trends, historic population and employment growth, and modest projected growth, based on reported data provided by regional MPOs and state DOT organizations. The **Aggressive Scenario** is developed through reasonable assumptions of future growth, based on benchmarks of growth in comparable communities with transit.



Opportunities & Impacts

Economic & Fiscal Impact – Assumptions

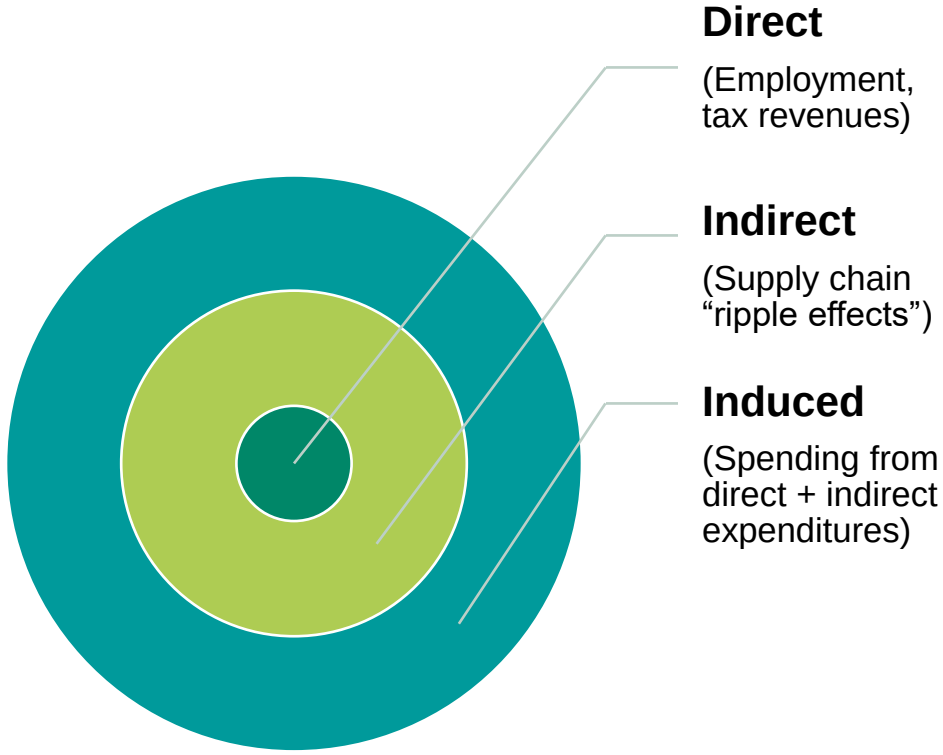
Economic and fiscal impacts are estimated based on a potential **real estate development program**, driven by marginal increases in population/employment (i.e., residents and jobs per square mile), and development density (i.e., floor area ratio). Using population/employment growth, and real estate development density metrics as a guide, an estimate has been prepared of the marginal economic benefits that would flow from the return of passenger rail transit to the region. Economic and fiscal impacts can be described as the **sum of economic activity within a defined region resulting from an initial event (i.e., "shock")**. This event causes ripple effects in an interconnected economy, and **direct**, **indirect**, and **induced economic impacts**. These collective impacts are often referred to as the "**multiplier effects**".

Estimates are illustrative, based on a set of assumptions about events in the future. Specific assumptions that informed this analysis are as follows:

- The development program assumes a mix of residential and commercial uses, and an approximate 30-year buildout. It is assumed that the required construction would unfold in the mid-term horizon, and that construction of this passenger rail transit system would take roughly 5-10 years to develop. However, timing of development is unknown, and would be phased in response to market conditions.
- These benefits are estimated in constant 2025 dollars and do not account for inflation.
- Input/output multipliers from Lightcast provide the basis of this analysis.

Definitions of these impacts are as follows; impacts are described further on subsequent slides:

- **Direct Impacts –** "First round" of impacts tend to create revenues at other firms, and employment for residents, as well as tax revenues to state and local governments (i.e., property taxes).
- **Indirect Impacts –** These subsequent ripple effects results from the direct impact, and are influenced by interdependencies between industries.
- **Induced Impacts –** Downstream impacts are due to new earnings created by direct and indirect changes. These earnings enter the economy as employees spend paychecks on goods and services.



Opportunities & Impacts

Economic & Fiscal Impact Estimates – Direct Benefits

Direct benefits are generated through the incremental addition of new job opportunities over the coming 30-year period, and through the development of new residential and commercial amenities for residents and workers. It is assumed that new development would be increasingly dense, walkable, and transit-oriented (i.e., TOD) in character.

These direct benefits associated with the development of passenger rail transit along the Rockford-Janesville-Beloit-Madison Corridor are summarized below:

- The development of a passenger rail network in the region (the event, or "shock") could lead to an estimated regional 22,000 – 29,000 jobs, in addition to 54,000 – 108,000 jobs resulting from the TOD construction. Over 30 years, these jobs could collectively lead to $40 billion – $57 billion in new regional output, and $3 billion – $5 billion in new fiscal benefits.
- It is assumed that Rock County Station Areas would capture approximately 40% of new residents, jobs, and real estate development stemming from the passenger rail network. Given that impact estimates are proportionate to this marginal growth, Rock County's assumed capture rate of overall impact is also 40%.

	Direct Benefits, Present Value	Conservative	Aggressive	Rock County Avg. Capture*
Direct Economic Benefits, New Regional Jobs, Linked to Transit Improvements	New Regional Jobs, 30 Years	22,000	29,000	9k - 12k
	Cumulative New Wages, 30 Years	$12,860,000,000	$16,951,000,000	$5.1B - $6.8B
	Cumulative New Regional Output, 30 Years	$31,998,000,000	$42,180,000,000	$12.8B - $16.9B
Transit Oriented Development New Construction Investment, Present Value	TOD Construction Jobs (Full-Time Equivalent)	54,000	108,000	22k - 43k
	Cumulative Construction Wages	$3,776,000,000	$7,553,000,000	$1.5B - $3.0B
	Cumulative Construction Investment	$7,553,000,000	$15,105,000,000	$3.0B - $6.0B
Fiscal Implications	Cumulative Property Taxes, 30 Years	$2,213,000,000	$4,425,000,000	$885.2M - $1.8B
	Cumulative Income Taxes, 30 Years	$601,000,000	$792,000,000	$240.4M - $316.9M
	Total Fiscal Benefits	$2,814,000,000	$5,217,000,000	$1.1B - $2.1B
Total Benefits, Cumulative, 30 Years	New Regional Jobs	22,000	29,000	9k - 12k
	New Construction Jobs	54,000	108,000	$22k - $43k
	New Regional Output	$39,551,000,000	$57,285,000,000	$15.8B - $22.9B
	New Fiscal Benefits	$2,814,000,000	$5,217,000,000	$1.1B - $2.1B

**Capture rate of Rock County impact is assumed to be approximately 40%, and is based on the County's share of overall potential resident, job, and real estate development (SF) growth. This column represents the range (i.e., low and high) estimates based on a 40% capture of the conservative and aggressive impact estimates.*
Source: AECOM estimates; $USD 2025

Opportunities & Impacts

Economic & Fiscal Impact Estimates – Indirect / Induced Benefits

Indirect and induced benefits are intended to capture the ripple effects of the development of a passenger rail transit system. These impacts have been estimated for TOD development and regional jobs.

Indirect and induced benefits associated with the development of passenger rail transit along the Rockford-Janesville-Beloit-Madison Corridor are summarized below:

- The development of a passenger rail network in the region (the event, or "shock") could lead to an estimated regional 19,000 – 27,000 jobs, in addition to 47,000 – 94,000 jobs resulting from the TOD construction. Over 30 years, these jobs could collectively lead to $3 billion – $6 billion in new wages, and $7 billion – $14 billion in new regional output.
- It is assumed that Rock County Station Areas would capture approximately 40% of new residents, jobs, and real estate development stemming from the passenger rail network. Given that impact estimates are proportionate to this marginal growth, Rock County's assumed capture rate of overall impact is also 40%.

	Indirect and Induced Benefits, Present Value	Conservative	Aggressive	Rock County Avg. Capture*
Indirect / Induced Economic Benefits, New Regional Jobs, Linked to Transit Improvements	Jobs, Year 30	19,000	27,000	8k - 10k
	Total Wages, Year 30, Present Value	$880,000,000	$1,771,000,000	$352M - $642M
	Total Regional Output, Year 30, Present Value	$2,025,000,000	$3,240,000,000	$810M - $1.2B
Transit Oriented Development New Construction Investment, Present Value	Jobs, Year 30	47,000	94,000	17k - 34k
	Total Wages, Year 30, Present Value	$1,990,000,000	$3,981,000,000	$720.4M - $1.4B
	Total Regional Output, Year 30, Present Value	$5,459,000,000	$10,918,000,000	$2.0B - $4.0B
Total Benefits, Year 30	Jobs, Year 30	66,000	121,000	25k - 44k
	Total Wages, Year 30, Present Value	$2,870,000,000	$5,752,000,000	$1.1B - $2.1B
	Total Regional Output, Year 30, Present Value	$7,484,000,000	$14,158,000,000	$2.8B - $5.1B

**Capture rate of Rock County impact is assumed to be approximately 40%, and is based on the County's share of overall potential resident, job, and real estate development (SF) growth. This column represents the range (i.e., low and high) estimates based on a 40% capture of the conservative and aggressive impact estimates.*
Source: AECOM estimates; $USD 2025

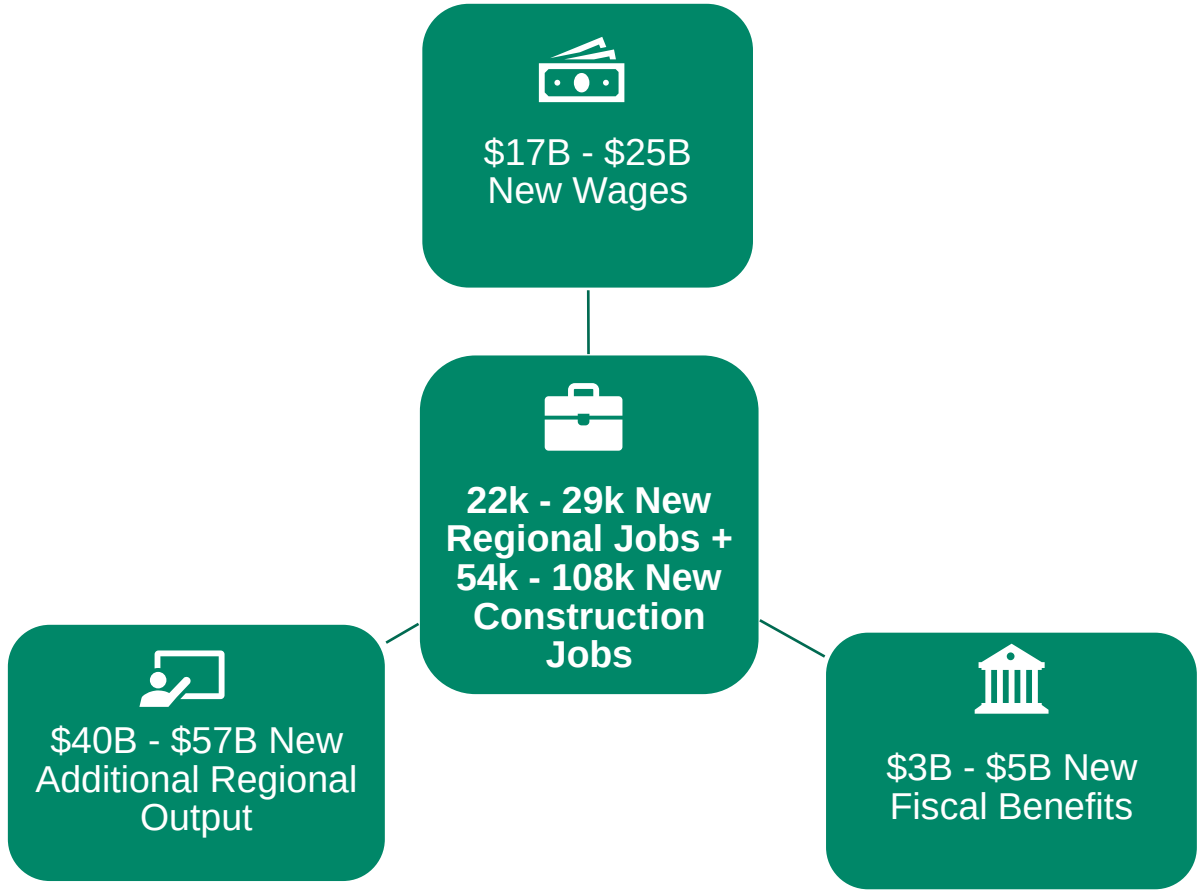
Opportunities & Impacts

Economic & Fiscal Impact Estimate – Summary

The absence of rail service in this region constitutes a major gap in the transportation network. While certain segments of the Corridor have outpaced growth in the region (i.e., Madison), this growth is uneven. Rail represents an opportunity to provide new levels of access to job/housing opportunities.

Key opportunities that could be unlocked through the development of passenger rail transit:

- **#1 – New Jobs and Residents to the Region:** Compared to its peer communities in the Midwest that have rail transit access, communities along this Corridor are about half as dense in terms of population and employment. If the Corridor communities increased in density over the coming decades to more closely match peer communities, there would be sizable impacts.
- **#2 – New, Quality Housing Inventory:** Rock and Winnebago communities have excess development capacity (i.e., greenfield and brownfield sites) compared to communities in Dane County, and housing is far more affordable in these communities. There is an opportunity for these communities to fill the housing gap, as new residents and workers are drawn to more affordable communities outside of major downtown areas – these communities would still be accessible via passenger rail transit.
- **#3 – Expand Access to Opportunity Through Rail Transit:** There is currently a sizable share of residents along the Corridor, particularly in downtown areas, that do not have daily access to a vehicle. By providing another transportation option to residents and workers, there are additional opportunities to access amenities (i.e., education, workforce development, healthcare, etc.)



Note: Estimates above reflect direct economic benefits (i.e., jobs, wages, output, and fiscal impact).
Source: AECOM estimates; $USD 2025

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