Dylan Gehring

Urban Planning Portfolio

Ball State University

March 18, 2021

City of Greenville, South Carolina
206 S Main St
Greenville, SC 29601

Dylan Gehring
412 2nd St W
Northfield, MN 55057

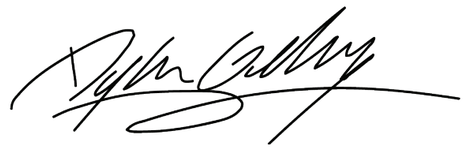
Mayor Knox White,

I am highly interested in applying for a position as a 2021 paid summer intern with the Mayor's Office of the City of Greenville. Under your leadership, Greenville has blossomed into an unparalleled mix of cultural amenities, pedestrian prioritization, and natural and architectural beauty that creates an exceptional quality of life. With that understood, I can definitively say it is my favorite city I have ever visited.

Aside from this enthusiasm, the knowledge and experience I have obtained from my three years in the Department of Urban Planning at Ball State University render me as an ideal candidate for the position. In terms of professional skills, I am well versed in data and geospatial analysis, regularly obtaining information from various sources to study specific geographic areas. Concerning mapping and site design, I can create my own illustrations for potential land use programs, and when it comes to community engagement, I have already spent an entire semester building an action plan in collaboration with an underserved neighborhood. Furthermore, I also enjoy giving presentations and using graphic design skills to create visually pleasing documents. Lastly, I have consistently performed to an exemplary standard academically, earning a 3.98 cumulative GPA, and will serve the Mayor's Office with the same accountability and vigor.

With these skills, I hope to serve you this summer, as I am enthusiastic about Greenville, equipped to produce a broad range of high quality work, and driven to learn from one of the best examples of revitalization in the country. Thank you for your time and review of this portfolio; I look forward to hearing your thoughts.

Sincerely,



Dylan Gehring

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Contact Information

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LinkedIn Profile
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Education

Bachelor's of Urban Planning
and Development, History Minor

Ball State University
Muncie, IN
Junior, Class of 2022

Northfield High School
Northfield, MN
Class of 2018

Professional Skills

- Data & Geospatial Analysis
- Site Design
- Land Use & Comprehensive Planning
- Formal Writing & Presentation
- Grant Writing

Technical Skills

- SketchUp
- ArcGIS Pro
- Adobe Creative Suite
- Lumion
- Microsoft Office

Experience

Mayor's Youth Council (2017-18)
Advisory Board to the City of Northfield, MN

Knecht's Nurseries & Landscaping (2019)
Northfield, MN
Seasonal Sales Associate

Cub Foods (2020)
Northfield, MN
Associate

Notable Courses

PLAN 303
Economic Development Studio

PLAN 302
Neighborhood Analysis Studio

PLAN 498
Engaging Communities of Color

PLAN 202
Site Design Studio

References

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All individualized pieces, each of these narrative samples demonstrates excellency in a different writing technique. They also cover a broad range of topics, representing the diversity of written work I have produced thus far.

Policy Memo

Very typical documents in a workplace environment, this memo is not only a testament to my ability to write one, it also introduces the contents and rationale for an overlay district I proposed along Indiana's State Road 13, just south of its interchange with Interstate 69. Overall, this piece illustrates an advanced understanding of land regulation, as well as how planners can use it to ensure the creation of great places.

Executive Summary

An important piece for precursing extensive documents, I wrote this executive summary for the Industry Neighborhood Action Plan, which features several sections of research and recommendations. The summary demonstrates my ability to write concisely and my value as a document contributor.

Technical Paper Excerpt

This excerpt was another one of my contributions to the Industry Neighborhood Action Plan. The extensive section was written in response to field observations and community input as they related to neighborhood infrastructure. It concludes by detailing a SWOT analysis and recommendations for moving forward. Including this excerpt displays my aptitude for formal, technical writing.

Research Paper Excerpt

Lastly, this piece is an excerpt from a paper I wrote about East Central Indiana's Gas Boom, which occurred between 1886 and 1920, and was highly influential on the region's economic development. This paper demonstrates my ability to thoroughly research, write in a creative, yet formal style, and finally, my interest in learning about my surroundings.

TO: Greg Valentine, Green Township Trustee
FROM: Dylan Gehring
DATE: January 19, 2021
SUBJECT: State Road 13 Corridor Plan

Introduction

The State Road 13 corridor is an overlay district proposed for a one-third mile stretch along SR-13, extending south of Interstate 69, beginning at exit 214. It will cover 83 total acres and shall be applied in addition to the standards already set forth in the Madison County Zoning Ordinance.

Rationale

As the Indianapolis metropolitan area continues to sprawl in reaction to anticipated population growth, countless planned urban developments that forgo walkability, architectural and neighborhood character, and environmental concerns will continue to emerge in a disorganized fashion. The SR-13 corridor outlined in this document offers an alternative to Madison County's Green Township, which would instead emphasize the idea of a microcity at the center of future development. Sidewalks, storefronts, bicycle lanes, and street trees would complement a variety of housing options to create an urban area in a suburban context. Many of residents' needs could therefore be furnished locally and accessed without a personal vehicle, reducing Green Township's carbon footprint, and fostering a deep sense of community centered around a space designed foremost for people.

Standards

Standards recommended in the SR-13 Corridor Plan emphasize six areas: Blocks/Lots, Streets, Architectural Design, Landscaping, Fencing/Screening, and Signs. These include establishing the block types of Town Center (B-TC), which enforces the mixed-use pedestrian atmosphere that will become the face of the development, State Road Adjacent (B-SRA), which seeks to visually improve the type of development already taking place, and Medium Density Residential (B-MDR), which establishes additional multi-family living options.

Implementation

The standards required to create this enticing vision of new development are already contained within this document. The most crucial step remaining is for each of them to be carefully considered and drafted into legislation. From there, state and local funds should be allocated to create the street types required for each block, and financially responsible, non-design related incentives can be developed for private market players.

Industry Neighborhood Action Plan

Executive Summary

Industry is located southeast from downtown Muncie, Indiana, and is bounded by Walnut, Willard, and Madison Streets, Macedonia and Ohio Avenues, Memorial Drive, and a railroad line. This historic neighborhood is defined by Heekin Park, one of Muncie's largest public spaces, architecturally unique homes, and a strong sense of community.

The Industry Neighborhood Action Plan was created by nine Ball State urban planning students under the supervision of Dr. Teresa Jeter. The overall objective of this document is to provide Industry residents and their leadership, the Industry Neighborhood Association, with insightful data about where they live, consolidated feedback from fellow community members, and a collection of in-depth opportunities to enhance the neighborhood holistically. This was achieved through detailed field observations, community meetings, and exploratory studio concepts.

The document is divided into several sections that include demographics, housing, vacant lots, infrastructure, businesses, parks, and a 14-block focus area bounded by Kirby Avenue and Hackley, Willard, and Madison Streets. Each section outlines the strengths, weaknesses, opportunities, and threats as identified by Industry residents and other community stakeholders. Opportunities tied to these seven topic areas are explored in depth, and are presented alongside captivating renderings, which detail reimagined spaces.

The Industry Neighborhood Action Plan offers several case studies as examples of future development opportunities, organizes priorities and timelines to best facilitate action steps, and provides resource options and contacts for financial and partnership assistance.

Industry Neighborhood Infrastructure

Introduction

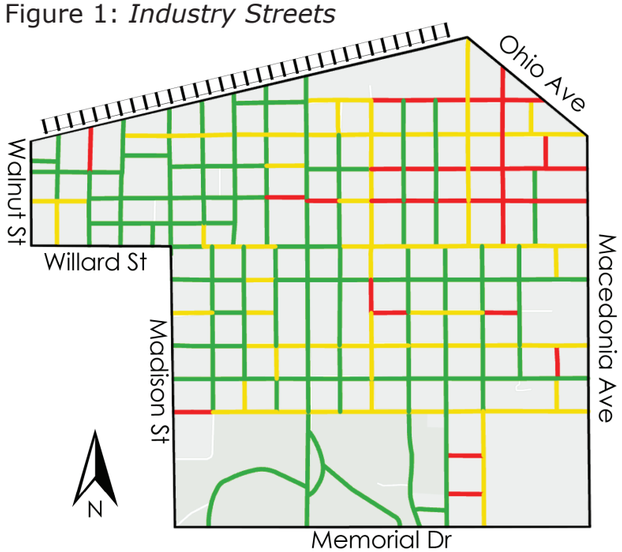
Infrastructure like streets, sidewalks, and alleyways is the basis for mobility in Industry. It keeps residents moving by vehicle, bicycle, and on foot. Unfortunately, the level of attention given to infrastructure has subsided over the years. Though the neighborhood's automotive thoroughfares tend to be smooth and uniform, side streets, sidewalks, and especially alleyways have been neglected. Presented here are a series of maps outlining current conditions.

Streets

Over 80% of Industry's streets are in either good or fair condition. Examples of good and poor streets in the neighborhood are displayed in *Figures 2* and *3*. A street is considered "good" if it has uniform pavement that is largely devoid of cracking and other irregularities. In other words, "good" does not necessarily denote a street that has been recently repaved, rather one that is highly functional. Fair streets retain most of their functionality, but are older, have significant cracking, and have often been patched as a way of avoiding their outright replacement. These streets need to be repaved sooner, rather than later. Finally, poor streets have significant potholes, cracks, and patches, which have the potential to damage vehicles traveling over them. Repaving poor streets should be a top priority.

The best and worst streets tend to be concentrated in particular areas of the neighborhood. For example, the Millennium Place housing near Willard and Madison Streets boasts some of the best pavement in the neighborhood. These streets are well-maintained with decorative lighting, landscaping, and stormwater systems. Such highly functional streets boost safety and

Figure 1: *Industry Streets*



Graphic by Will Snyder

Figure 2: *Good Street*

Figure 3: *Poor Street*

image, especially for those first entering the Industry Neighborhood from Madison Street. Alternatively, a concentration of poorly rated streets exists in the northeastern portion of Industry, toward Ohio and Macedonia Avenues. Critical streets for repaving include 9th Street, as it runs along Heekin Park, and the eastern half of 2nd Street, as it is the street with the most blocks rated as "poor."

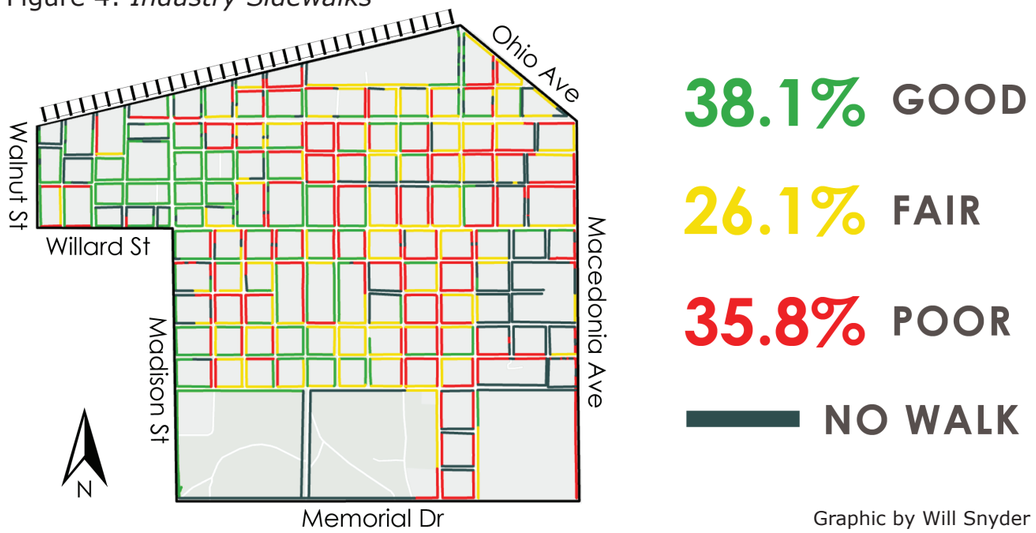
Sidewalks

Sidewalks are perhaps the most evident flaw in Industry's infrastructure. With just 38.1% of sidewalks considered "good," and almost as many "poor," the ability for the neighborhood to serve pedestrians is severely limited. In addition, there are many missing sidewalks disrupting the network, as seen in *Figure 4*. Furthermore, even if a sidewalk is considered good, adjacent vacant lots can produce vegetation that makes the pavement impassable or unusable.

As a consequence of the existing sidewalk conditions, several residents have expressed that pedestrians are forced to walk on the street. This is concerning, as some streets are known for fast-moving traffic and increasing levels of on-street parking (a result of alleyway disuse), which limits visibility between moving vehicles and those on foot. Additionally, unusable sidewalks create more challenges for those with mobility issues, such as pedestrians who require a wheelchair, walker, or cane. Lastly, good, safe sidewalks can benefit the visual appeal of an area, an important part of ensuring a rising status for Industry among Muncie's neighborhoods.

Dissecting the metrics used to grade Industry's sidewalks, there were three ratings: good, fair, and poor. Neighborhood examples of good and poor can be seen in *Figures 5* and *6*. The ability for something with wheels (such as a stroller, wheelchair, or

Figure 4: *Industry Sidewalks*



Graphic by Will Snyder

scooter) to move along each block was the top consideration when rating sidewalks. Thus, good sidewalks can easily facilitate such movements, as they have smooth pavement free from any detrimental decay. In turn, fair sidewalks span the entire length of a block, from corner to corner, but feature significant deterioration, such as the separation of squares, cracking, or invasion by weeds and grass. While fair sidewalks are still functional, using them can be somewhat challenging.

Finally, *Figure 6* shows an extreme case of a poor sidewalk. In the image, the roots from a large street tree have uplifted several of the squares, pushing them diagonally upwards into an adjacent yard. Years of neglect have led to the deposition of dirt onto the pavement, while farther down, there is a drop of several inches. This is a very dangerous condition, as pedestrians could easily trip and hurt themselves. In addition, the use of such a sidewalk by anything with wheels would be out of the question.

Figure 5: *Good Sidewalk*

Figure 6: *Poor Sidewalk*

While the aforementioned case is worth discussing, it should be noted that it does not represent all poor sidewalks in the neighborhood. Some others received a "poor" rating simply because they stopped halfway down the block, or the pavement was barely visible.

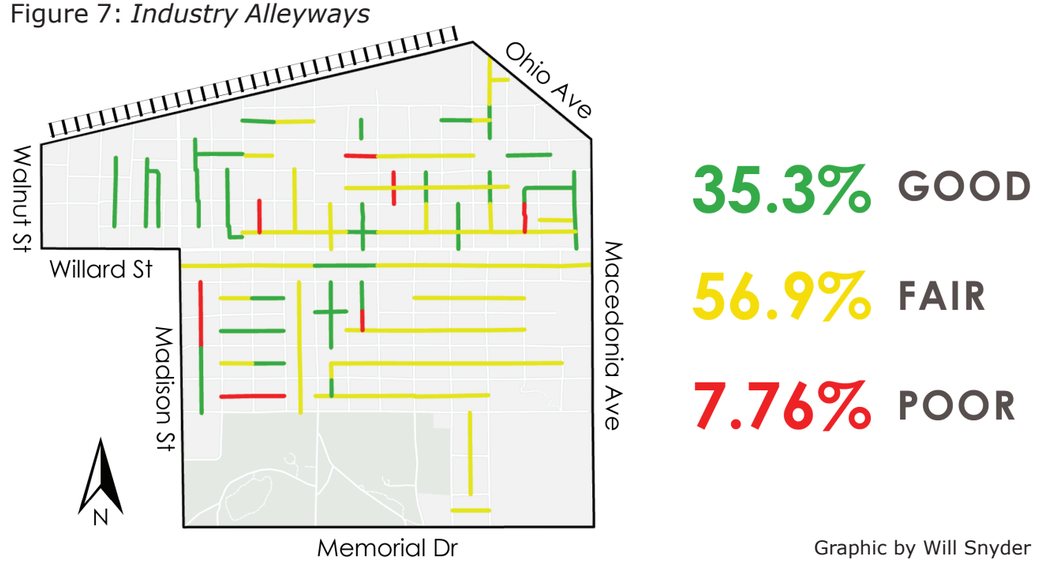
Alleyways

The majority of Industry's alleyways were never paved. Examples from the neighborhood can be seen in *Figures 8* and *9*. Good alleyways have minimal problems with overgrown vegetation. They are easy to drive through and have shallow divots, if any. Fair alleyways are more challenging to drive through, but are not impassable. Finally, poor alleyways have become so obstructed, whether by vegetation or other means, that they are no longer functional.

At 56.9%, the overwhelming portion of Industry's alleyways received a "fair" rating. When these are combined with the 35.3% that are rated "good," over 92% of alleyways are still usable. The best alleyways in the neighborhood are concentrated around Millennium Place, near Willard and Madison Streets. Refer to *Figure 7*. It is worth noting these new homes were constructed with alleyways, which reflect the history of the neighborhood. They demonstrate that they are still a useful convention. Alleyways in poor condition are only a block or two in length, meaning they could be cleared and indoctrinated back into the network.

Lastly, the alleyway between Willard and 5th Streets is significant in that it is the only alley that runs across the

Figure 7: *Industry Alleyways*



Graphic by Will Snyder

Figure 8: *Good Alleyway*

Figure 9: *Poor Alleyway*

entirety of the Industry Neighborhood. Design studies on later pages showcase an opportunity to use this as the spine of an innovative bike trail network.

SWOT Analysis

A SWOT analysis was conducted by the studio at the second community meeting. Based on feedback from neighborhood residents and other community stakeholders, charts such as *Figure 10* were created to explain several components of the neighborhood, including infrastructure. Beginning with strengths, the three most important identified for infrastructure were the good condition of larger neighborhood roads, four MITS bus routes, and slower traffic on some side streets.

The most major weakness identified was the deterioration of alleyways in Industry. Their low level of use feeds into the second weakness, unnecessary street parking. The third weakness was infrequent repaving of streets that are less traveled. Instead, the patching of potholes on these streets has been used to avoid needed, complete resurfacing.

Next, opportunities identified for the Industry Neighborhood were the installation of additional streetlights to increase night safety, the transformation of some alleyways into bike trails, and the implementation of traffic calming mechanisms to enhance local beauty and walkability.

Finally, residents identified threats to infrastructure improvement, which included inconsistent local government assistance and representation. This contributes to the lack of annual street maintenance. Finally, the unsafe condition of current infrastructure is also a threat to the neighborhood.

Figure 10: *Infrastructure SWOT*

STRENGTHS
- Main thoroughfares in good condition: Kirby, Madison, Willard
- Service from four MITS routes
- Slower traffic on narrower streets

WEAKNESSES
- Alleys underutilized, unmaintained, unsafe with lack of lighting
- Street parking happens on both sides, no signage for it
- Pothole repair used to evade repaving

OPPORTUNITIES
- Installation of street lights within the blocks, not just on corners
- Utilizing some alleys as bike paths
- Traffic calming, such as bump-outs, landscaped parkways, and medians

THREATS
- Inconsistent government leadership and representation
- Unsafe and poor condition of sidewalks and streets
- Lack of annual street maintenance

Infrastructure Priorities

Based on the prior analyses, *Figure 11* shows several proposals to improve Industry's physical infrastructure deficits. The chart is organized with estimated project costs on the vertical axis, and priority on the horizontal one. Proposals are also color-coded, so those that are of high priority for the near future are orange, medium priority are yellow, and long-term goals are green.

The most critical, yet likely highest cost proposals include resurfacing all "poor" rated streets and sidewalks. This would address some of the neighborhood's most critical issues and ensure the elimination of infrastructure-related

Figure 11: *Infrastructure Priority Chart*

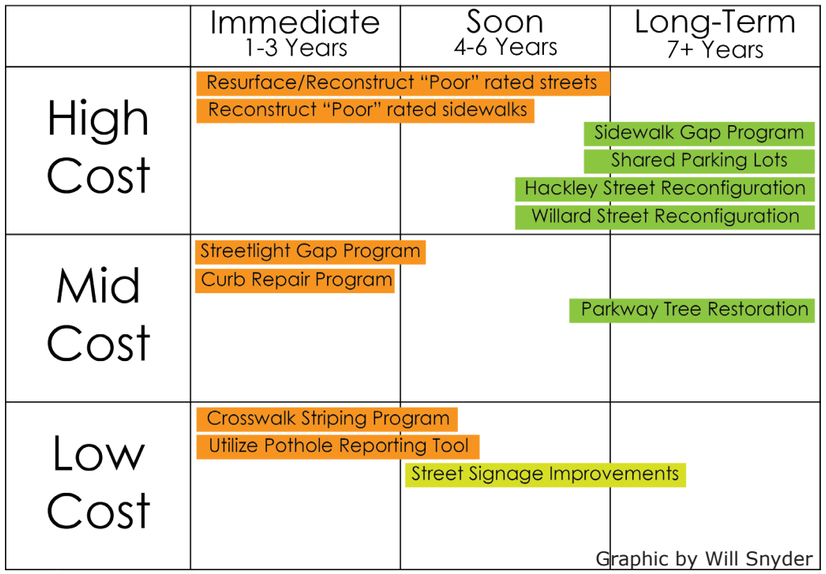
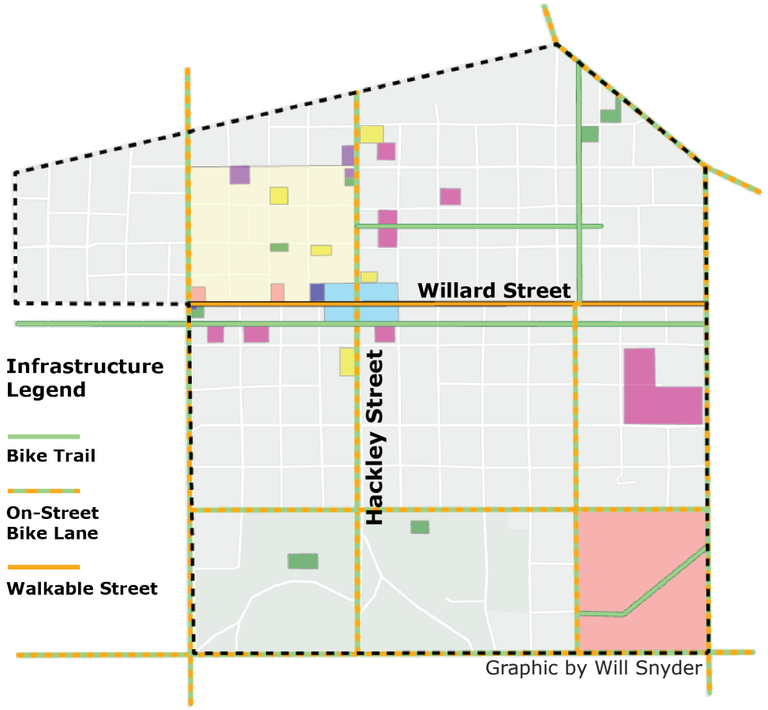


Figure 12: *Infrastructure Proposals*



hazards to vehicles, cyclists, and pedestrians. It would also help improve the overall image of the neighborhood. Adding street lights at points along the middle of blocks is a mid-cost, yet still immediate suggestion, as is repairing existing curbs. Industry residents suggested the additional streetlights to increase night safety. Finally, crosswalk striping and the continued patching of potholes are low-cost options that can be immediately implemented.

As a medium level priority, street signage should be added throughout the neighborhood, such as "no parking" signs to discourage street parking where it is undesirable to residents. Other signs that could be used include those denoting crosswalks and speed limit signs. These would be relatively low in cost to implement.

Lastly, are the high and medium cost long-term proposals. While these are not critical to daily life in Industry, if undertaken, they would serve as excellent enhancements to the neighborhood's transportation network. These include a sidewalk gap program to fill in sidewalks on blocks where they are missing, the creation of new parking lots to be shared by neighborhood churches and businesses, and the addition of trees along streets where they are missing. Also, the reconfiguration of Hackley and Willard Streets would increase walkability, add beauty, and promote cycling in the neighborhood. The proposals for these complete streets can be seen in *Figure 12*.

Flambeaux to Factories

The Gas Boom and Economic Development in East-Central Indiana, 1886-1920

Natural gas is highly desirable as a fuel, which is why industry and population growth historically pursued sources of it across the United States. It is odorless, unlike coal, does not produce ash or soot, and can be piped anywhere, including directly into homes or factories (Glass, 2000, p. 317). Furthermore, gas is "especially valuable as a fuel in working upon glass, iron, and steel, which require an even, intense heat" (Wynn, 1906, p. 36). Logically, these went on to become east-central Indiana's most popular types of manufacturing. Finally, in most cases, gas was a much cheaper fuel source than its alternatives, yet another incentive for those corporations looking to cut costs (Wynn, 1906, p. 40).

By the later 1880s, it had become clear to manufacturers in Ohio and Pennsylvania that the gas supply in their smaller reservoirs was wearing thin. In response, industrialists from these areas began searching for a new, untapped reservoir (Wynn, 1906, p. 32). In March of 1886, speculative drillers in Portland, Indiana were met with success. They had struck the Trenton Gas Field. Covering over 2,500 square miles and 11 Indiana counties, it was at one time the largest known gas field in the United States (Glass, 2000, p. 313). Months later in October, Eaton, Indiana became home to the first profitable gas well, where gas shot 10 feet into the air, which, when lit on fire, could be seen from 12 miles to the south in Muncie (Glass, 2000, p. 315). Visitors came to see the spectacle that was essentially free advertising for the area's new commodity, and the Gas Boom began.

As previously stated, the communities of Muncie, Anderson, Marion, and Kokomo were those that benefitted most from the Gas Boom. When the era began in 1886, they were already the most populous cities in the region, but only claimed a few thousand residents each. As nearby gas gained value and attention, these small cities realized the economic benefit they could derive from extracting it, as well as their strategic positioning at existing rail junctions (Glass, 2000, p. 314). However, this notion was not without due diligence. For example, an 1886 writer in Kokomo's Gazette-Tribune publicly debated the topic of drilling, asking who will "pay for spoiling all [their] drinking water and ruining [their] good fishing holes along Wildcat [Creek]." He continued by also addressing the potential effects of an industrial boom and how it could transform Kokomo into something unrecognizable (as cited in Richardson, 1958, p. 1). Nevertheless, the opportunity seemed one too irresistible to pass by, and each town began to embrace their geological gift.

Community members quickly became local investors and formed their own cooperative groups to drill for the natural gas. Others in Kokomo used

their local newspaper to organize a mass of people who would be willing to support the endeavor by providing a $100 investment each (as cited in Richardson, 1958, p. 2). Their search began on September 13, 1886, with gas located south of Wildcat Creek shortly thereafter on October 6 (Richardson, 1958, p. 1). In Muncie, locals created the Muncie Exploring Company on September 23, 1886, and located gas 980 feet underground (HM:PMN, 2012). Marion and Anderson had similar stories, tapping the Trenton Gas Field in February and March of 1887, respectively (Glass, 2000, p. 318-319).

As community groups demonstrated the extraction of natural gas was profitable, external investors and businesses were attracted to the region. This was the first sign of success in their economic stimulation attempt. At the time, anyone owning land above the reservoir could create a well and extract the resource, providing they had the capital to do so. Logically, land speculation began, and pandemonium ensued (Wynn, 1906, p. 33). For example, "as real estate prices rose, a syndicate of investors from Ohio, New Jersey, and New York organized the Muncie Natural Gas Land Company" (Glass, 2000, p. 317). This group competed against the Delaware County Land Improvement Company to plat subdivisions and factory sites with ample access to gas. In nearby cities, this became a familiar pattern as well, with other examples, such as the Kokomo Improvement Company.

The Marion Real Estate Company achieved much success. Over just three years, the group was able to bring in 11 new manufacturers to the town (Glass, 2000, p. 320). Additionally, other investors George L. Mason, William H. Wiley, and Thaddeus Butler were very important to Marion's gas-related growth. They added over 500 acres to the west of the town, built a streetcar line, and created a large avenue named for Mason. In order to attract customers, the trio also ran trains between the town and the industrial city of Buffalo, New York regularly. On top of this, they even created newspaper advertisements with the phrase "Marvelous Marion" in large text (Glass, 2000, p. 320).

As private ventures like these proved successful, each of the four cities created a Board of Trade, or something of its likeness, to manage the use of natural gas throughout its jurisdiction (Glass, 2000, p. 319). Notably, these government entities also took on the role of attracting new manufacturers to their respective cities. This included offering land free of charge, platting entirely new neighborhoods for potential factory workers to live, and offering access to natural gas for tantalizingly low prices (Glass, 2000, p. 318). It was with this benefit package that eastern manufacturers had little reason to remain where they were and continue using expensive coal to power their facilities. Additionally, cities like Muncie and Kokomo had laid gas mains under their streets as early as 1886, so the task of extraction was also eliminated. Finally, a new, robust railroad system was also being built in the region, offering a convenient way to export assembled products (Wynn, 1906, p. 33).

Throughout the late 1880s, manufacturers "began to flock to Indiana. They passed into towns whose streets were arched with hundreds of gas torches to welcome the new capitalists" (Wynn, 1906, p. 33). Providing an additional greeting to investors, flambeaux were also concentrated throughout east-central Indiana. Tipped with a monstrous flame of burning gas, these towers became an important symbol for the region's wealth of the resource and were proudly lit 24 hours a day (Glass, 2000, p. 318).

The prosperity from natural gas-powered manufacturing, as initiated by local interest and investment in each of these communities, had a profound economic impact on several scales. In Madison County, the epicenter of the Trenton Gas Field's most profitable wells, land value alone had risen from $9.84 million in 1887 to $26.99 million in 1895. Disregarding sites for wells, commercial land, and most importantly, worker housing, the factories alone were responsible for $6 million of that value increase (Wynn, 1906, p. 36). At the state scale, Indiana had risen from eighth to fourth among states in glass production, with a value of $3.56 million exclusively from this industry in 1890. Similar advances were also seen by the state in the iron and steel markets. Finally, the prosperity of east-central Indiana was also evident in national analysis. In 1886, the value of fuel displaced in the United States was $300,000, but in 1893 had risen to a whopping $5.72 million (Wynn, 1906, p. 37). This, of course, exactly matches the most profitable years of the Gas Boom.

"By 1893 over $300 million had been invested in factories in Indiana, and more were constantly being erected" (Wynn, 1906, p. 35). In order to support this level of industrial manufacturing, robust infrastructure was critical. Thus, the backbone of east-central Indiana became the railway, as it was cost-efficient to build and could easily link into the existing transnational system. "Each of the four leading Gas Belt cities… sought to reinforce their community's position as an attractive place for… investment by building belt railways connecting all the major railroad lines and providing convenient access for plants located on the belt or adjacent rail spurs" (Glass, 2000, p. 327). All constructed in time for the 1890s, these belts ran around the edges of the cities, where manufacturing was concentrated, and to specific factories like Cathedral Glass Works in Anderson, or Diamond Plate Glass Works in Kokomo (Glass, 2000, p. 327). The benefits of this initiative to implement railways cannot be underscored enough, as this infrastructure made manufacturing possible in the Trenton Gas Field.

Sources

Glass, J. (2000). The Gas Boom in East Central Indiana. Indiana Magazine of History, 96(4), 313-335.

Historic Muncie: Preserving Middletown's Neighborhoods. (2012).

Richardson, J. (1958). Discovery of Natural Gas at Kokomo. Indiana Magazine of History, 54(3), 279-280.

Wynn, M. (1908). Natural Gas in Indiana: An Exploited Resource. The Indiana Quarterly Magazine of History, 4(1), 31-45.

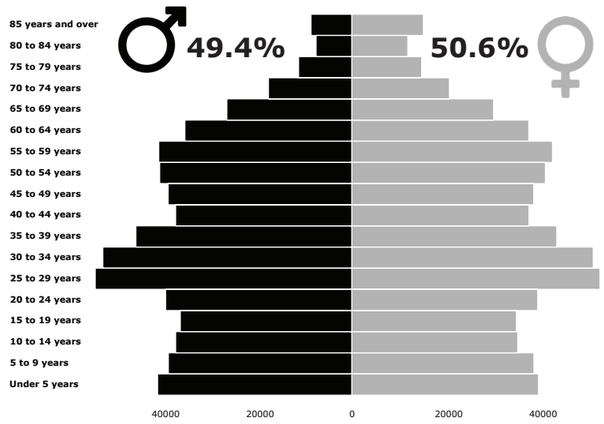
Analysis

Hennepin County

MEASURING MINNESOTA'S HEART

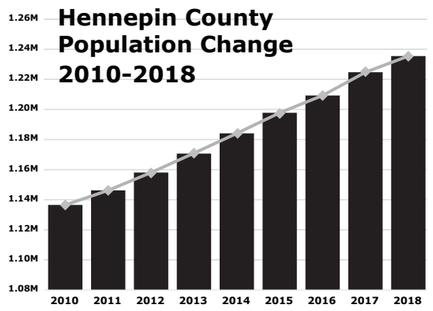
A Demographic and Economic Overview, 2018 ACS Data

Hennepin County 2018 Age and Gender

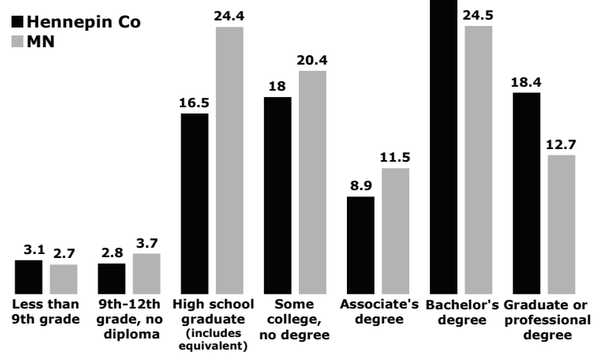


Total 2018 Population

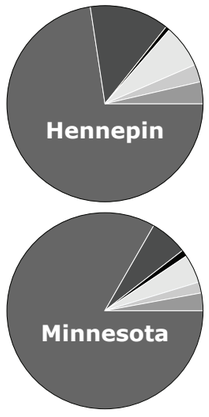
1,235,478



2018 Education Levels
(Population Age 25 and Over)



2018 Racial Composition



- **White**
  72.6% Hennepin Co
  83.3% Minnesota
- **Black and African American**
  13.1% Hennepin Co
  6.2% Minnesota
- **American Indian and Alaska Native**
  0.7% Hennepin Co
  1.1% Minnesota
- **Asian**
  7.1% Hennepin Co
  4.7% Minnesota
- **Some other race**
  2.9% Hennepin Co
  1.8% Minnesota
- **Two or more races**
  3.6% Hennepin Co
  2.9% Minnesota

Living Situation

	Married-couple family	Unmarried female and family	Unmarried male and family	Nonfamily households
2018 Hennepin Co	44.5%	9.2%	3.7%	42.6%
2018 Minnesota	50.9%	9.2%	4.3%	35.6%

Hailed as the economic center of the Upper Midwest, Hennepin County, MN, contains 45 individual cities, most notably Minneapolis. Composed of both urban and rural land, it also boasts 88 lakes, the largest of which, by far, is Lake Minnetonka. Alone, it covers almost 4 percent of Hennepin County's 557 square miles. Moreover, the county is the site of 11 Fortune 500 company headquarters, the University of Minnesota's main campus, and three professional sports teams. It borders both the Mississippi and Minnesota Rivers.

Hennepin Co's Largest Cities

- **Minneapolis** 416,021
- **Bloomington** 85,394
- **Brooklyn Park** 79,792
- **Plymouth** 77,213
- **Maple Grove** 69,571
- **Eden Prarie** 63,900
- **Minnetonka** 52,546
- **Edina** 51,136

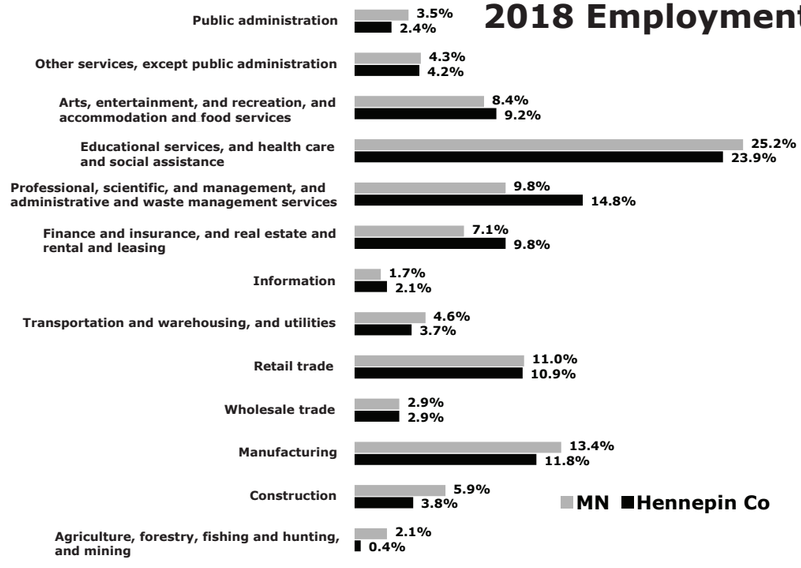
Median Household Income

$ 68,411

$ 74,113

Poverty Rate	Unemployment Rate
10.1%	3.9%
11.0%	4.2%

2018 Employment by Industry



Hennepin County's population is steadily growing and contains over 1.2M people, whose median income is about $5,700 higher than the rest of the state. Property values in Hennepin County are also worth nearly 20% more than the Minnesota median. The largest job industries are social, scientific, and management services.

Demographically, the county is more diverse and better educated than Minnesota as a whole.

Hennepin Co 2018	Minnesota 2018
Home Owners 314,239 | 62.4%	Home Owners 1,551,290 | 71.6%
Home Renters 189,237 | 37.6%	Home Renters 616,511 | 28.4%

Median Home Value

$ 211,800

$ 260,300

All data is from the US Census Bureau's 2018 American Community Survey's 5-year estimates. This provides very recent figures that do not sacrifice accuracy.

INFOGRAPHICS

TO: Chris Palladino

FROM: Dylan Gehring

DATE: December 11, 2019

SUBJECT: Development Project 4 Feasibility

Development project four is a mid-rise downtown infill project with 72 market rate apartments located above a ground floor containing commercial retail and office space. It is five stories and 75,000 square feet in total. Recently, the local city government has become invested in the project, leading several parameters to be modified.

Adjustments to Project

Most importantly, the city outlined new goals, which do not include affordable housing. Thus, project four has been reimagined with the same number of units, but replaced by upscale, market rate apartments. Other changes from the original plan include the reduction of the site acquisition cost by 50 percent, the gaining of city funding to pay for below grade items, and a commercial space rent cap at $16 per square foot. To satisfy investors, an owner's contingency fund has been added, which will make up five percent of the total hard costs. Furthermore, the city now requires that an additional one percent of hard construction costs shall be used to provide for a public plaza and garden on the property grounds.

Feasibility Study

As the apartment type was transformed from affordable housing to upscale market rate units, the total spending on each increased from $80,000 to $90,000. This also allowed rents to be raised from $700 per month to $1,230, which is plausible, as the apartment units will be built with much more premuim appliances and finishes. The new rent can be seen in the Operating Program section of the Modified Proforma, attached to this document. Like the other changes made to close the feasibility gap, it is highlighted. Other savings came from reducing the cost to construct the ground floor commercial space from $90 per square foot to $85. Less expensive building materials could be used to make this change possible. Finally, project soft costs were restricted as well, shrinking slightly from 15 percent of hard costs to 14 percent.

Moving Forward

To proceed with this project, new demographic and psychographic studies should be conducted to ensure a building originally designed to have affordable housing could find tenants for market rate units. Moreover, less costly building materials should be researched, which could be used in the ground floor commercial space. Lastly, methods to reduce soft costs should also be investigated, such as using more affordable personnel for the construction of the project.

MODIFIED PROFORMA

Mid-rise downtown infill project with market rate apartments

Site Size	22500	s.f.		
Building Size	15000	s.f. per floor	5 floors	
Commercial Space	15000	s.f.		
Apartments	72	units		

CAPITAL PROGRAM

Acquisition	$ 2.50	per s.f.	22500 s.f.	$ 56,250.00
Below Grade Site Improvements	$ -	per s.f.	Cost covered by city	$ -
Landscaping Site Improvements	6%	of hard costs		$ 465,300.00
Owner's Contingency	5%	of hard costs		$ 387,750.00
Commercial Space Costs	$ 85.00	per s.f.	15000 s.f.	$1,275,000.00
Aparment Costs	$90,000.00	per unit	72 apartments	$6,480,000.00
Total Hard Construction Costs				$8,608,050.00
Soft Costs	14%	of hard costs		$1,205,127.00
Total Project Costs				**$9,869,427.00**

OPERATING PROGRAM

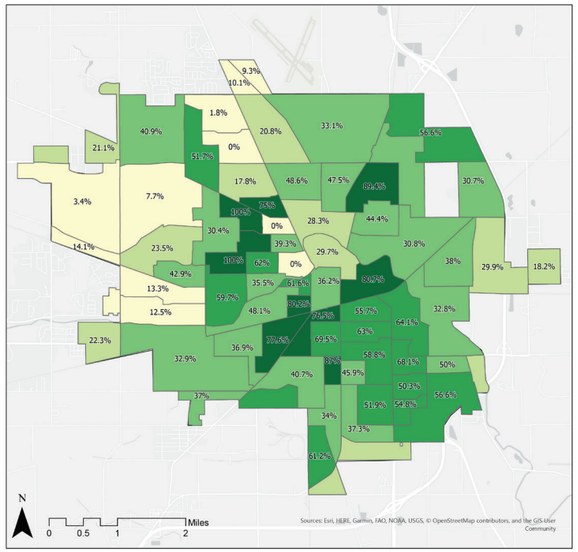
Commercial Office Income	$ 16.00	per s.f.	5000 s.f.	$ 80,000.00
Commercial Retail Income	$ 16.00	per s.f.	4000 s.f.	$ 64,000.00
Apartment Income	$ 1,230.00	per month	72 units	$1,062,720.00
Total Annual Income				$1,206,720.00
Vacancy Rate	7%			$ (84,470.40)
Effective Gross Income				**$1,122,249.60**
Commercial Office Op Costs	$ 4.00	per s.f. per year	5000 s.f.	$ (20,000.00)
Commercial Retail Op Costs	$ 4.00	per s.f. per year	4000 s.f.	$ (16,000.00)
Apartment Op Costs	$ 400.00	per month	72 units	$ (345,600.00)
Total Operating Costs				$ (381,600.00)
Net Operating Income				**$ 740,649.60**

INVESTMENT PROGRAM

Cap Rate	7.50%	
Project Cost		**$9,869,427.00**
Project Value		**$9,875,328.00**
Feasibility Gap	**0%**	**$ (5,901.00)**
Return on Equity	7.50%	

Mapping Food Deserts: Muncie, IN

There are several methods of calculating which areas may be classified as food deserts. In this study, two criteria had to be met. Qualifying census block groups had both 30 percent or more of their households earning under $35,000 annually and 30 percent or more of their households lacking regular vehicle access. As Muncie is a car-oriented city, access to a vehicle is the most appropriate way to measure the ability of a resident to travel to a grocery store, not physical distance. Income level is also important, as this determines the quality of food that each household can afford, something that is related to nutrition level.

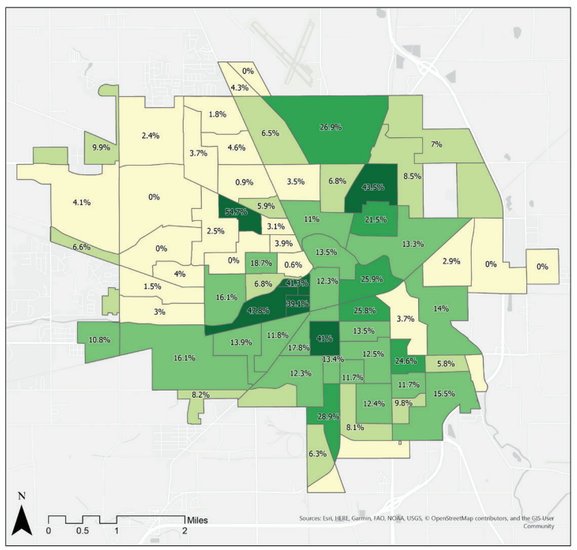


Percent Low Income

Percentage of each census block group that is composed of low income households. These earn below $35,000 of yearly income (median is $47,000)

- ≤15%
- ≤30%
- ≤50%
- ≤70%
- ≤100%

Cartographer: Dylan Gehring
Department of Urban Planning, Ball State University
Sources: US Census TIGER Database, American Factfinder

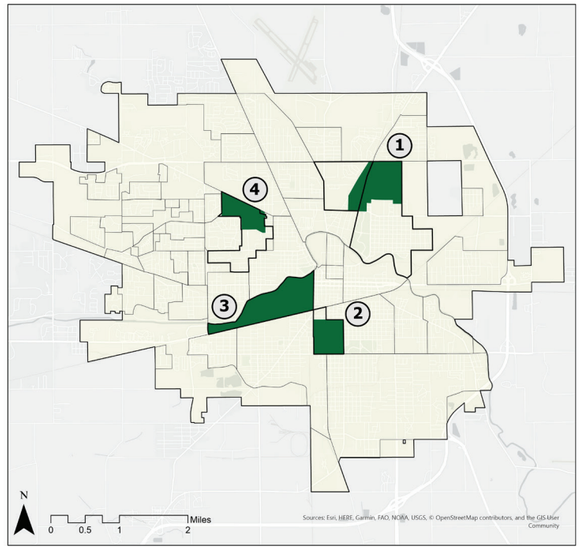


Percent Without Vehicle Access

Percentage of households in each census block group that lack regular access to a vehicle

- ≤0.05
- ≤0.10
- ≤0.20
- ≤0.30
- ≤0.55

Cartographer: Dylan Gehring
Department of Urban Planning, Ball State University
Sources: US Census TIGER Database, American Factfinder



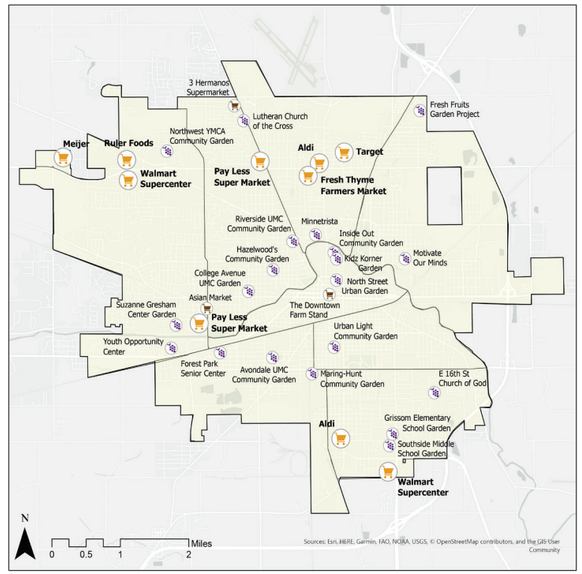
Food Desert Neighborhoods

Data on food deserts within particular neighborhoods

- Food Desert
- Food Desert Neighborhoods
- Neighborhoods

Food Desert	Neighborhoods Located In	Total Households	Percent Low Income	Percent No Vehicle Access
1	Whitely/Granville	409	89.3%	43.5%
2	South Central	481	69.5%	41.0%
3	Old West End	697	65.8%	42.5%
4	Ball State University	190	100%	54.7%

Cartographer: Dylan Gehring
Department of Urban Planning, Ball State University
Sources: US Census TIGER Database, American Factfinder, Delaware County Geodatabase



Fresh Food Locations

- Grocery Stores
- Community Gardens
- Specialty Grocery Stores
- Neighborhood Districts

Cartographer: Dylan Gehring
Department of Urban Planning, Ball State University
Sources: US Census TIGER Database, Delaware County Indiana Open Data

The four food deserts of Muncie, IN are located in the neighborhoods of Whitely, Granville, South Central, the Old West End, and Ball State. Ball State may be disregarded, as full-time students typically earn very little income, and many do not have their own vehicles. Data about each food desert is listed in the upper map's adjoining table.

Finally, these neighborhoods can be compared to the actual placement of every fresh food location in Muncie. Supermarkets, being the only options for full selections of produce year-round, have been bolded. It should be noted that the vast majority of these (seven of ten) are in northern Muncie, along McGalliard Rd.

Rice County, MN Population

As previously stated, the population of Rice County was 65,765 in 2018, hosting just 1.2% of Minnesota's 5,527,358 residents. When comparing the two, Rice has a greater proportion of white residents (87.0% vs 83.3%), as well as a higher percent Hispanic population (7.9% vs 5.3%). Minnesota, however, has comparably larger proportions of Black (6.2% vs 5.4%) and Asian (4.7% vs 2.1%) residents.

With a median age of 36.5, Rice County trends slightly younger than the state median of 37.9. This may be attributed to the county's three colleges, two of which are in Northfield. Concerning dependency ratio, the county's is 49.70, which is lower than the state's, at 52.75. This can be linked back to Rice's lower median age.

Refer to **Equation A** for the calculation process of the dependency ratio. Essentially, this measure compares the amount of people in the non-working population to the amount of those in the working one. A lower number shows a population that has more working residents to support those who are in retirement or under age 14.

Population Breakdown by Race

	Rice County	Minnesota
Total	**65,765**	**5,527,358**
White	**87.0%**	**83.3%**
Black	**5.4%**	**6.2%**
Hispanic	**7.9%**	**5.3%**
Asian	**2.1%**	**4.7%**
Other	**3.7%**	**2.9%**
Multi-Race	**1.9%**	**2.9%**

Population Breakdown by Age

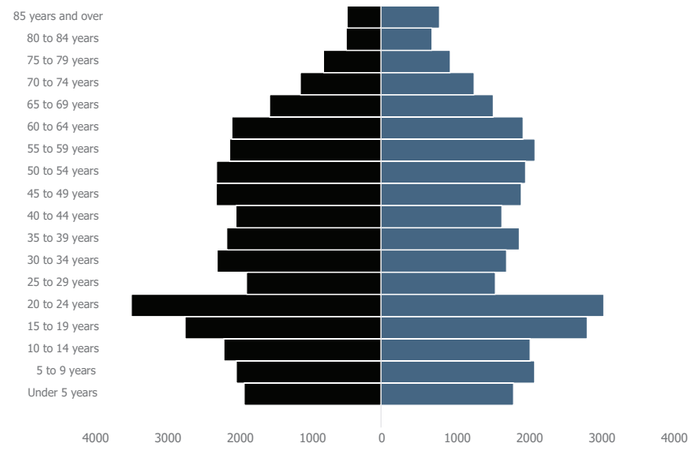
	Rice County	Minnesota
Total	**65,765**	**5,527,358**
Median Age	**36.5**	**37.9**
14 and Below	**18.4%**	**19.5%**
15-44	**41.4%**	**39.0%**
45-64	**25.4%**	**26.4%**
65 and Above	**14.8%**	**15.0%**
Dependency Ratio	**49.70**	**52.75**

Equation A: Dependency Ratio

$$\textbf{Dependency Ratio} = \frac{\text{(Percent of Age 14 and below + Percentage of Age 65 and above)}}{\text{(Percentage of age between 15 and 64)}}$$

Rice County, MN Population Pyramids

This pair of population pyramids reveal Rice County's extremely large number of residents between ages 15 and 24, which easily outnumber the rest of the age groups represented, for both males and females. Likely due to the county's three collegiate institutions, this number is promising, demonstrating that though the pyramid is constrictive, the county's population is not aging, but instead maintained based on local enrollment. The students brought in also attribute to the county economy. High numbers of children are also encouraging, as they will ensure the low dependency ratio continues.



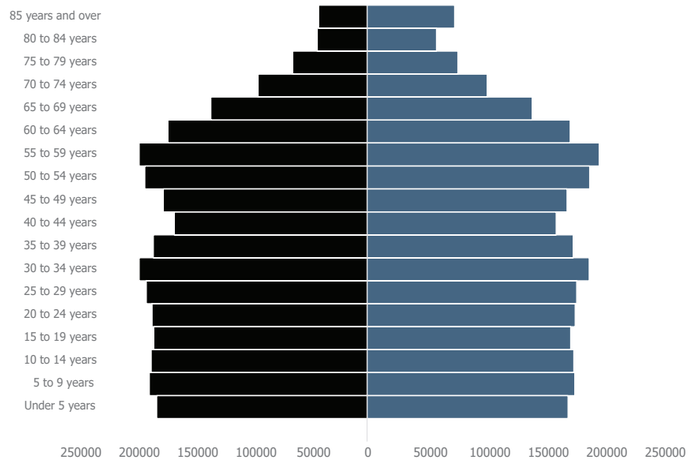
Rice County Population Pyramid

When looking at Minnesota's population pyramid, the picture shifts. The state's population can be categorized as stationary, meaning each age group is roughly equal, up until those in the later stages of life. For both males and females, the largest age group is between ages 55 and 59, though only by a margin of a few thousand people. Stationary populations are usually perceived positively, as they demonstrate neither population decline, nor wild growth, leaving a predictable situation of maintaining the status quo.

Legend

Male

Female



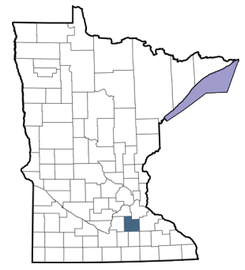
Minnesota Population Pyramid

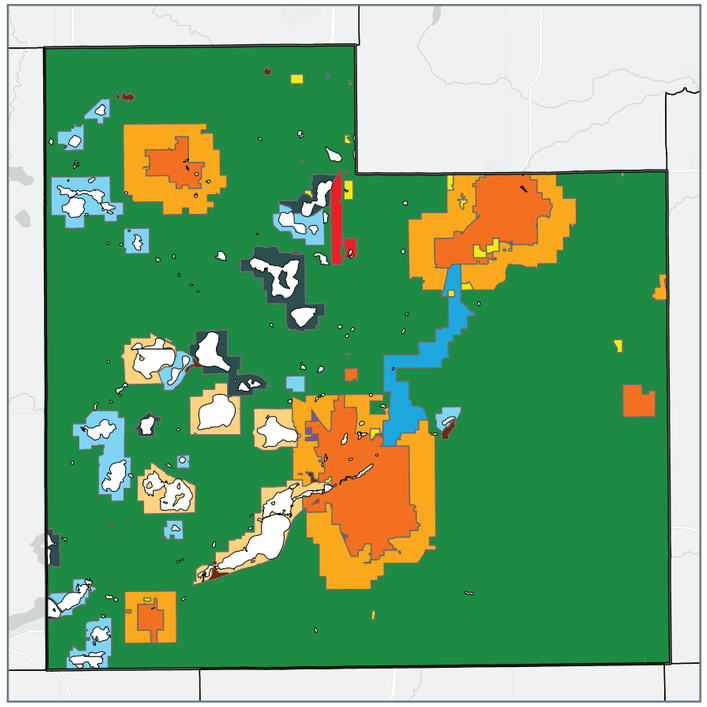
Rice County, MN Zoning

Symbol		Area (sqmi)	Percent
GDS	General Development Shoreland	18.77	3.6%
VMU	Village Mixed-Use	0.79	0.2%
LI	Limited Industrial	0.31	0.1%
RR	Rural Residential	1.89	0.4%
NES	Natural Environment Shoreland	19.82	3.8%
RDS	Recreational Development Shoreland	12.15	2.4%
WS	Wild and Scenic River	6.58	1.3%
CITY	City	29.9	5.8%
HC	Highway Commercial	1.80	0.3%
A	Agricultural	383.88	74.4%
UR	Urban Reserve	39.99	7.8%

While zoning does not denote the current land use of an area, it provides observers with insight on how the county intends its land to be used in the future. Key zones for Rice County include Urban Reserve, General Development Shoreland, and Recreational Development Shoreland. All three set aside land for the purpose of future development and expansion of population, particularly Urban Reserve, which ensures the county's cities have ample room to increase their size physically.

By contrast, zones like Natural Environment Shoreland and Wild and Scenic River serve to protect Rice County's natural beauty and wildlife habitat. These zones exist near lakes (shown in white on the map), and along the Cannon River (where it stretches between the largest cities: Faribault and Northfield).





Legend

- General Development Shoreland
- Village Mixed-Use
- Limited Industrial
- Rural Residential
- Natural Environment Shoreland
- Recreational Development Shoreland
- Wild and Scenic River
- City
- Highway Commercial
- Agricultural
- Urban Reserve

White spaces are area waterbodies

The largest zoned area, by far, is Agriculture. This low intensity activity dominates the county, at a whopping 74.4% of zoned land. Following distantly is Urban Reserve, at 7.8%, a quantity larger than the 5.8% of land zoned as City, demonstrating Rice County's commitment to accommodating future urban sprawl.

Lastly, a strip in the north-center of the county is zoned as Highway Commercial. It should be noted this land is along the Interstate Highway 35 corridor, meaning perhaps the county would like to see more transportation-related development there as the artery departs the southern suburbs.

Economic Analysis of Fort Wayne and Allen County, IN

The North American Industry Classification System (NAICS) can be used to easily compare the level of agglomeration in a chosen economy to a reference economy, resulting in a ratio called location quotient (LQ). In this scenario, industries with an LQ of 1.0 and above are considered part of the exporting base.

Strong performers are within the economy's export base and experienced job growth within the studied timeframe. Retaining the agglomeration of these industries is critical, and their presence should be marketed. Lagging performers, on the other hand, are still within the exporting base, but have lost jobs. Import substitution, an agreement among private companies to purchase from local suppliers, is the best strategy to reverse the job loss. Next, constrained performers are growing, but remain outside the export base. They should be subsidized. Lastly, poor performers are both outside the export base and shrinking.

Strong Performers

Allen

7 Industries

- Finance & Insurance
- Health care & social services
- Construction
- Retail Trade, etc.

- Retention is critical
- Marketing & Promotion
- Import substitution
- Ripple effects

FW

8 Industries

- Similar to Allen County
- Real Estate & Rental
- Administration, Support & Waste Management
- Retail Trade, etc.

- Retention is critical
- Demand-side tactics
- Livability
- Ripple effects

Constrained Performers

Allen

5 Industries

- Professional, Science & Technology Services
- Real Estate & Rental
- Arts & Entertainment
- Mining, etc.

- Import Substitution
- Subsidization, Lower Productivity Costs/Barriers

FW

1 Industry

- Professional, Science & Technology Services

- As always, agglomeration
- Import Substitution

Lagging Performers

Allen

2 Industries

- Wholesale Trade
- Information

- Import Substitution
- Subsidization
- Exportation
- Marketing & Promotion

FW

2 Industries

- Same as Allen County

- Marketing & Promotion
- Subsidization
- Live/Work Arrangements
- Ripple effects

Poor Performers

Allen

5 Industries

- Manufacturing
- Transportation & Warehousing
- Educational Services
- Utilities, etc.

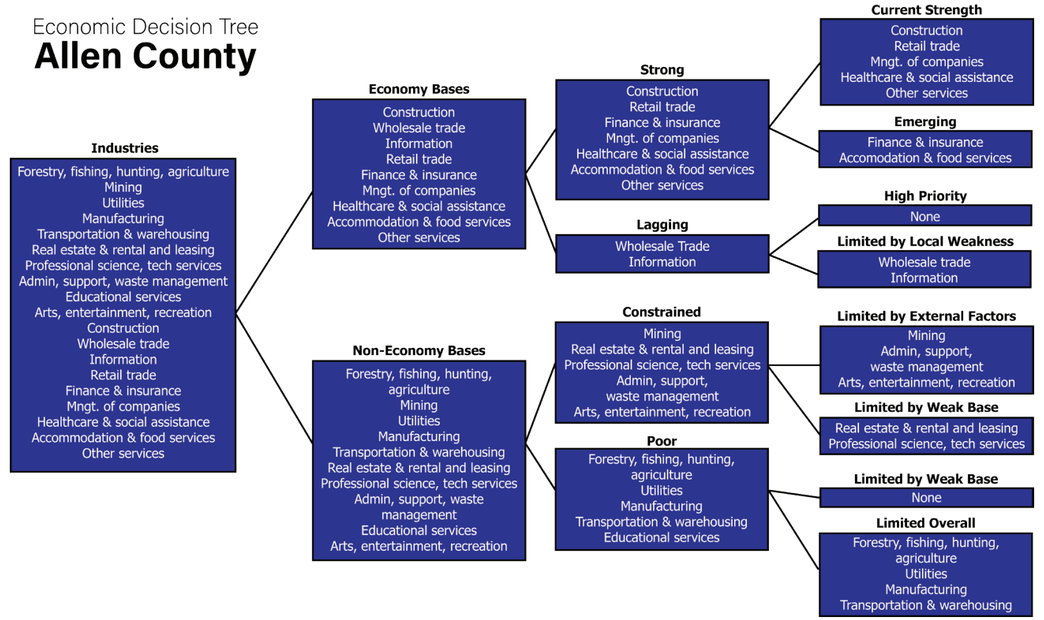
- Subsidization
- Reviving most without an LQ >1.0 is unrealistic

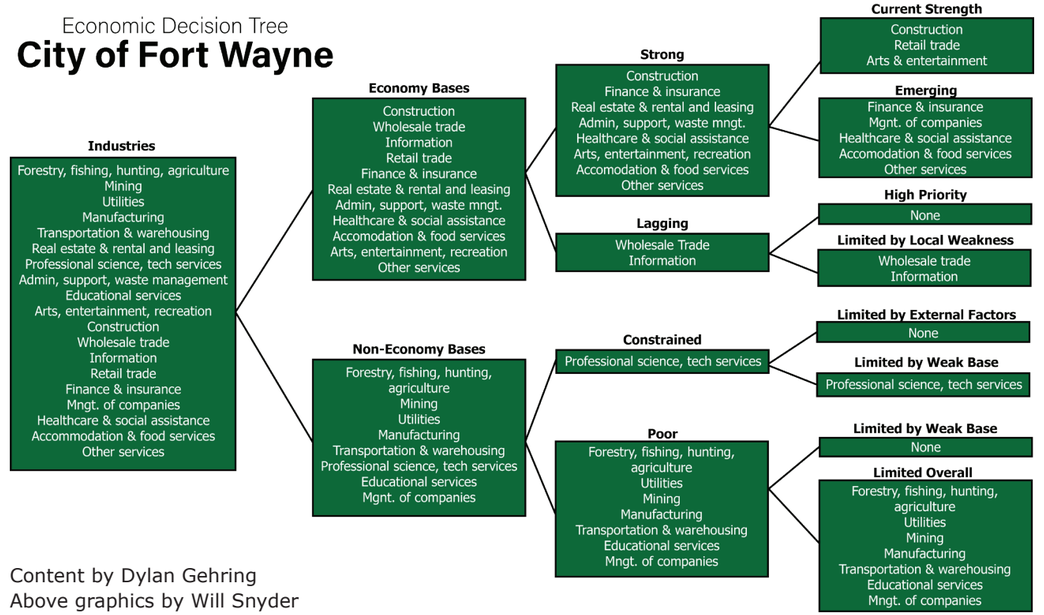
FW

7 Industries

- Same as Allen Co
- Also includes Management of Companies

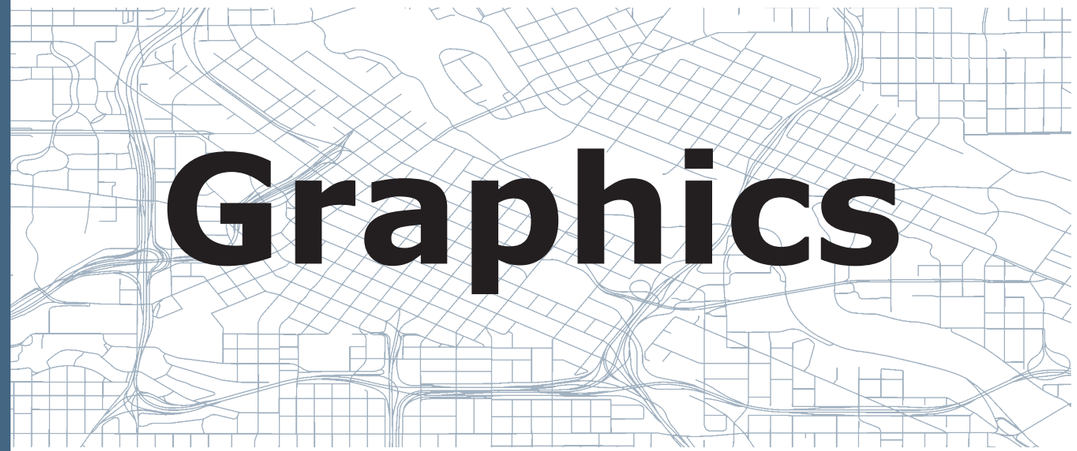
- Transportation Innovation
- Gig warehousing space
- Tuition subsidization packages





Content by Dylan Gehring
Above graphics by Will Snyder

Decision trees break down these economies' industries by performance. First, location quotient is examined, dividing the sectors into export base industries (those with an LQ of 1.00 or above) and non-exporting industries (those with an LQ below 1.00). Next, employment change divides the tree again into the categories of strong, lagging, constrained, and poor performers. Finally, local job growth is compared to job growth in the reference economy, in this case, Indiana, creating the final column differentiating the eight types of industry performers.

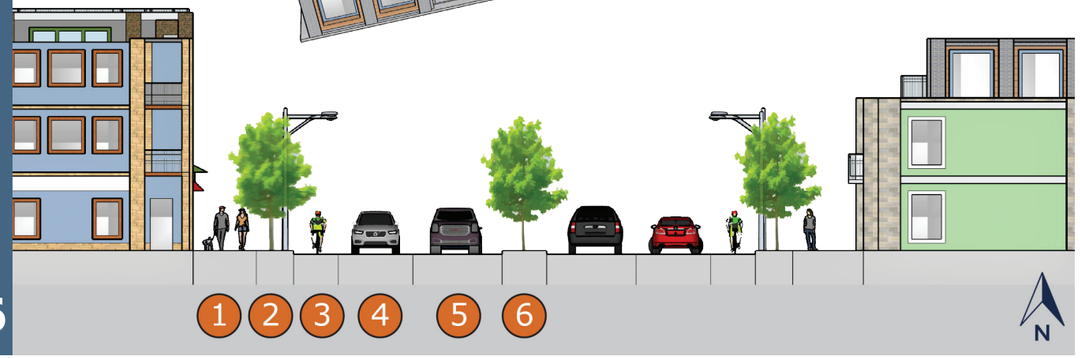


Graphics

The graphics on these pages are a sample of various street and intersection types I designed. These three examples were part of a larger proposal to create a walkable, sustainable, and beautiful future for an area outside of the Indianapolis metro facing mounting development pressure. Key elements shared between the typologies include bicycle lanes and sidewalks that are buffered from the roadways, which together, promote multimodal transportation. Embracing the topic of green infrastructure, these proposals also boast many native street trees, medians with plantings, and drainage swales. Finally, buildings are held to strict build-to lines, in order to enhance the pedestrian experience.

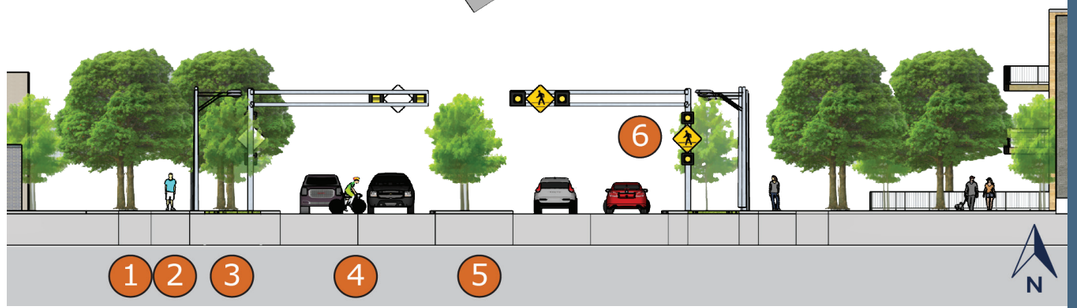
1. 8 foot minimum sidewalk width
2. 5 foot tree and streetlight easement
3. 6 foot bicycle lane (protected by street parking)
4. 10 foot street parking
5. 12 foot drive lane
6. 6 foot median with ornamental trees

Two Lane Urban Streetscape



1. 5 foot setback (provides yards)
2. 6 foot minimum sidewalk width
3. 14 foot bioswale to address drainage
4. 12 foot drive lanes
5. 6 foot median with ornamental trees
6. Crossing lights
7. Pedestrian mall
8. 6 foot bicycle lane

Pedestrian Mall Crossing



1. 20 foot setback (provides yards)
2. 6 foot minimum sidewalk width
3. 5 foot tree and streetlight easement
4. 6 foot bicycle lane (protected by street parking)
5. 3 foot protective median
6. 12 foot drive lanes
7. Pedestrian mall

Apartment Rowhouse Entrances

Two Lane Urban Streetscape

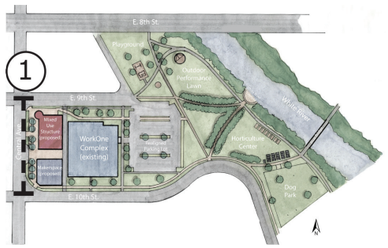
While the previous page details the individual components that form this example of an urban streetscape, here, the scene is shown through photorealistic renders. Multimodal transportation is emphasized, as wide sidewalks and protected bicycle lanes are featured beside each vehicular travel lane. Pedestrian foot traffic is visible, promoted by shade from the native street trees, as well as the permeable facades, decks, and sidewalk-level patios associated with the buildings.

Industry Neighborhood Trails

These two renders display potential bicycle infrastructure for Muncie, Indiana's Industry neighborhood. The uppermost depiction looks down Hackley Street, where an on-street trail would feature protected six-foot bicycle lanes that intersect an alleyway trail between Willard and 5th Streets. This second trail is depicted in the lower rendering and features mountable asphalt to ensure residents who have a garage opening onto the alleyway can still access it.

Creating Blue Bridge Park

Located in Anderson, Indiana, this project involved the hypothetical redevelopment of an underutilized riverfront plot. In collaboration with Will Snyder and Andrew Kanwit, Blue Bridge Park was born, named for an existing pedestrian river crossing. To cater toward all people, the plan includes a playground, band shell, kayak launch, community garden with greenhouses, and an area for dogs. Two buildings were also proposed: a maker's space and a restaurant with apartments.



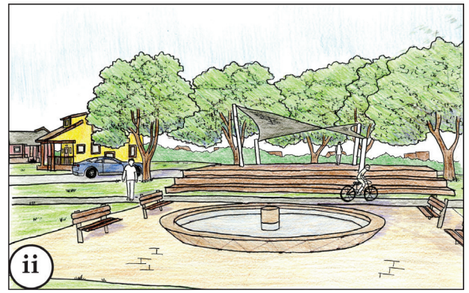
Parcel Information
Zoning District: B2, general business

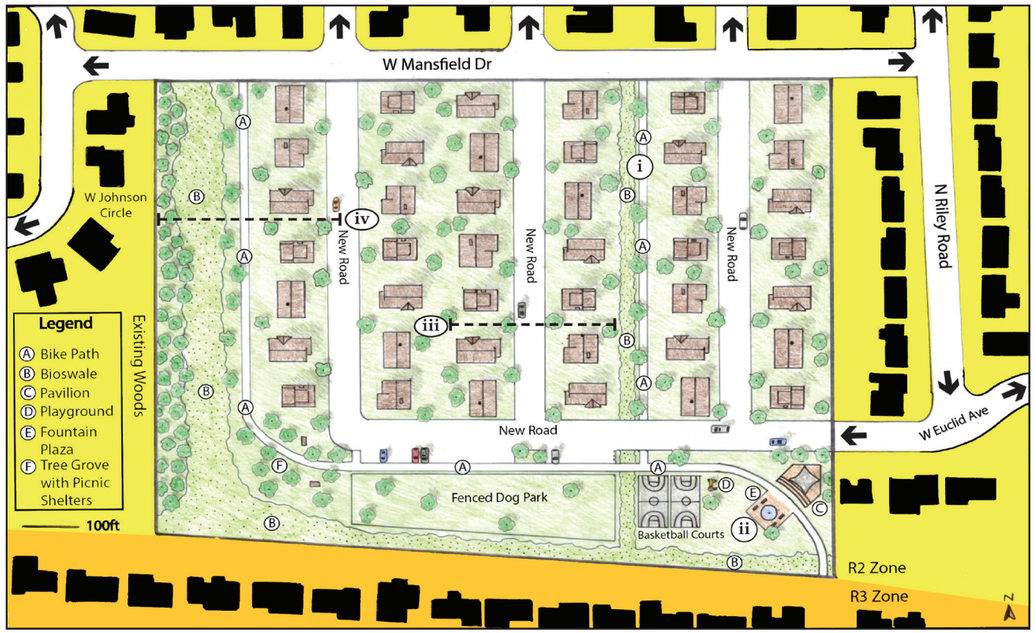
B2 Business Requirements
Front Setback: None
Side Setback: 10'
Rear Setback: 20'
Minimum Lot Size: 2,000 s.f.
Maximum Building Height: 80'
Maximum Lot Coverage: 50%

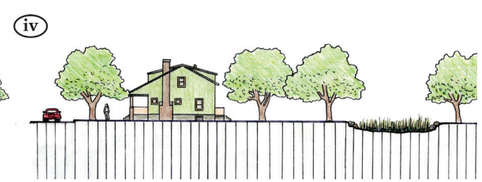
B2 Multi-Family Requirements
Front Setback: 30'
Side Setback: 5'
Rear Setback: 20'
Minimum Lot Size: 2,000 s.f.
Maximum Building Height: 80'
Maximum Lot Coverage: 40%

Developing the Storer Site

Formerly home to Storer Elementary School, this 18.5 acre parcel in Muncie, Indiana exists today as nothing more than a rubble field. Surrounded by a context of single-family houses at moderate density, I sought to create a development plan that would add additional homes and parkland to the neighborhood, while being compliant with the area's residential zoning. As evident via the masterplan illustration, this development would feature impressive bioswales to address flooding that current plagues the site, as well as create habitat.







Industry Neighborhood

Part of enacting the Industry Neighborhood Action Plan included the debut of a new logo. Shown here, "Neighborhood" is clearly spelled out beneath "Industry," as it is important to clearly inform others that Industry is a strong residential community. Located above the "U" and "T," are triangles that represent rooftops with chimneys, alluding to a neighborhood, further explaining Industry's physical form. These triangles can also be interpreted as arrows, representing the upward goal of Industry becoming an increasingly better place to live. Next, above the "Y," are simple shapes representing a tree's canopy, while the upper parts of the letter form branches. This tree represents Heekin Park, the crown jewel of Industry, and by far one of Muncie's best public spaces. Heekin Park is located at the southern end of the Industry Neighborhood; in the logo, the tree is located at the end of the "Industry" text. Also of note, are the abstracted railroad tracks crossing between the "N" and "D," which help to frame the logo, similar to how actual railroad tracks criss-cross the northern edge of the neighborhood. The tracks also recall its origin as a neighborhood once filled with industrial workers. Finally, green was selected as the accent color to represent the environmental sustainability the neighborhood action plan promotes.

There is also a variant of the logo designed for use by the Industry Neighborhood Association, which is displayed below.

Pirate's Cove Buccaneers

Created in free time for a fictional sports franchise, this logo features an entirely original design, evoking the face of a hat-wearing pirate, as well as his sword. The goal was to ensure there was sufficient detail depicted, without becoming overly complicated, resulting in a memorable product. As a baseline for the team's branding, the Buccaneer's simple color scheme draws from a single palate dominated by green and blue. Go Bucs!

Personal Logo

This personal logo was created using the lowercase letters d and b, as well as an uppercase G. Together, they spell out the initials of Dylan B. Gehring, the logo's user, and form a distinct shape not easily forgotten. Enhancing visual interest even further, the smaller portion of the logo has been colored, matching this portfolio and other personal documents, unifying Gehring's brand.

Minnesota

Population: 5.61M
(58.5% live in Minneapolis-St. Paul metro area)

79.4% White | 6.46% African American | 5.49% Hispanic | 4.83% Asian | 2.66% Multi | 0.98% Native

Median Household Income: $70,315
(National Median: $63,179)

Education: 50% have Bachelor's Degree or Higher (National: 33.4%) (Between ages 25-64)

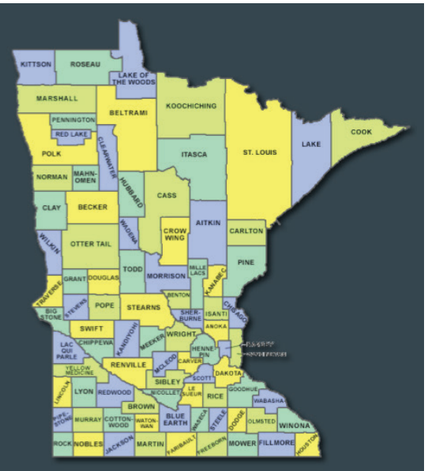
Government

Capital: St. Paul (Pop. 306,621)

Counties: 87
Municipalities: 854

Legislature Style: Bicameral
Legislature Size: 67 Senators, 134 Representatives (201 total currently, but has changed over time)

Representation: Senators have districts of about 80,000 Minnesotans, these are divided in half where Representatives serve about 40,000



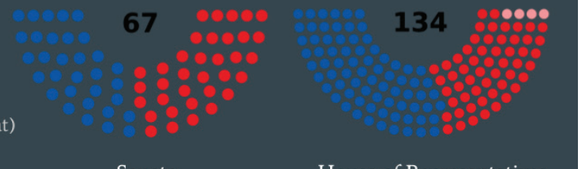
Politics

Governor: Tim Walz (Democrat)
Lt. Governor: Peggy Flanagan

Senate: 67 members, Republican majority
House: 134 members, Democratic majority

Minnesota is currently the only state with a legislature under split control

Democrats have control overall, but Republicans dominate the Senate



Stakeholders

This is a constituent-driven effort, but with a split legislature, compromise is critical among state politicians

Pro-Clean Energy bills introduced by both Democrats (DFL) and Republicans (GOP)

Impacts the variety of Minnesota's power utility companies, which have a great lobbying capacity, but are ultimately responsible for adapting to the outcome of new energy laws

MN GOP
MINNESOTA DFL
minnesota power
Xcel Energy®
OTTER TAIL POWER COMPANY

Solutions

Governor Walz + Minnesota Democrats:	Minnesota Republicans:	Current Law:
Make Minnesota's electricity supply entirely free of fossil fuels by the year 2050 Foraged in partnership with utilities, allows them to move at their own pace to meet the deadline	"Clean Energy First" Plan Power utility companies must implement renewable energy facilities when replacing or upgrading their facilities Gradual, natural transition, but unaggressive	"Renewable Portfolio Standard" 25% of all electricity produced by public and private utilities must be renewable by 2025 10% from each provider must be from solar by 2030

2021