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City of Dekalb and Northern Illinois University

Metra Extension Feasibility Study

City of DeKalb
opportunity · innovation

NIU
HUSKIES

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Executive Summary

Historically, the City of DeKalb was connected to Chicago and the rest of the world by the Chicago and North Western Railroad that ran through the center of town. However, passenger rail service was discontinued in the 1960s, and the old C&NW line carries freight as part of Union Pacific network.

Today, much of DeKalb is auto-oriented, and the fastest way to access Chicago and points east is via the I-88 Tollway. Those traveling to the Chicago Metropolitan Area without a car must first take a DeKalb Public Transit bus to Elburn and board the Metra Union Pacific West (UP-W) line there.

This study was created to consider the feasibility of extending Metra's UP-W line to DeKalb. This rail connection would have some key economic benefits for DeKalb and surrounding communities:

- DeKalb has recently experienced an increase in economic development. A Metra extension would knit DeKalb into the Chicago economic ecosystem, enabling further investment in the city while also attracting and retaining residents.
- Northern Illinois University (NIU), the largest employer in the city, R2 research institution, and part of the economic engine of the city, is the only state school in Illinois without access to a rail station. A Metra extension would allow NIU to recruit staff more easily.
- Fourteen percent of current NIU students originate in the western suburbs, and many are first-generation to attend college. Metra would provide a connection home and lower barriers to access educational opportunities at NIU.
- Having a Metra station would quite literally put DeKalb on the map, demonstrating its proximity and connection to the Chicago Metropolitan Area.

This study was conducted to determine the costs and overall feasibility of the extension. Among the key findings:

Travel Market: Approximately 10,800 people travel daily between DeKalb County and the communities along the UP-West line (including the City of Chicago).

Current Service: The Metra Union Pacific West line operates between Elburn and Ogilvie Transportation Center in downtown Chicago. As of April 2023 there are approximately 23 weekday, 10 Saturday, and 9 Sunday round trips between Elburn and Chicago.

Potential service: The study explored three potential schedules with extensions to DeKalb, one with 4 round trips per day, one with 12 round trips per day, and one with 16 round trips per day. The study also considered 4 round trips per day for weekend service.

Expected Travel Time: An extension from Elburn to DeKalb would add approximately 20 minutes to the Metra trip in one direction. Travel time from DeKalb to Olgilvie Transportation Center would be between 90 and 105 minutes on weekdays.

Potential Ridership: A high-level estimate of ridership was conducted based on the overall travel market between DeKalb and the Chicago Metropolitan Area. The expected ridership is 259 daily trips on weekdays and 189 daily trips on weekends. The ridership was not tested against different service levels.

Key Stakeholders: There are three key stakeholders on this project. Union Pacific owns the track between Elburn and DeKalb and would need to give permission for Metra to extend service. Metra operates the UP-W service and would need to agree to extend the service. The Chicago RTA oversees the finance and funding of transit in the Chicago area and would also need to agree to the extension.

Operating Costs: DeKalb would need to purchase service from Metra for operation of the line into DeKalb County since it is outside the Chicago RTA service area. The estimated annual operating cost of the service to DeKalb would be between $8.2 and $12.8 million (2023 dollars), depending on the service levels operated.

Capital Costs: DeKalb would need to pay for infrastructure improvements to accommodate passenger service between Elburn and DeKalb. The estimated cost of the improvement is between $258 and $388 million (2023 dollars), and includes a third mainline track, retaining walls, rehab to the existing DeKalb station, and new trainsets to accommodate the schedule.

Additional Governance: DeKalb would need to determine how best to pay for capital and operating costs for the extension. The two leading possibilities are to create a mass transit district or petition to become part of the RTA service area.

Next Steps: The study defined next steps should the city decide to continue the study. Additional professional services would be required to further define the extension, including a Planning and Environmental Linkages Study, NEPA environmental clearance work, and design of the infrastructure improvements. Federal and State grant programs and earmarks are traditional paths to help pay for additional professional services.

Chapter 1. Introduction & Background

DeKalb, Illinois, is a city located in DeKalb County with a population of about 40,000 (per the 2020 US Census). The city's biggest employer and economic driver is Northern Illinois University (NIU), an R2 (high research activity) university located to the west side of downtown. The university has about 16,000 students, 1,200 faculty, and 1,800 administrative and civil service employees. The university draws students from around the state of Illinois as well as the Midwest and the world, but most of its students come from the Chicago Metropolitan Area, particularly the western and northwestern suburbs. Currently, NIU is the only public university in Illinois without passenger rail access[1].

As the city and university consider ways to remain an attractive location, the connection to the Chicago Metropolitan Area stands out as an important amenity. The Union Pacific Railroad mainline runs through downtown DeKalb, while the Metra Union Pacific West (UP-W) rail service terminates 15 miles to the east in the Village of Elburn. Anecdotally, NIU faculty and staff student recruitment would be bolstered by better public transport linkages. Students, many of whom are from areas served by the UP-W Metra line, could use the connection to visit family. All DeKalb residents, including NIU faculty, staff, and students, could use a rail connection to access employment and enjoy the cultural amenities available in the Chicago Metropolitan Area.

As DeKalb and NIU consider their next steps, both see a need for greater strategic alignment with the City of Chicago. In the value proposition of passenger rail service to DeKalb, there are several categories of 'value add': first, the economic development that a connection would enable; second, the benefit to the city and university in terms of name recognition; and third, the educational access that a train could provide to low-income, transit-dependent Chicago residents.

Passenger rail service can catalyze economic development in DeKalb by creating enhanced opportunities for employment, helping to knit together the city and the university from a development perspective, and supporting a walkable, dense downtown. The land around the historic rail station is currently used for #12 bus staging and parking but could also be used for residential or commercial development, which would support downtown DeKalb as well as support Metra ridership. It will bring support a walkable, vibrant downtown, complementing the mix of businesses that already exist proximate to the train station, and can catalyze new, transit-oriented development. A passenger rail connection will also catalyze investment in DeKalb in the same way that it has served to drive development in other communities along the UP-W line. It will allow DeKalb to recruit families to jobs at NIU and at recent industrial development on the south side of town, such as Facebook/Meta.

Additionally, the city and university would benefit from passenger rail service because the provision of passenger rail service would, in some cases, literally 'put them on the map.' It would raise the profile of the city and university by bringing both within the Chicagoland ecosystem. Passenger rail service would connect DeKalb to the Chicago metropolitan area and create reciprocal opportunities for jobs, housing, and education. For professional couples, it would make DeKalb (and NIU) a more appealing prospect, since partners would have a larger universe of job opportunities to access than they currently do.

The provision of passenger rail service to NIU would dramatically enhance the educational access afforded to low-income and transit-dependent students, particularly in the western suburbs along the UP-W line. There is research that shows many college students 'are one flat tire away from dropping out' due to the costs associated with the loss of their transportation. Providing Metra service is a way to address

[1] Universities in Chicago and vicinity have access to Metra or CTA and University of Illinois campuses and Western, Southern, Eastern and Illinois State are served by Amtrak.

this problem head-on, and to enhance transportation and educational equity: the students most likely to be affected by transportation disruptions are those who are also more likely to be low-income or first-generation.[2] [3] Even absent the equity considerations, it would serve as a recruiting tool for NIU, by creating a more accessible campus and reducing commute times from Chicago.

The goal of this study is to assess at a high-level the feasibility of extending the UP-West line to DeKalb, including the costs and benefits of a proposed extension. The last chapters outline key decisions to be made. Chapter 7 details ways DeKalb might acquire funding for this project, including partnerships with Metra and Chicago Regional Transportation Authority (RTA). Chapter 8 concludes with next steps for the city to undertake, with the support of the university as a key stakeholder.

[2] Lack of Transportation Hinders Community College Students. https://www.pewtrusts.org/en/research-and-analysis/blogs/stateline/2022/10/24/lack-of-transportation-hinders-community-college-students. Accessed 5/2/23.

[3] How to Get First-Generation Students https://www.insidehighered.com/admissions/article/2021/11/08/survey-offers-ways-colleges-can-recruit-first-generation-students. Accessed 5/2/23.

Chapter 2. Public Engagement

A robust stakeholder engagement strategy was important to ensure DeKalb and adjacent communities had opportunities to provide feedback and guidance on this potentially transformative project. Outreach aimed to gain an understanding of the opinions and perspectives on the proposed Metra extension from community members (e.g., residents, employers, employees, NIU students, faculty, and staff). Engagement was provided via a website and social media, a technical advisory committee, community events, surveys, and a series of public meetings.

Technical Advisory Committee – formed to lead technical decisions on the study; comprised of decision-makers and advocates throughout the DeKalb area to provide guidance and support regularly during the plan development.

Community Events – in-person engagement opportunities with the general public to promote the project and gather input, such as potential usage, stories, concerns, and questions. Three in-person events were conducted, including:

- Ambassadors who individually engaged over 100 students, faculty, and staff throughout the campus;
- A tabling event in the NIU student center, which engaged over 100 students, faculty, and staff;
- A tabling event at the DeKalb Public Library which engaged over 40 residents and community members.

The community events highlighted the support of the extension from a variety of stakeholders, including those who do not plan to use Metra, but believe that transportation to more locations outside of DeKalb can help the community. Participants at the events also shared stories of various illnesses or barriers to driving that have kept them from going to museums and experiencing all that the area has to offer, which may be solved by more direct and easier access to Metra's UP-West line.

Surveys – digital and in-person survey of large employers and community members to determine how commuter rail could best serve the DeKalb workforce, students, and residents. The large employer survey found that the major employers have a variety of shift times that may benefit from commuter rail. Many companies indicated that they would provide incentives to their employees if they used commuter rail and that while commuter rail may have a low to medium impact on their business they believe that it will have a medium to high impact on the overall community.

A community survey completed by over 1,000 community members either in-person at community events or virtually online was conducted throughout April and May of 2023. The survey highlighted the anticipated Metra usage – the majority of participants indicated that they would use it occasionally and/or on the weekends with about 20% of participants indicating they would use it for commuting purposes either daily or 2-3 times a week. The survey also found that outside of Chicago (over 700 participants indicated that Chicago would be their primary destination on the Metra), participants were interested in using the Metra to travel to Geneva (24%), Oak Park (13%), Wheaton (12%), Elburn (10%), and West Chicago (10%) with interest at other stops along the UP-West line. Finally, the survey provided participants an opportunity to share feedback and questions or concerns for the project team.

Community feedback highlighted the excitement and support of the Metra Extension, noting the importance of the project for those without cars, people with disabilities, and those who are unable to drive; the ability to increase travel outside of DeKalb for students, faculty, staff, and residents specifically the elderly and families; concerns over potential crime increases; questions on the general timing of the project and location of the station, with an interest in a station near the university to support athletic and academic events; interest in additional parking and other enhancements to the area around the historic

train station to enhance the local economy; concerns on funding opportunities and tax implications; and inquiries on collaboration with nearby villages and cities.

Public Meetings – the public was informed of the findings of the feasibility study during the May 22, 2023 DeKalb city council meeting, a public meeting from 6-8 pm on May 23, 2023, and a virtual public meeting from 12-1p on May 25, 2023. These informational sessions outlined the results of the report including the purpose and need of the project, the potential travel market and users, the current and potential service options, the operating costs of the various potential service options, the estimated capital costs, potential opportunities to pay for the ongoing operational costs, and next steps.

After the presentation during the city council meeting, the council asked clarifying questions about the potential costs of the next steps, including the costs of environmental studies and design work; the potential local matches for federal grants; the scope of the capital cost assessment including in grade separations from Elburn to DeKalb, the likelihood of being awarded a federal grant for the capital costs; and impacts to property values. Questions also highlighted the need to collaborate with impacted municipalities and details on the potential ridership. The city council meeting, including the presentation of the Metra Extension Feasibility Study, was posted to the DeKalb YouTube page following the meeting.

The in-person public meeting was conducted as an open house to allow participants to spend as much or as little time getting familiar with the project before asking questions or providing feedback. The meeting was advertised via social media, flyers, and the project website and was conducted from 6-8p at the City of DeKalb Library. Over 50 residents and interested stakeholders attended the meeting connecting previous efforts and asked questions about parking, station locations, schedule possibilities, and infrastructure needs. The majority of attendees expressed the desire to learn more about the implementation process including the costs and cost justification and the timeline for completion.

The virtual public meeting provided a final opportunity for real-time questions and feedback with the project team. This meeting was conducted during the day via Zoom and was advertised via social media, flyers, emails, and the project website. Over 35 participants joined the virtual meeting. The meeting began with a presentation of the results shared during the previous public meeting opportunities and then provided an opportunity for questions and feedback. Similar to the feedback and questions heard during the board meeting and in-person meeting questions focused on what and if any collaboration had been made with adjacent communities that may be impacted by the new service and/or best practices to be learned from other communities; the location of the station(s) and the potential impacts to the local economy including blocked crossings, additional businesses, parking, and increased tourism; further clarification on funding opportunities and costs; and the timing of next steps and project completion.

Chapter 3. Review of Travel Patterns

Various data sources were reviewed to understand travel patterns into and out of DeKalb, including Replica (a data service that uses anonymized and scrambled mobile phone data to provide aggregate information about transportation patterns); the American Community Survey (census data); and historic boarding and alighting data for Metra and Huskie Transit service. The culmination of this work is the creation of a transit propensity index (TPI), which is a geography-based quantitative assessment of transit ridership potential.

Study Area

A necessary first step was to identify the study area for this analysis. The project team determined that all of DeKalb County would be used for this analysis, with the understanding that most of attraction for a Metra extension would be concentrated in DeKalb and Sycamore. Figure 1 shows the proposed study area.

Replica Data and Maps

This memo makes extensive use of Replica, a data service that uses cell phone GPS data to provide mobility statistics for a given geography. The data provided by Replica can give insights as to who works or lives within a certain area, as well as information about the trips they take. Available information includes travel mode, travel time, household income, and other demographic and trip information. Replica provides specific information about the study area and its employees when other traditional, static data sources are insufficient. While this data is provided with reasonable certainty, there are some limitations. For example, the service has difficulty differentiating between commuters who drive to work versus those who arrive as auto passengers. Additionally, Replica does not provide access to individual trip information, instead only allowing users to see top-level trends for a given geography.

Origin and destination data provides a snapshot of where commuters are starting and ending a trip, which is useful in understanding travel patterns to and from DeKalb County. The data presented here concentrates on travel between the county and census block groups for suburbs along the UP-W line, as well as Chicago. Using Replica, origin and destination data was broken down by demographic variables, such as household income, race, and if a specific trip was taken for work or non-work purposes.

On the following pages, Figure 2 shows car trips that originate anywhere in DeKalb County and end in a specific block group along the UP-W Metra line or central Chicago. Figure 3 shows the reverse: car trips that originate in a specific block group along the UP-W Metra line or central Chicago and end anywhere in DeKalb County.

On a typical weekday, the greatest density of vehicle trips to any block group outside of DeKalb County ends in the 2-square mile area that contains the Elburn Metra station, with 507 journeys. This reveals an existing population that could immediately benefit from added transit connections between DeKalb County and the UP-W terminus. The number of trips, both work and non-work trips originating in DeKalb County and ending elsewhere, declines further east moving towards Chicago. The same can be said for trips ending in DeKalb County. Work-related reverse commute trips (from Chicago to DeKalb) were not a significant trip generator.

Additional Replica maps by different demographic variables are provided in Appendix A.

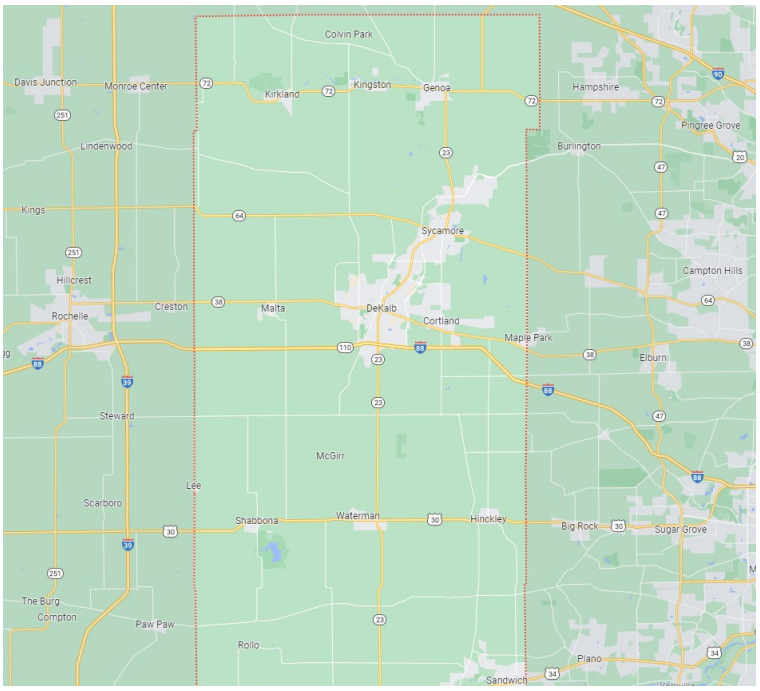


Figure 1. Proposed Study Area

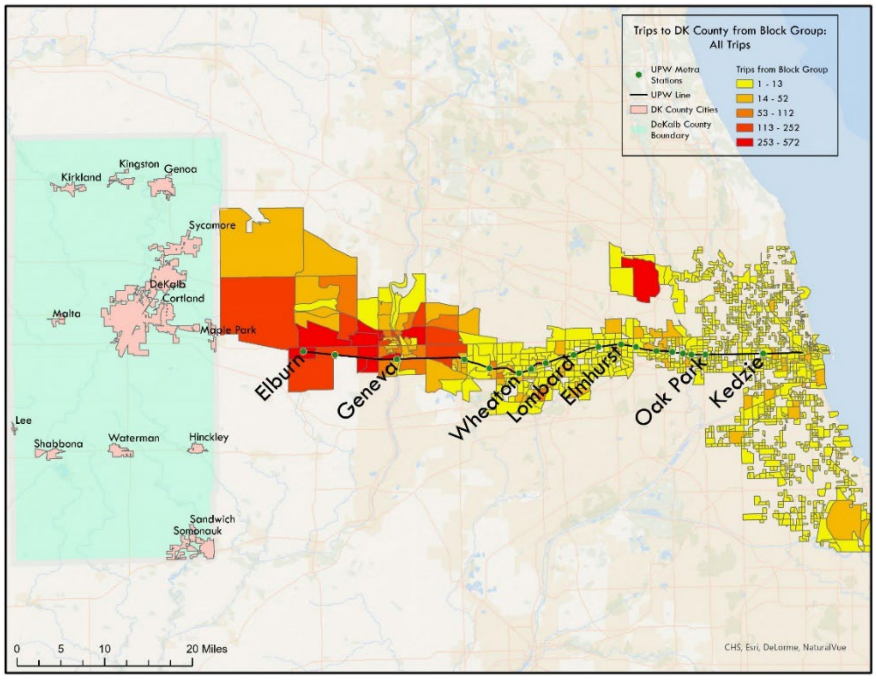
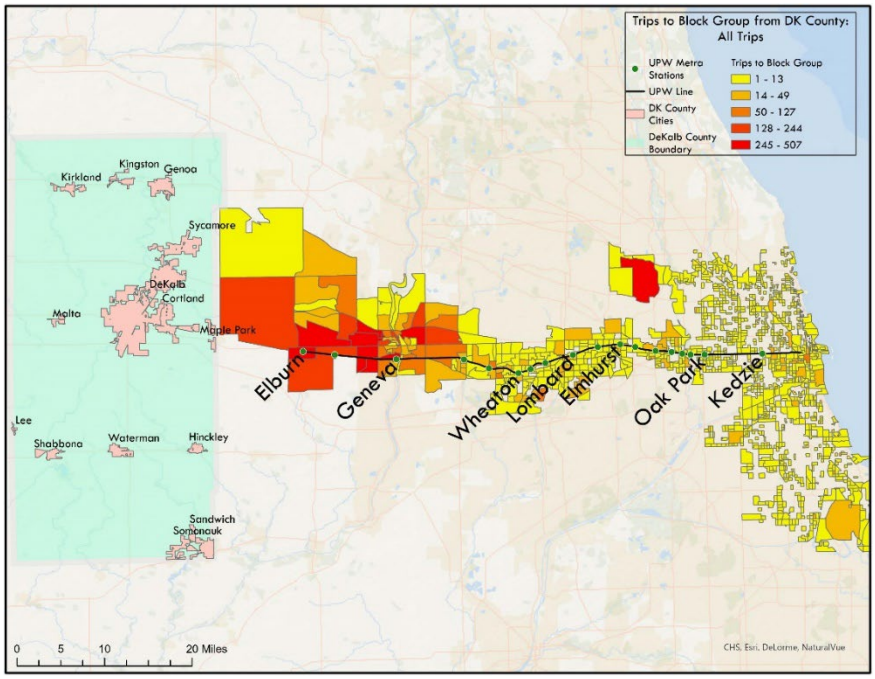


Figure 2. All Trips to Block Groups from DeKalb County

Figure 3. All Trips to DeKalb County from Block Groups



NIU Travel Market

Figures 4, 5, and 6 show the travel market to/from the NIU campus. In Figure 4 the Replica data shows daily trips to the campus. While NIU students and employees travel from all around the region, most still come from within DeKalb, and specifically from areas immediately adjacent to campus (or on campus). Maps 5 and 6 examine where NIU students and employees live based on their home (local) address. Predictably, around a quarter of all students live in the zip code (60115) comprising the NIU campus, per data provided by the University. 41% or students reside in DeKalb County, while the remaining students are dispersed across northern Illinois. The 10 highest zip codes housing 5,116 students (36%) are: 60115, 60178, 61008, 61108, 61107, 60120, 60123, 60174, 61068, and 60506. All but 60115 (3,972 students) and 60178 (308 students) are outside of DeKalb County.

Similarly, NIU staff primarily live adjacent to campus (nearly one-third) and over half (54%) reside in DeKalb County. When considering NIU employees that live away from campus, Figure 6 shows many live in the suburbs along the Fox River (Geneva, St Charles, Batavia), suggesting that those that choose to live away from DeKalb do so to be more connected to the Chicago Metropolitan Area.[4] The 10 highest zip codes housing 1,849 employees (53%) are: 60115, 60178, 61068, 60134, 60112, 60510, 60175, 60174, 60135 and 60563. Zip codes 60115 (1,004 employees), 60178 (421 employees), 60112 (59 employees), and 60135 (35 employees) are in DeKalb County.

[4] The data for this map was provided by NIU, but in reviewing it, it was clear that not all students had provided their local address to the university – some students listed their 'local' address as Michigan, Oklahoma, etc. This map therefore likely undercounts the number of students living on or adjacent to campus, but the relative density (as expressed via red and orange coloring) of students and staff is likely unchanged by the data anomalies.

Figure 4. All Weekday Trips to NIU from Block Groups

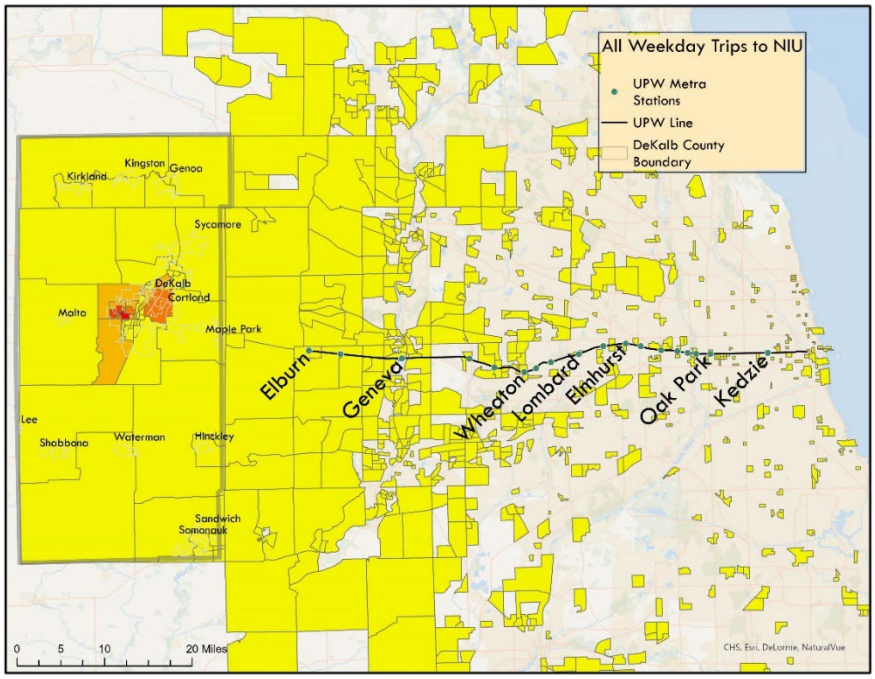


Figure 5. NIU Employees by Local Zip Code

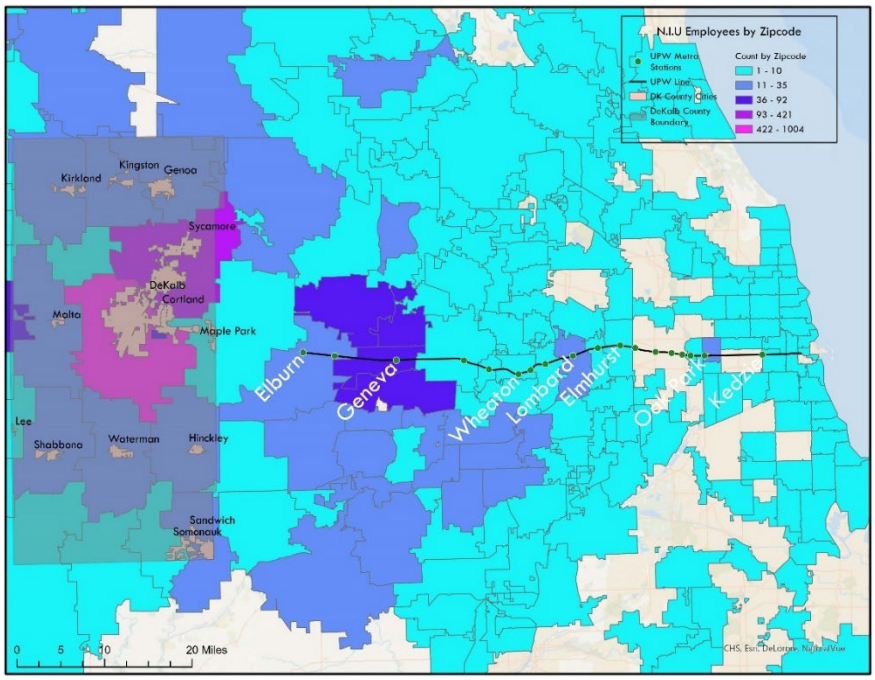


Figure 6. NIU Students by Local Zip Code

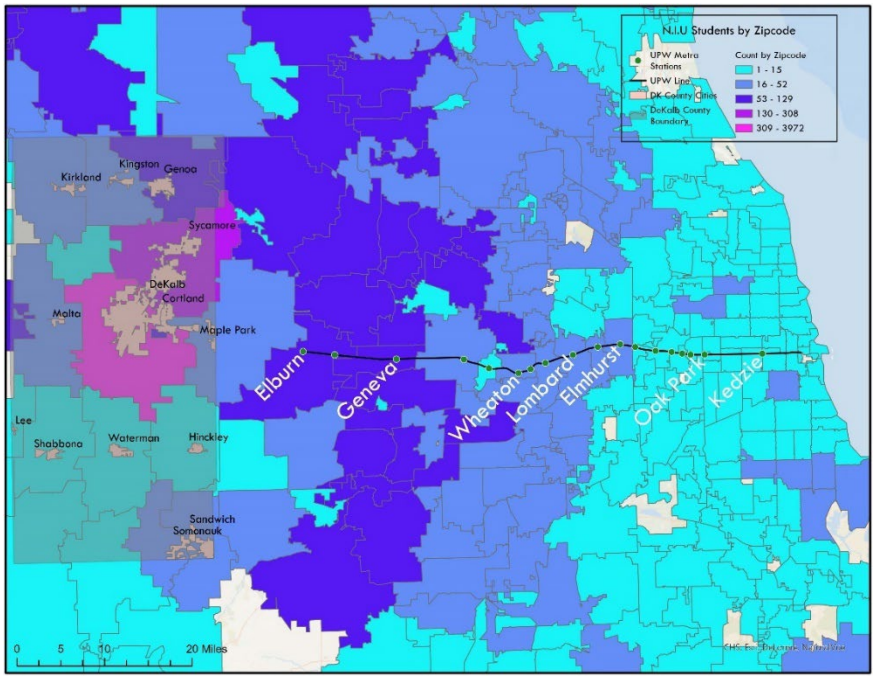
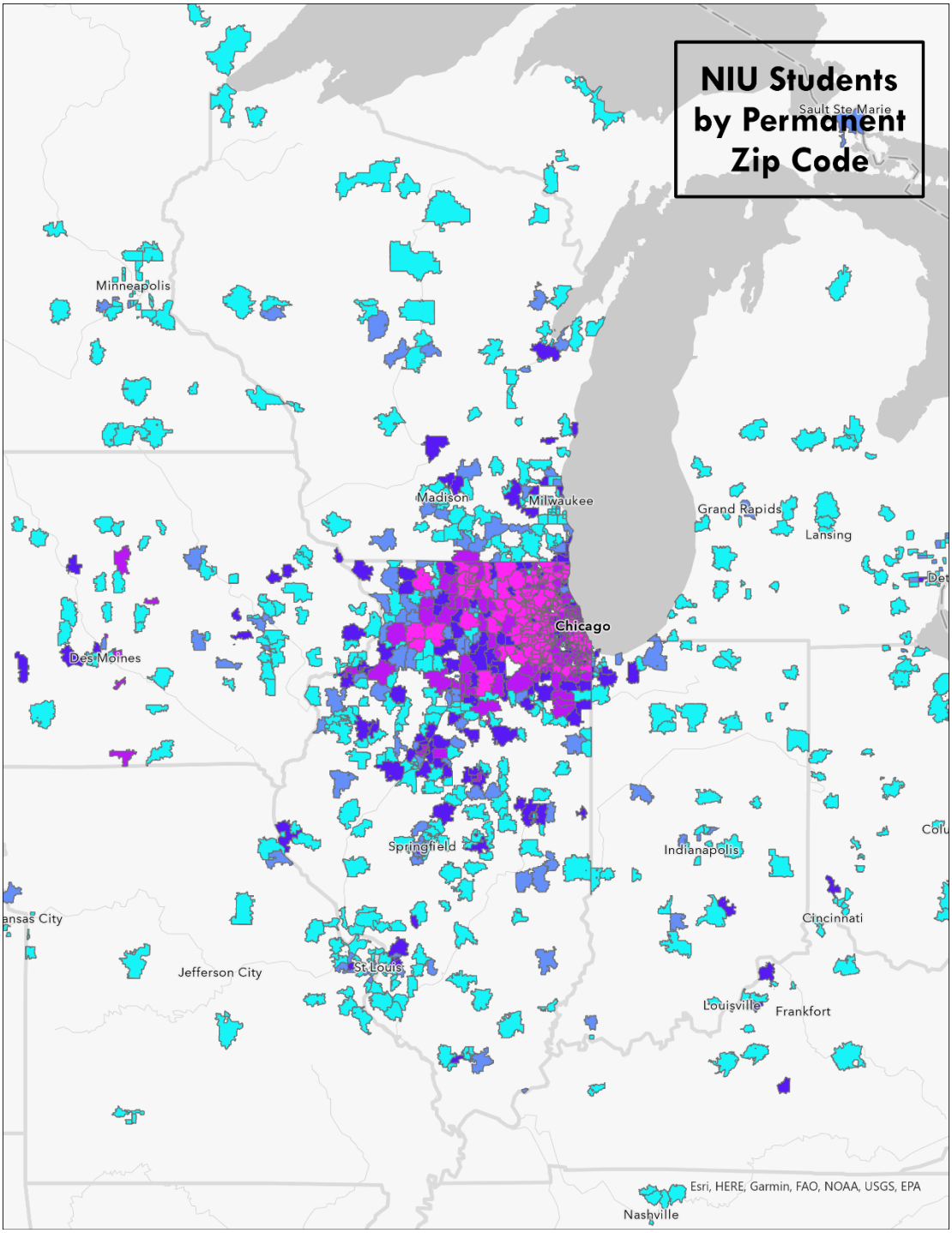


Figure 7. NIU Students by Permanent (Home) Address



Demographic Analysis

The Sam Schwartz team used the American Community Survey (ACS) Five Year (2016-20) dataset to examine numerous demographic and socioeconomic factors for all 66 block groups in DeKalb County.

The ACS is a demographics survey program conducted by the U.S Census Bureau and is the premier source for detailed population and housing information for a variety of geographic areas. Use of ACS data allowed the team to expand on the demographic information provided by Replica and take a closer look at how specific groups of the population travel within DeKalb County.

The information in this analysis included: population; percent below poverty; number of households; workers who worked in their state of residence; workers who worked in their county of residence; median household income; household income below $40,000/year; race and ethnicity; age of population; number of jobs; unemployed population; and population without access to a vehicle. Densities and percentages of populations were also calculated to better understand the population makeup of every census block group.

DeKalb County Demographic Snapshot[5]:

Population: **100,922**

Population Density: **4/acre**

Households: **38,616 (1.5/acre)**

Median Household Income: **$65,350**

Population Living Below Poverty: **9%**

Minority / Hispanic or Latino Population: **14%**

Population Over 64: **13%**

Population Under 25: **42%**

Unemployed Population: **3,810 (4%)**

Households Without Car Access: **533 (1%)**

Households Earning Less than $40,000: **33%**

U.S Citizens: **96%**

Average Commute Time[6]: **26.5 minutes**

Percent who drove alone for commute[4]: **78%**

Percent who commuted via carpool[4]: **9%**

Percent who worked at home[4]: **5%**

Transit Propensity Index

A transit propensity index (TPI) was developed as a geography-based quantitative measure of the likelihood for DeKalb County residents to use transit. Several US Census demographic and socioeconomic datasets were combined to generate the indices of relative transit rider propensity for DeKalb County. No single measure can tell us that a place has high ridership potential or high needs; however, when considered in combination, the variables presented below can point to areas of high transit potential. The relative percentage of each of these variables is calculated on the block group level and weighted to develop a composite score. The weight of each variable is based on that factor's influence on ridership potential; the specific degree of influence has been established using historical data and professional judgement.

[5] Data primarily from American Community Survey Five Year (2016-20) Dataset unless otherwise noted.

[6] Data from Center for Neighborhood Technology Housing and Transportation Index; https://htaindex.cnt.org/

Table 1 shows the proposed TPI weighting. Population and employment densities are weighted the highest, with each accounting for 30% of the index score. Other factors are weighted less so. The result is a score that represents the likelihood for transit to be used in given block group.

Table 1. Transit Propensity Index Weighting

Variable	Source	Weighting
Population Density	American Community Survey Five Year (2016-20) Dataset	30%
Employment Density (Destination)		30%
Residential Density		15%
% Households Earning Less than $40k		6%
Zero Vehicle Households		6%
Poverty Density		3%
Minority + Hispanic Density		3%
% Unemployed		3%
Under 25 Density		2%
Over 64 Density		2%

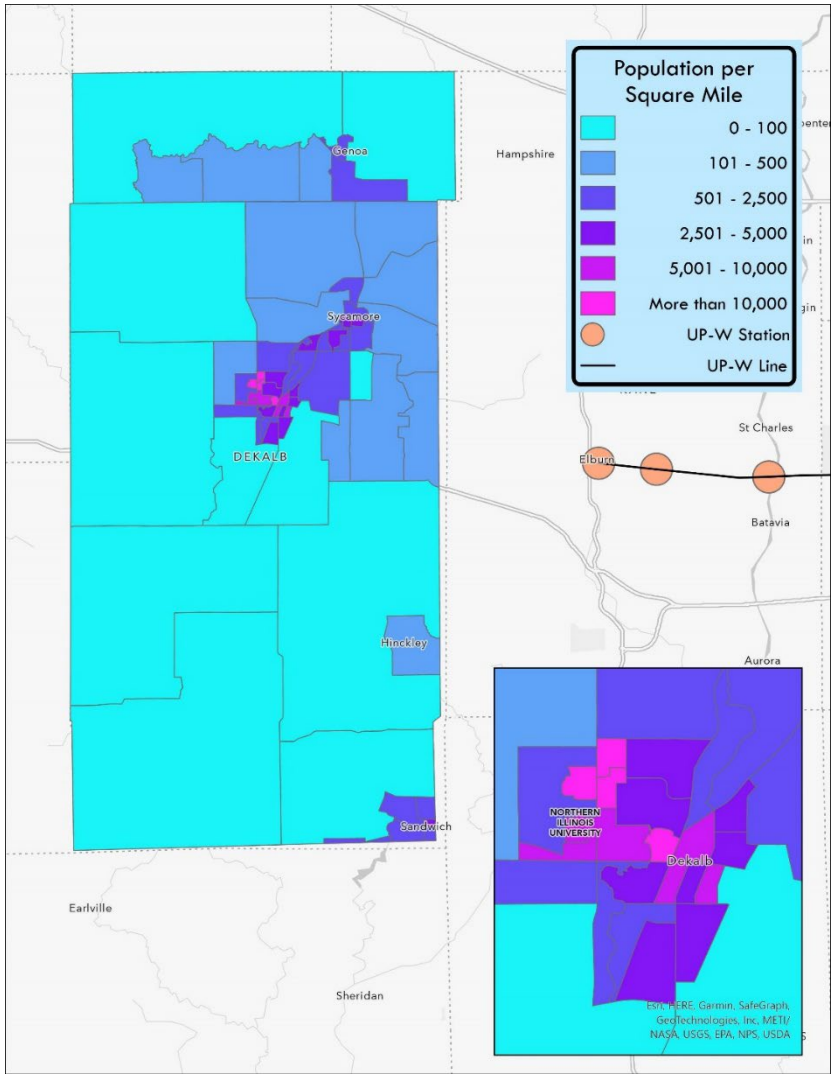
Each of these measures is a proxy for the likelihood of transit usage.

- Population density is a proxy for how walkable a neighborhood is, and also for the cost of car ownership (e.g., in dense areas, renting a garage space may be cost-prohibitive, or simply unnecessary). Figure 7 shows population density for DeKalb County.
- Employment density is a useful metric because employment centers generate a reliable number of commute trips. If work trips can be undertaken by transit, some proportion of the population is likely to do so. Figure 8 shows employment density for DeKalb County.
- Residential density creates transit propensity because it indicates that there is a large number of people in a small area, thus creating conditions where a very small proportion of residents can generate ridership.
- Low-income households are more likely to seek to use public transportation because the costs associated with car ownership (or, in car-dependent communities, second or third car ownership) will be a heavier financial burden that people who have higher incomes.
- Zero vehicle households do not have access to a car, and will therefore rely on walking, bicycling, carpools/rideshares, and public transport for all their transportation needs.

- Poverty density, like the proportion of low-income households, is a useful metric because low-income people are more burdened by the cost of car ownership and mileage than people with higher incomes.
- Density of minority populations is often correlated with other metrics discussed above: minority populations are more likely to ride transit. This may be because non-white populations tend to live in urban areas; are more likely to be car-free or low income; and because Black and LatinX populations tend to live further away from their jobs, diminishing the option of walking or riding a bicycle.
- % Unemployed: Unemployed people are likely to be price-sensitive and will opt to take transit, which has a lower cost than using a private automobile.
- Under 25 Density: Youth is correlated with transit ridership because it tends to correspond to some of the metrics above. Young people are less likely to own vehicles; are more likely to live in dense areas; and are more likely to be low-income. They are also more likely to have more control over their time than other demographics since they are less likely to have caregiving responsibilities.
- Over 64 Density: Older people are likely to be on a fixed income and therefore sensitive to the cost of driving versus the cost of taking transit. They are also likely (as a group if not individually) to have health concerns or disabilities that may preclude them from driving themselves places.

All other demographic maps are provided in Appendix B.

Figure 8. Population Density per Square Mile



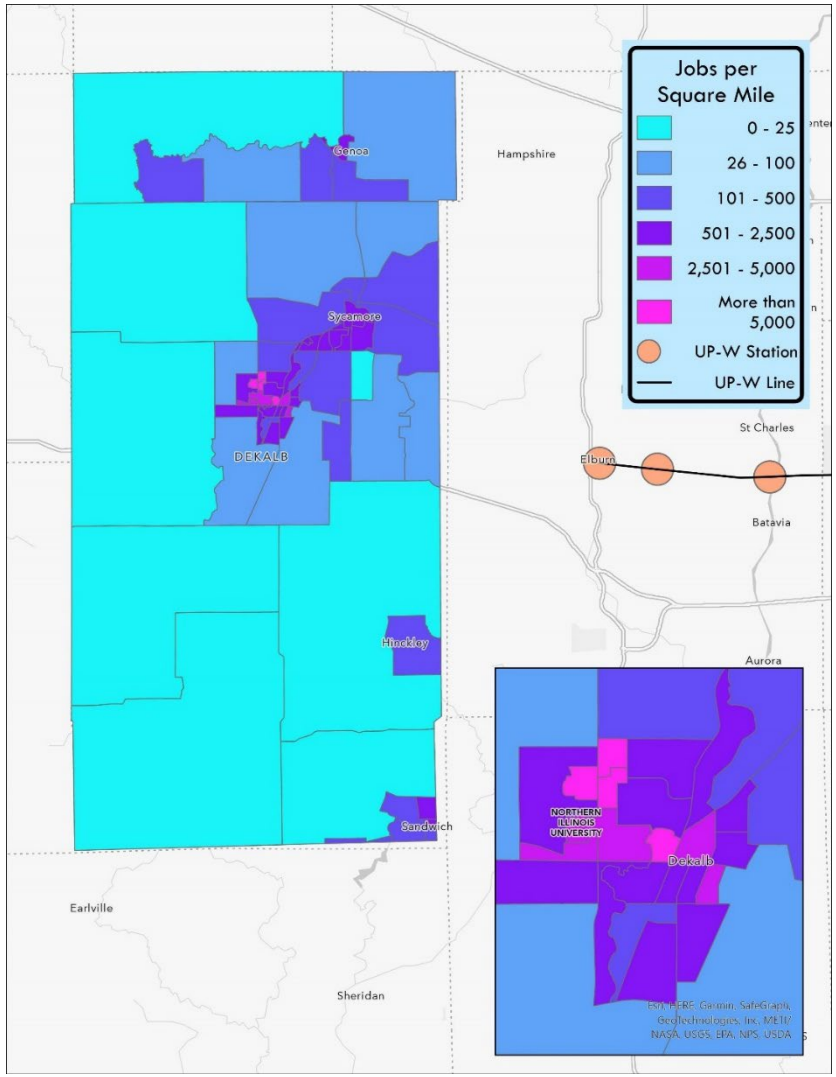


Figure 9. Employment Density per Square Mile

TPI Results

Transit service is generally most effective in areas with high concentrations of residents and/or jobs. Given that traveling to and from work accounts for the largest single segment of transit trips in most markets, the location and number of jobs in a region are also strong indicators of transit demand. We see this reflected in Figure 9, which presents the final transit propensity indices for all 66 block groups in DeKalb County. The concentration of likely transit-oriented populations combined with the high concentrations of employment show us that the city limits of DeKalb are the most likely to use expanded public transportation services.

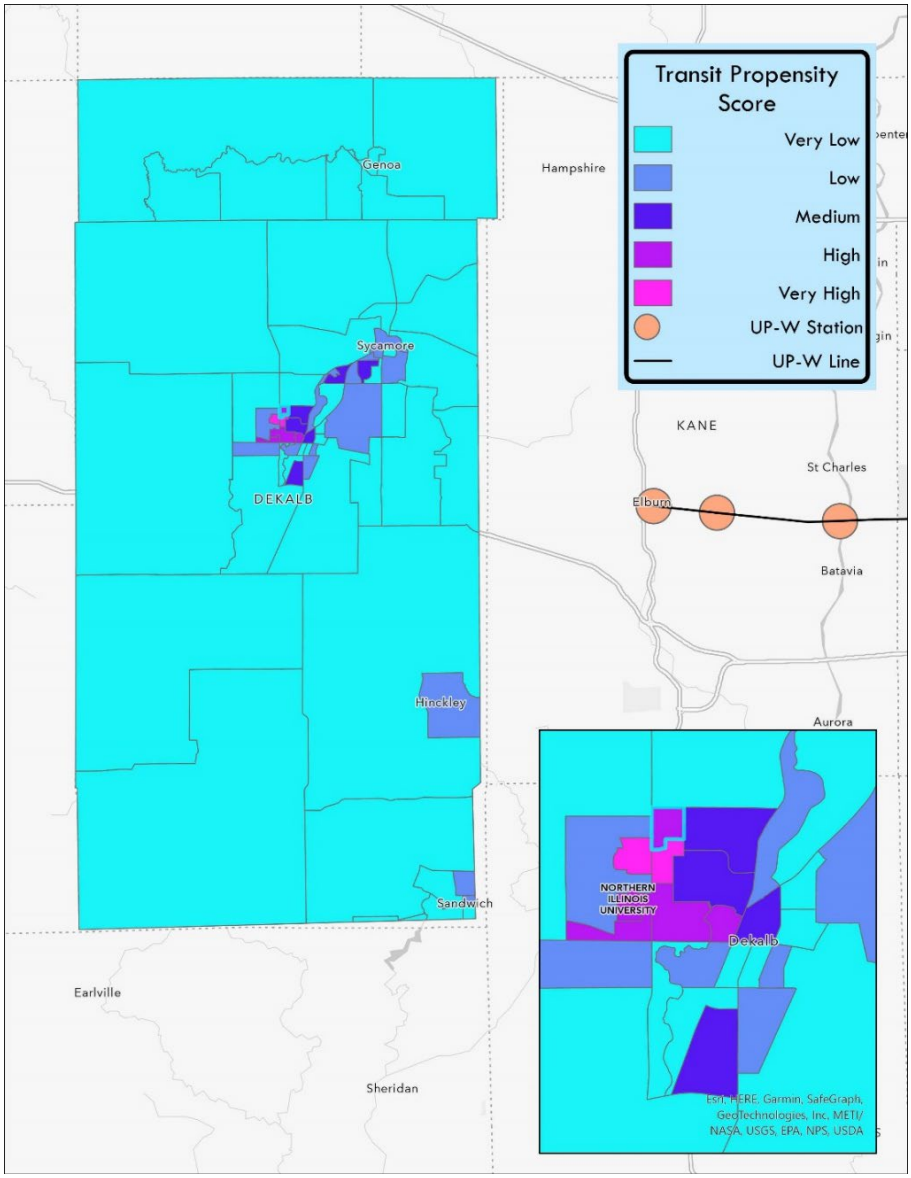
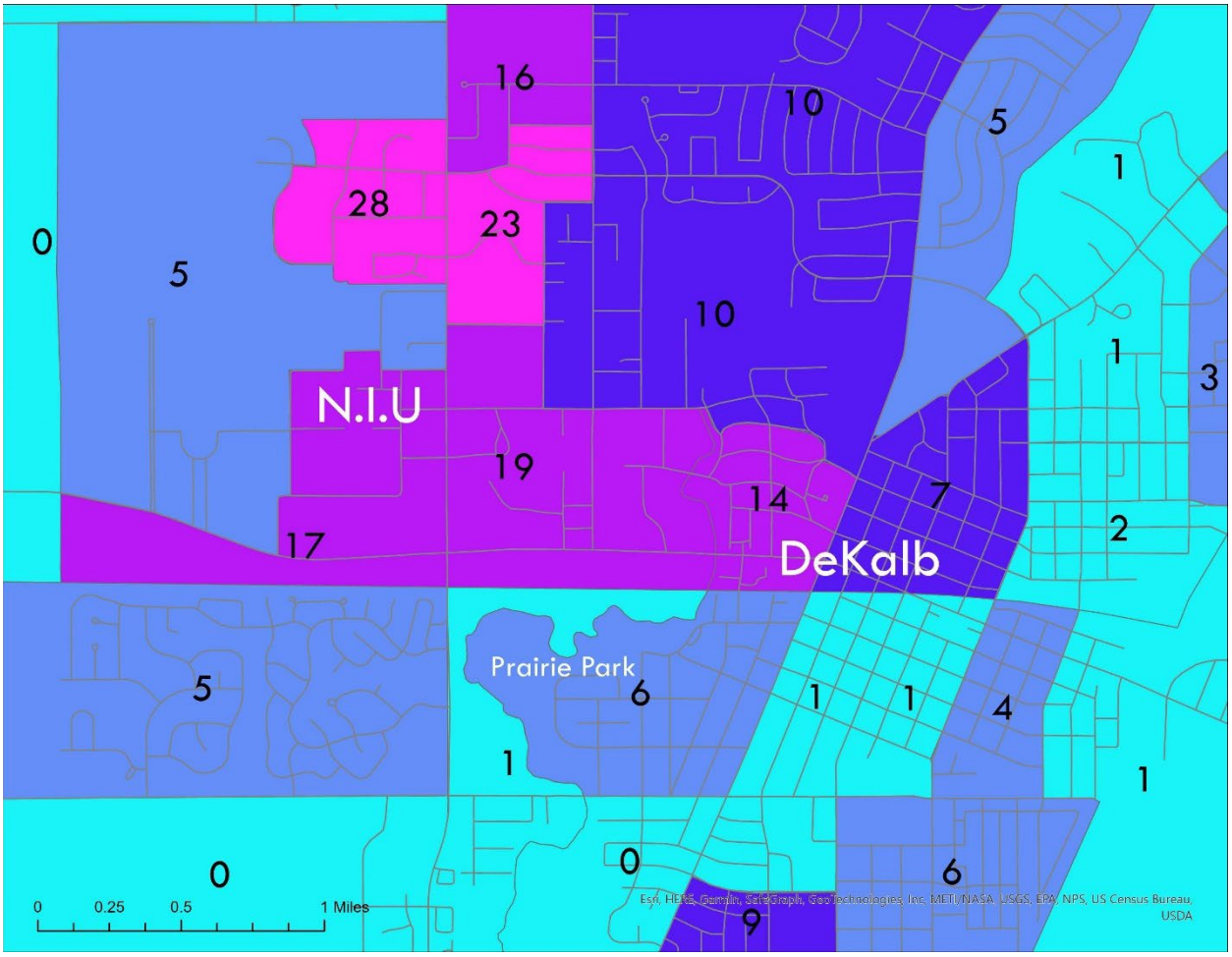


Figure 10. Final Transit Propensity Score by Census Block Group

The magenta areas north of NIU received the highest scores in the transit propensity analysis. These block groups contain a relatively high population, high residential density, high employment density, relatively high populations of people living beneath the poverty limit, and more residents under the age of 25 than any other area in the county. The NIU student and faculty population living and working here are a key target demographic in our analysis. Their location relative to the existing DeKalb train station presents an opportunity for a built-in ridership base, especially when supplemented by local bus service. Figure 10 presents a more detailed look at the NIU campus.

Figure 11. Final Transit Propensity Score in Block Groups Near NIU



Chapter 4. Transit Service Levels and Ridership Potential

This section provides an overview of transit ridership potential for a Metra UP-W extension to DeKalb, including an estimate of weekday and weekend riders should the extension occur. As noted in the introduction to this memo, there is some uncertainty with this ridership projection for a couple of reasons. First, transit ridership in the Chicago region is still recovering from the COVID-19 pandemic. While a "new normal" is likely here, it is unclear how lifestyle and behavior changes will play out in the coming years. Second, Metra is pivoting to a regional rail model, with more midday, nighttime, and weekend service than previously provided. This will attract new and different riders than who previously used Metra.

Existing Transit Service

DeKalb Public Transit currently provides in the city and to nearby Sycamore, including a connection on Route 12 between downtown and the Elburn Metra station. During the pandemic, Metra ridership suffered considerably, and the Route 12 suffered as well. As ridership has begun to rebound, however, the city of DeKalb has responded by increasing service frequency and lowering fares.

In April 2023, the most recent month available, more than 1,000 people used Route 12 to access Elburn Station, approximately 3 times as many riders as the average in 2022. This increase in service will help build the travel market connecting to the UP-W line, which will provide a natural market if a Metra extension occurs.

Metra Union Pacific West Line

The current Metra Union Pacific West line operates between Elburn and Ogilvie Transportation Center in downtown Chicago. As of April 2023, between Elburn and Olgilvie there are approximately 48 weekday trips (23 inbound/25 outbound), 10 Saturday round trips, and 9 Sunday round trips.

Elburn Station averaged approximately 336 daily weekday boardings in 2018, the last year of publicly available ridership information. The Covid-19 pandemic has had a dramatic impact on transit ridership in the Chicago region, including Metra. While recent ridership information is not available, it is likely that Elburn is not averaging the same number of riders as in 2018.

Amtrak Service to Illinois Universities

NIU is very sensitive to its lack of rail access relative to other Illinois universities. In the course of undertaking this analysis, its status as 'the only Illinois university without a rail connection' was invoked by NIU administration, city leaders, and others.

Because students tend to be enthusiastic transit users (relative to the general population), the busiest Amtrak stations in the state of Illinois all serve university campuses. The table below shows Amtrak ridership from January to July 2022, with the relevant universities identified.

City	University	Ridership
Chicago	University of Illinois-Chicago	1,334,758
Bloomington-Normal	Illinois State University	100,662
Champaign-Urbana	University of Illinois-Urbana-Champaign	90,325
Springfield	University of Illinois-Springfield	70,099

Carbondale	Southern Illinois University	30,385
Macomb	Western Illinois University	22,783
Mattoon	Eastern Illinois University	11,352

The top five stations in Illinois all serve university towns or are proximate to a university, and Macomb and Mattoon generate ridership disproportionate to their size due to the high ridership from university students.

Proposed Service

The proposed service options were developed at three cost points: low, medium, and high. The study team also explored a weekend schedule. With the proposed extension at 14.8mi and the train traveling at an average speed of 45 mph (including acceleration and deceleration), the extension is expected to add around 20 minutes to the schedule. For scheduling, the additional travel time of the extension was added to existing Metra UP-W scheduled service. Using these assumptions, a potential service schedule was developed.

Low Scenario

Table 2 shows the proposed schedule for the Low Scenario service option, which proposes extending four round trips on the UP-West line to DeKalb each weekday. The Low Scenario focuses on providing service during traditional rush hour times to provide services to commuters working in Chicago, with no midday or reverse-commute service.

Table 2. Low Scenario Schedule

To Chicago	18	22	30	36
	a.m.	a.m.	a.m.	a.m.
DeKalb	*5:25*	*5:55*	*6:45*	*7:35*
Elburn	5:45	6:15	7:05	7:55
La Fox	5:49	6:19	7:09	7:59
Geneva	5:57	6:27	7:17	8:07
West Chicago	6:05	6:35	7:25	8:15
Winfield	6:09	6:39	7:29	8:19
Wheaton	6:14	6:44	7:34	8:24
College Ave	6:17	6:47	7:37	8:27
Glen Ellyn	6:20	6:50	7:40	8:30
Lombard	6:24	6:54	7:44	8:34
Villa Park	6:28	6:58	7:48	8:38
Elmhurst	6:33	7:03	7:53	8:43
Berkeley	---	---	7:56	---
Bellwood	---	---	7:59	---
Melrose Park	---	---	8:02	---
Maywood	---	---	8:04	---
River Forest	---	---	8:06	---
Oak Park	6:44	7:14	8:09	8:54
Kedzie	---	---	8:18	---
Chicago OTC	7:02	7:32	8:30	9:12

From Chicago	41	47	53	59
	p.m.	p.m.	p.m.	p.m.
Chicago OTC	4:10	4:50	5:20	6:10
Kedzie	---	4:59	5:29	---
Oak Park	4:26	5:06	5:36	6:26
River Forest	---	5:08	5:38	---
Maywood	---	5:11	5:41	---
Melrose Park	---	5:13	5:43	---
Bellwood	---	5:16	5:46	---
Berkeley	---	5:19	5:49	---
Elmhurst	4:36	5:24	5:54	6:36
Villa Park	4:40	---	5:58	6:40
Lombard	4:44	5:30	6:02	6:44
Glen Ellyn	4:49	5:35	6:07	6:49
College Ave	4:52	---	6:10	6:52
Wheaton	4:55	5:40	6:13	6:55
Winfield	4:59	---	6:17	6:59
West Chicago	5:03	---	6:21	7:03
Geneva	5:12	---	6:30	7:12
La Fox	5:20	---	6:38	7:20
Elburn	5:30	6:10	6:48	7:30
DeKalb	5:50	6:30	7:08	7:50

Medium Scenario

The Medium Scenario includes the four trips for traditional rush hour, but also adds eight more trips during midday and evening periods for a total of 12 round trips every weekday. Table 3 shows the proposed schedule for the Medium-Cost service option.

Table 3. Medium Scenario Schedule

To Chicago	18	22	26	30	36	42	48	52	56	60	66	70
	a.m.	a.m.	a.m.	a.m.	a.m.	a.m.	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.
DeKalb	5:25	5:55	6:28	6:45	7:35	9:05	12:05	2:05	4:05	5:05	7:05	9:05
Elburn	5:45	6:15	6:48	7:05	7:55	9:25	12:25	2:25	4:25	5:25	7:25	9:25
La Fox	5:49	6:19	6:52	7:09	7:59	9:29	12:29	2:29	4:29	5:29	7:29	9:29
Geneva	5:57	6:27	7:00	7:17	8:07	9:37	12:37	2:37	4:37	5:37	7:37	9:37
West Chicago	6:05	6:35	7:08	7:25	8:15	9:45	12:45	2:45	4:45	5:45	7:45	9:45
Winfield	6:09	6:39	7:12	7:29	8:19	9:49	12:49	2:49	4:49	5:49	7:49	9:49
Wheaton	6:14	6:44	7:17	7:34	8:24	9:54	12:54	2:54	4:54	5:54	7:54	9:54
College Ave	6:17	6:47	7:20	7:37	8:27	9:57	12:57	2:57	4:57	5:57	7:57	9:57
Glen Ellyn	6:20	6:50	7:23	7:40	8:30	10:00	1:00	3:00	5:00	6:00	8:00	10:00
Lombard	6:24	6:54	---	7:44	8:34	10:04	1:04	3:04	5:04	6:04	8:04	10:04
Villa Park	6:28	6:58	---	7:48	8:38	10:08	1:08	3:08	5:08	6:08	8:08	10:08
Elmhurst	6:33	7:03	7:33	7:53	8:43	10:13	1:13	3:13	5:13	6:13	8:13	10:13
Berkeley	---	---	---	7:56	---	10:16	1:16	3:16	5:16	---	8:16	10:16
Bellwood	---	---	---	7:59	---	10:19	1:19	3:19	5:19	---	8:19	10:19
Melrose Park	---	---	---	8:02	---	10:22	1:22	3:22	5:22	---	8:22	10:22
Maywood	---	---	---	8:04	---	10:24	1:24	3:24	5:24	---	---	---
River Forest	---	---	---	8:06	---	10:26	1:26	3:26	5:26	---	8:25	10:25
Oak Park	6:44	7:14	---	8:09	8:54	10:29	1:29	3:29	5:29	6:24	8:28	10:28
Kedzie	---	---	---	8:18	---	10:38	1:38	3:38	5:38	6:33	---	---
Chicago OTC	7:02	7:32	8:00	8:30	9:12	10:50	1:50	3:50	5:50	6:45	8:46	10:46

From Chicago	15	21	29	33	37	41	47	53	59	65	69	73
	a.m.	a.m.	a.m.	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.
Chicago OTC	5:55	7:40	10:40	12:40	2:40	4:10	4:50	5:20	6:10	7:40	9:40	11:40
Kedzie	6:04	7:49	10:49	12:49	2:49	---	4:59	5:29	---	---	---	---
Oak Park	6:11	7:56	10:56	12:56	2:56	4:26	5:06	5:36	6:26	7:56	9:56	11:56
River Forest	---	7:58	10:58	12:58	2:58	---	5:08	5:38	---	7:58	9:58	11:58
Maywood	---	8:01	11:01	1:01	3:01	---	5:11	5:41	---	---	---	---
Melrose Park	---	8:03	11:03	1:03	3:03	---	5:13	5:43	---	8:03	10:03	12:03
Bellwood	---	8:06	11:06	1:06	3:06	---	5:16	5:46	---	8:06	10:06	12:06
Berkeley	---	8:09	11:09	1:09	3:09	---	5:19	5:49	---	8:09	10:09	12:09
Elmhurst	6:24	8:14	11:14	1:14	3:14	4:36	5:24	5:54	6:36	8:14	10:14	12:14
Villa Park	6:28	8:18	11:18	1:18	3:18	4:40	---	5:58	6:40	8:18	10:18	12:18
Lombard	6:32	8:22	11:22	1:22	3:22	4:44	5:30	6:02	6:44	8:22	10:22	12:22
Glen Ellyn	6:37	8:27	11:27	1:27	3:27	4:49	5:35	6:07	6:49	8:27	10:27	12:27
College Ave	6:40	8:30	11:30	1:30	3:30	4:52	---	6:10	6:52	8:30	10:30	12:30
Wheaton	6:43	8:33	11:33	1:33	3:33	4:55	5:40	6:13	6:55	8:33	10:33	12:33
Winfield	6:47	8:37	11:37	1:37	3:38	4:59	---	6:17	6:59	8:37	10:37	12:37
West Chicago	6:51	8:41	11:41	1:41	3:43	5:03	---	6:21	7:03	8:41	10:41	12:41
Geneva	7:00	8:50	11:50	1:50	3:52	5:12	---	6:30	7:12	8:50	10:50	12:50
La Fox	7:08	8:58	11:58	1:58	4:00	5:20	---	6:38	7:20	8:58	10:58	12:58
Elburn	7:30	9:08	12:08	2:08	4:11	5:30	6:10	6:48	7:30	9:08	11:08	1:08
DeKalb	7:50	9:28	12:28	2:28	4:31	5:50	6:30	7:08	7:50	9:28	11:28	1:28

High Scenario

The High Scenario schedule includes 16 weekday round trips, providing a robust option to travel to DeKalb during all time periods. The proposed schedule for the High-Cost service option is shown in Table 4.

Table 4. High Scenario Schedule

To Chicago	14	18	22	26	30	32	38	42	44	48	52	56	60	66	68	70
	a.m.	a.m.	a.m.	a.m.	a.m.	a.m.	a.m.	a.m.	a.m.	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.
DeKalb	*4:55*	*5:25*	*5:55*	*6:28*	*6:45*	*7:05*	*8:05*	*9:05*	*10:35*	*12:05*	*2:05*	*4:05*	*5:05*	*7:05*	*8:05*	*9:05*
Elburn	5:15	5:45	6:15	6:48	7:05	7:25	8:25	9:25	10:55	**12:25**	**2:25**	**4:25**	**5:25**	**7:25**	**8:25**	**9:25**
La Fox	5:19	5:49	6:19	6:52	7:09	7:29	8:29	9:29	10:59	**12:29**	**2:29**	**4:29**	**5:29**	**7:29**	**8:29**	**9:29**
Geneva	5:27	5:57	6:27	7:00	7:17	7:37	8:37	9:37	11:07	**12:37**	**2:37**	**4:37**	**5:37**	**7:37**	**8:37**	**9:37**
West Chicago	5:35	6:05	6:35	7:08	7:25	7:45	8:45	9:45	11:15	**12:45**	**2:45**	**4:45**	**5:45**	**7:45**	**8:45**	**9:45**
Winfield	5:39	6:09	6:39	7:12	7:29	7:49	8:49	9:49	11:19	**12:49**	**2:49**	**4:49**	**5:49**	**7:49**	**8:49**	**9:49**
Wheaton	5:44	6:14	6:44	7:17	7:34	7:54	8:54	9:54	11:24	**12:54**	**2:54**	**4:54**	**5:54**	**7:54**	**8:54**	**9:54**
College Ave	5:47	6:17	6:47	7:20	7:37	7:57	8:57	9:57	11:27	**12:57**	**2:57**	**4:57**	**5:57**	**7:57**	**8:57**	**9:57**
Glen Ellyn	5:50	6:20	6:50	7:23	7:40	8:00	9:00	10:00	11:30	**1:00**	**3:00**	**5:00**	**6:00**	**8:00**	**9:00**	**10:00**
Lombard	5:54	6:24	6:54	---	7:44	8:04	9:04	10:04	11:34	**1:04**	**3:04**	**5:04**	**6:04**	**8:04**	**9:04**	**10:04**
Villa Park	5:58	6:28	6:58	---	7:48	8:08	x9:08	10:08	11:38	**1:08**	**3:08**	**5:08**	**6:08**	**8:08**	**9:08**	**10:08**
Elmhurst	6:03	6:33	7:03	7:33	7:53	8:13	x9:13	10:13	11:43	**1:13**	**3:13**	**5:13**	**6:13**	**8:13**	**9:13**	**10:13**
Berkeley	---	---	---	---	7:56	---	9:16	10:16	11:46	**1:16**	**3:16**	**5:16**	---	**8:16**	**9:16**	**10:16**
Bellwood	---	---	---	---	7:59	---	9:19	10:19	11:49	**1:19**	**3:19**	**5:19**	---	**8:19**	**9:19**	**10:19**
Melrose Park	---	---	---	---	8:02	---	9:22	10:22	11:52	**1:22**	**3:22**	**5:22**	---	**8:22**	---	**10:22**
Maywood	---	---	---	---	8:04	---	9:24	10:24	11:54	**1:24**	**3:24**	**5:24**	---	---	**9:22**	---
River Forest	---	---	---	---	8:06	---	9:26	10:26	11:56	**1:26**	**3:26**	**5:26**	---	**8:25**	**9:25**	**10:25**
Oak Park	6:14	6:44	7:14	---	8:09	8:24	9:29	10:29	11:59	**1:29**	**3:29**	**5:29**	**6:24**	**8:28**	**9:28**	**10:28**
Kedzie	---	---	---	---	8:18	---	9:38	10:38	**12:08**	**1:38**	**3:38**	**5:38**	**6:33**	---	---	---
Chicago OTC	6:32	7:02	7:32	8:00	8:30	8:42	9:50	10:50	**12:20**	**1:50**	**3:50**	**5:50**	**6:45**	**8:46**	**9:46**	**10:46**

From Chicago	13	15	19	21	25	29	33	37	41	47	53	55	59	65	69	73
	a.m.	a.m.	a.m.	a.m.	a.m.	a.m.	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.
Chicago OTC	5:45	5:55	6:45	7:40	9:10	10:40	**12:40**	**2:40**	**4:10**	**4:50**	**5:20**	**5:40**	**6:10**	**7:40**	**9:40**	**11:40**
Kedzie	5:54	6:04	6:54	7:49	9:19	10:49	**12:49**	**2:49**	---	**4:59**	**5:29**	---	---	---	---	---
Oak Park	6:01	6:11	7:01	7:56	9:26	10:56	**12:56**	**2:56**	**4:26**	**5:06**	**5:36**	**5:56**	**6:26**	**7:56**	**9:56**	**11:56**
River Forest	6:03	---	7:03	7:58	9:28	10:58	**12:58**	**2:58**	---	**5:08**	**5:38**	---	---	**7:58**	**9:58**	**11:58**
Maywood	6:06	---	7:06	8:01	9:31	11:01	**1:01**	**3:01**	---	**5:11**	**5:41**	---	---	---	---	---
Melrose Park	6:08	---	7:08	8:03	9:33	11:03	**1:03**	**3:03**	---	**5:13**	**5:43**	---	---	**8:03**	**10:03**	12:03
Bellwood	6:11	---	7:11	8:06	9:36	11:06	**1:06**	**3:06**	---	**5:16**	**5:46**	---	---	**8:06**	**10:06**	12:06
Berkeley	6:14	---	7:14	8:09	9:39	11:09	**1:09**	**3:09**	---	**5:19**	**5:49**	---	---	**8:09**	**10:09**	12:09
Elmhurst	6:19	6:24	7:19	8:14	9:44	11:14	**1:14**	**3:14**	**4:36**	**5:24**	**5:54**	**6:06**	**6:36**	**8:14**	**10:14**	12:14
Villa Park	---	6:28	7:23	8:18	9:48	11:18	**1:18**	**3:18**	**4:40**	---	**5:58**	**6:10**	**6:40**	**8:18**	**10:18**	12:18
Lombard	---	6:32	7:27	8:22	9:52	11:22	**1:22**	**3:22**	**4:44**	**5:30**	**6:02**	**6:14**	**6:44**	**8:22**	**10:22**	12:22
Glen Ellyn	---	6:37	7:32	8:27	9:57	11:27	**1:27**	**3:27**	**4:49**	**5:35**	**6:07**	**6:19**	**6:49**	**8:27**	**10:27**	12:27
College Ave	---	6:40	7:35	8:30	10:00	11:30	**1:30**	**3:30**	**4:52**	---	**6:10**	**6:22**	**6:52**	**8:30**	**10:30**	12:30
Wheaton	6:31	6:43	7:38	8:33	10:03	11:33	**1:33**	**3:33**	**4:55**	**5:40**	**6:13**	**6:25**	**6:55**	**8:33**	**10:33**	12:33
Winfield	---	6:47	7:42	8:37	10:07	11:37	**1:37**	**3:38**	**4:59**	---	**6:17**	**6:29**	**6:59**	**8:37**	**10:37**	12:37
West Chicago	---	6:51	7:46	8:41	10:11	11:41	**1:41**	**3:43**	**5:03**	---	**6:21**	**6:33**	**7:03**	**8:41**	**10:41**	12:41
Geneva	---	7:00	7:55	8:50	10:20	11:50	**1:50**	**3:52**	**5:12**	---	**6:30**	**6:42**	**7:12**	**8:50**	**10:50**	12:50
La Fox	---	7:08	8:03	8:58	10:28	11:58	**1:58**	**4:00**	**5:20**	---	**6:38**	**6:50**	**7:20**	**8:58**	**10:58**	12:58
Elburn	7:10	7:30	8:13	9:08	10:38	**12:08**	**2:08**	**4:11**	**5:30**	**6:10**	**6:48**	**7:00**	**7:30**	**9:08**	**11:08**	1:08
DeKalb	7:30	7:50	8:33	9:28	10:58	**12:28**	**2:28**	**4:31**	**5:50**	**6:30**	**7:08**	**7:20**	**7:50**	**9:28**	**11:28**	1:28

Weekend Service

For the purposes of this study, weekend service was considered independent of weekday service and its costs and schedule are separate from weekday service. The proposed weekend service option includes four round trips each day. This schedule does not focus on rush hour commutes, instead seeking to provide service throughout the day. Table 5 shows the proposed weekend schedule.

Table 5. Weekend Proposed Service Schedule

SATURDAY SCHEDULE				
To Chicago	502	506	512	516
	a.m.	a.m.	p.m.	p.m.
DeKalb	7:05	10:05	4:05	8:05
Elburn	7:25	10:25	4:25	8:25
La Fox	7:29	10:29	4:29	8:29
Geneva	7:37	10:37	4:37	8:37
West Chicago	7:45	10:45	4:45	8:45
Winfield	7:49	10:49	4:49	8:49
Wheaton	7:54	10:54	4:54	8:54
College Ave	7:57	10:57	4:57	8:57
Glen Ellyn	8:00	11:00	5:00	9:00
Lombard	8:04	11:04	5:04	9:04
Villa Park	8:08	11:08	5:08	9:08
Elmhurst	8:13	11:13	5:13	9:13
Berkeley	8:16	11:16	5:16	9:16
Bellwood	8:19	11:19	5:19	9:19
Melrose Park	---	---	5:22	9:22
Maywood	8:23	11:23	---	---
River Forest	8:25	11:25	5:25	9:25
Oak Park	8:28	11:28	5:28	9:28
Kedzie	---	---	---	---
Chicago OTC	8:50	11:50	5:50	9:50

From Chicago	501	505	513	517
	a.m.	p.m.	p.m.	p.m.
Chicago OTC	8:40	12:40	6:40	10:40
Kedzie	---	---	---	---
Oak Park	8:56	12:56	6:56	10:56
River Forest	8:58	12:58	6:58	10:58
Maywood	9:01	1:01	7:01	11:01
Melrose Park	---	---	7:03	---
Bellwood	9:05	1:05	7:06	11:05
Berkeley	9:08	1:08	7:09	11:08
Elmhurst	9:12	1:12	7:12	11:12
Villa Park	9:16	1:16	7:16	11:16
Lombard	9:20	1:20	7:20	11:20
Glen Ellyn	9:25	1:25	7:25	11:25
College Ave	9:28	1:28	7:28	11:28
Wheaton	9:31	1:31	7:31	11:31
Winfield	9:35	1:35	7:35	11:35
West Chicago	9:39	1:39	7:39	11:39
Geneva	9:47	1:47	7:47	11:47
La Fox	9:56	1:56	7:56	11:56
Elburn	10:06	2:06	8:06	12:06
DeKalb	*10:26*	***2:26***	***8:26***	***12:26***

SUNDAY/HOLIDAY SCHEDULE				
To Chicago	500	506	512	516
	a.m.	a.m.	p.m.	p.m.
DeKalb	*6:05*	*10:05*	***4:05***	***8:05***
Elburn	6:25	10:25	4:25	8:25
La Fox	6:29	10:29	4:29	8:29
Geneva	6:37	10:37	4:37	8:37
West Chicago	6:45	10:45	4:45	8:45
Winfield	6:49	10:49	4:49	8:49
Wheaton	6:54	10:54	4:54	8:54
College Ave	6:57	10:57	4:57	8:57
Glen Ellyn	7:00	11:00	5:00	9:00
Lombard	7:04	11:04	5:04	9:04
Villa Park	7:08	11:08	5:08	9:08
Elmhurst	7:13	11:13	5:13	9:13
Berkeley	7:16	11:16	5:16	9:16
Bellwood	7:19	11:19	5:19	9:19
Melrose Park	7:22	---	5:22	9:22
Maywood	---	11:23	---	---
River Forest	7:25	11:25	5:25	9:25
Oak Park	7:28	11:28	5:28	9:28
Kedzie	---	---	---	---
Chicago OTC	7:50	11:50	5:50	9:50

From Chicago	501	505	513	517
	a.m.	p.m.	p.m.	p.m.
Chicago OTC	8:40	12:40	6:40	10:40
Kedzie	---	---	---	---
Oak Park	8:56	12:56	6:56	10:56
River Forest	8:58	12:58	6:58	10:58
Maywood	9:01	1:01	7:01	11:01
Melrose Park	---	---	7:03	---
Bellwood	9:05	1:05	7:06	11:05
Berkeley	9:08	1:08	7:09	11:08
Elmhurst	9:12	1:12	7:12	11:12
Villa Park	9:16	1:16	7:16	11:16
Lombard	9:20	1:20	7:20	11:20
Glen Ellyn	9:25	1:25	7:25	11:25
College Ave	9:28	1:28	7:28	11:28
Wheaton	9:31	1:31	7:31	11:31
Winfield	9:35	1:35	7:35	11:35
West Chicago	9:39	1:39	7:39	11:39
Geneva	9:47	1:47	7:47	11:47
La Fox	9:56	1:56	7:56	11:56
Elburn	10:06	2:06	8:06	12:06
DeKalb	*10:26*	***2:26***	***8:26***	***12:26***

Ridership Projection

Potential ridership for the Metra extension was estimated using the Replica trip information and the transit propensity index. The Replica information defined the travel market (i.e., the number of trips traveling between DeKalb and the Chicago Metropolitan Area), while the transit propensity index was used to determine potential mode share (i.e., the number of people likely to use the transit extension).

The tables below provide the expected mode share based on the transit propensity index. The mode share was different depending on the direction of travel. For weekday trips originating in DeKalb and going to Chicago, the mode share was higher, reflecting there are significant factors (traffic congestion, parking costs, and destination density) that would likely compel more people to use the train. For weekday trips originating in Chicago and destined for DeKalb, the mode share is lower to reflect the lower likelihood that a traveler would choose transit. Saturday mode share is higher than weekday outbound mode share but lower than inbound weekday mode share.

Table 6. Weekday Inbound (to Chicago) Expected Mode Share

TPI Rating	Expected Mode share
Low	0.75%
Medium Low	1.00%
Medium	1.50%
Medium High	2.00%
High	3.00%

Table 7. Weekday Outbound (from Chicago) Expected Mode Share

TPI Rating	Expected Mode Share
Low	0.50%
Medium Low	0.75%
Medium	1.00%
Medium High	1.25%
High	1.50%

Table 8. Saturday Expected Mode Share

TPI Rating	Expected Mode Share
Low	0.50%
Medium Low	0.75%
Medium	1.00%
Medium High	1.25%
High	1.50%

Based on the above methodology, an expected weekday ridership is 157 people from DeKalb to Chicago (inbound to Chicago in the AM), and 102 from Chicago to DeKalb (outbound to DeKalb in the AM). Typical Weekend ridership would be 83 inbound and 106 outbound. Table 9 summarizes the findings.

Table 9. Projected Ridership Results

Day	Total Trips (All modes)	Daily Ridership	Mode Share	Annualized Transit Trips
Weekday	21,500	259	1.2%	66,000
Weekend	19,200	189	1.0%	20,000

Annualization: 255 weekdays and 104 Weekend days

These numbers are based on a high-level analysis of existing trips to/from DeKalb County and do not account for several important variables, including the number of UP-W trips that would operate to DeKalb, where a station would be located within the city, and the price of parking.

Further, this analysis also does not account for induced demand that may occur with easier access to the Chicago Metropolitan Area. In particular, NIU (as well as other employers) might be able to attract more people to the community: students who might currently choose to attend school elsewhere might attend NIU if they could use the Metra to go home more easily, or felt they could spend their time on campus without a car (currently, about 60% of students in NIU residence halls do not have parking passes, so there are plenty of students who attend NIU without vehicles). It could also serve as a recruitment tool for NIU staff and faculty – whose spouses might wish to commute to Chicago – or to hospital, Facebook, or other highly-skilled employees whose partners might struggle to find employment in DeKalb and want the option to commute or might simply prefer to have train access to Chicago vs. needing to rely on a personal vehicle.

Several case studies of recent commuter rail extension projects were reviewed to understand the potential for ridership to DeKalb. These case studies are presented as Appendix C in this document.

Chapter 5. Operations and Maintenance Costs

The extension of the Union Pacific West line from Elburn to DeKalb would require an annual expenditure to pay for the operation and maintenance (O&M) of the service extension. This chapter details how O&M costs were estimated using service statistics from the proposed extension and unit costs provided by Metra.

For the extension the following service statistics were estimated:

- Train hours: the time that trains are scheduled in revenue service.
- Track miles: the additional miles of track that would need to be maintained as part of the service extension.
- Passenger cars: the number of additional passenger cars Metra would need to maintain as part of the service extension.
- Car miles: the annual number of miles that passenger cars would travel for the service extension.
- Route miles: the miles associated with the extension of the route line, as opposed to the physical miles of track (track miles).

There are also fixed costs associated with the extension that cover additional provision of service from the operator. Fixed costs include:

- Administration: a fixed rate for administering additional service determined by the operator.
- Downtown stations: applies to the maintenance and use of the Downtown Metra stations.

Table 6 summarizes the cost drivers and the cost item associated with each.

Table 10. Cost Drivers and Associated Items

Cost Driver	Cost Item	Unit Cost (2023$)
Train Hours	Train operations	$967.67
Track Miles	Maintenance of way	$129,709
Total Passenger Car	Maintenance of equipment (fixed)	$97,989
Car Miles	Maintenance of equipment (variable)	$1.14
Fixed x Percentage of route miles for the extension (for the three Metra Union Pacific lines)	Administration (fixed)	$5,587,672
Route Miles	Administration (variable)	$75,597
Car Miles	Purchased fuel	$1.15 - $1.93
Annual Train Trips	Downtown stations (variable)	$29.07
Fixed x Percentage of route miles for the extension (for the three Metra Union Pacific lines)	Downtown stations (fixed)	$1,505,506
Route Miles	Claims, risk management, property/liability insurance	$34,594

Table 7 summarizes the existing and proposed station, route, and track figures, regardless of which level of service is considered.

Table 11. Existing and Proposed Facilities

Stations		
Existing	Proposed	**Difference**
18	19	**1**
Route Miles		
Existing	Proposed	**Difference**
43.6	58.4	**15.8**
Track Miles		
Existing	Proposed	**Difference**
144.2	173.8	**29.6**

In addition to the projected increase in stations and route and track miles, Table 8 summarizes the assumptions the consultant team considered while modeling operations and maintenance cost for each service level.

Table 12. Assumptions for Operations Modelling

Approximate Distance to DeKalb Station:	14.8 miles
Average Speed	45 mph
Approximate Added Time	20 minutes
Weekdays	255 days
Weekends	104 days
Average Train Consist	9 cars
Existing Passenger Cars	94 passenger cars
Percentage of route miles for the extension (for the three Metra Union Pacific lines)	8.2%
Existing Weekday Trips to Ogilvie Transportation Center	59 daily trips

Using these assumptions as a baseline, the consultant team modelled the remaining cost drivers. Daily and annual train hours were calculated by taking the number of daily trips per service level by the 20-minute added travel time between Elburn and DeKalb. Daily and annual car miles were calculated by

taking the daily trips per service level by the 14.8 mile added travel distance between Elburn and DeKalb, by the average train consist (the number of cars on a train, in this case, 9).

After consultation from Metra, the results include a low, medium, and high cost for each service level to account for fuel cost variability. The results are summarized in Table 8. The costs are shown in 2023 dollars, in millions, and show annual costs. For example, the cost of operating 12 roundtrips each weekday at the lowest fuel cost is $11,990,000 annually and $12,840,000 annually at the highest fuel cost. The weekend estimates can be considered as an optional addition of service under any scenario. 4 weekend roundtrips are estimated to cost less than $1 million annually in each of the fuel cost variants.

Table 13. Summary of Service Statistics

	Low (4 R/T)	Medium (12 R/T)	High (16 R/T)	Weekend (4 R/T)
Daily Trips	8	24	32	8
Daily Train Hours	2.67	8.00	10.67	2.67
Daily Car Miles	1,066	3,197	4,262	1,066
Annual Train Hours	680	2,040	2,720	277
Annual Car Miles	271,728	815,184	1,086,912	110,822

Based on the operating statistics and unit costs, the operations and maintenance cost for the extension include the following (in 2023 dollars)[7]:

- Low Scenario (4 round trips per weekday): $8.15 - $8.37 million
- Medium Scenario (12 round trips per weekday): $10.71 - $11.35 million
- High Scenario (16 round trips per weekday): $11.99 - $12.84 million
- Weekend Service (4 round trips per weekend day): $0.52 – $0.61million

The noteworthy finding with the O&M cost is how the incremental increase between service levels is relatively small. Despite tripling the number of daily round trips, the incremental cost between the low and medium scenarios is between $2.5 and 3.0 million. This is due to the fixed costs remaining constant under each scenario, so the only cost driver increase is from added trip hours and miles. Thus, once DeKalb begins paying into the system, it is in the city's best interest to add more service at a small incremental cost. This would benefit NIU students traveling during middays, nights, and weekends.

[7] The variance in the above numbers comes from the fuel cost, where Metra provided a low/medium/high cost.

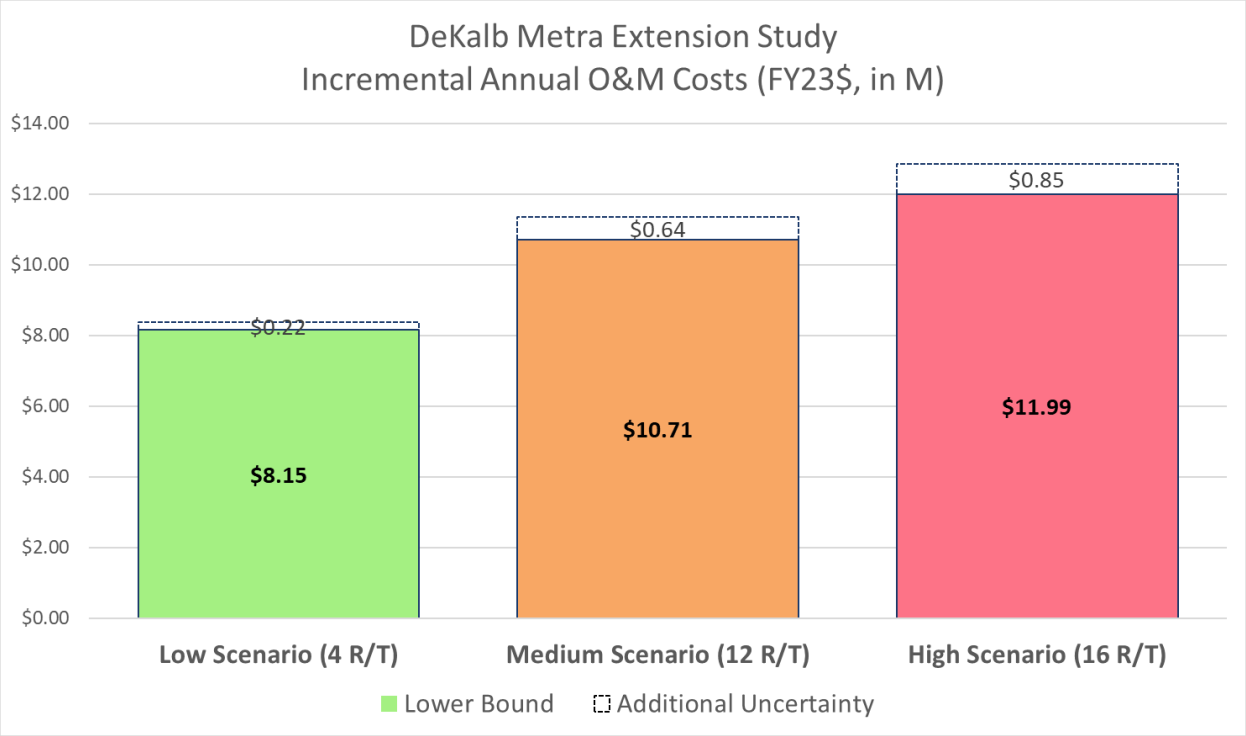


Figure 12. Operations and Management Costs by Level of Service

Chapter 6. Infrastructure Needs and Capital Costs

An essential part of this feasibility study is to explore infrastructure needs and capital costs required to extend the UP-West line to DeKalb. The expected capital costs for this extension are projected to cost between $256 and 385 million dollars (2023 dollars).

Infrastructure Needs

The Union Pacific Railroad (UPRR) owns the mainline track between Elburn and DeKalb, and it is an active freight corridor. As a result, UP would require significant upgrades to the corridor to ensure that Metra trains do not interfere with freight operations. While UPRR did not provide an exact recommendation on improvements, the chief assumption used here is that a third mainline track would be constructed between Elburn and DeKalb.

As operator of the service, Metra also provided infrastructure needs to the consultant team. Metra would require the purchase of additional trainsets to extend the line to DeKalb. Currently the UP-West line uses 12 trainsets in peak service. The extension to DeKalb would require an additional 3-4 trainsets to meet the proposed schedule. This cost estimate assumed the purchase of three 8-car trainsets (24 galley cars and three locomotives). This estimate also includes costs associated with overnight train storage near DeKalb, including right-of-way acquisition and a crew building.

Finally, this cost estimate includes improvements to existing DeKalb Station in downtown DeKalb, including parking lot improvements, building rehab, and the closure of North 6th Street at the railroad.

Capital Costs

Most of the capital costs were estimated by taking a similar project (the UPRR 3rd mainline track project between Kress Road and Peck Road) and prorating the costs for the extension between Elburn and DeKalb. Costs are presented using FTA Standard Cost Categories.

- 10 GUIDEWAY & TRACK ELEMENTS
  Includes all civil and trackwork for adding a 3rd mainline track between Elburn and DeKalb.
  Includes grade crossings for adding a 3rd mainline track.
  Includes all trackwork for overnight train storage facility.

- 20 STATIONS, STOPS, TERMINALS, INTERMODAL
  Includes upgrades to DeKalb Station, including building rehab, new platforms, Metra signage, ticket vending machines, and parking lot.

- 30 SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS
  Includes cost for crew building adjacent to train storage area.

- 40 SITEWORK & SPECIAL CONDITIONS
  Includes costs for culverts and crashwalls for adding a 3rd mainline track.
  Includes utility relocation costs.

- 50 SYSTEMS
  Includes costs for wayside signals.

- 60 ROW, LAND, EXISTING IMPROVEMENTS
  Includes property acquisition costs[8].

- 70 VEHICLES
  Includes cost for three trainsets (24 Metra traincars and 3 locomotives).

- 80 PROFESSIONAL SERVICES
  No costs were included for professional services because next steps for the project are unclear.

- 90 UNALLOCATED CONTINGENCY
  A 50% unallocated contingency was included to account for the unknowns with this project.

Table 14: Capital Cost Summary

Cost Category	Estimated Capital Cost (2023$)
10 GUIDEWAY & TRACK ELEMENTS	$ 87,959,000
20 STATIONS, STOPS, TERMINALS, INTERMODAL	$ 5,000,000
30 SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS	$ 1,000,000
40 SITEWORK & SPECIAL CONDITIONS	$ 45,236,000
50 SYSTEMS	$ 22,169,000
60 ROW, LAND, EXISTING IMPROVEMENTS	$ 4,647,000
70 VEHICLES	$ 90,900,000
80 PROFESSIONAL SERVICES	$ -
Subtotal	*$ 256,911,000*
90 UNALLOCATED CONTINGENCY	$ 128,455,500
Total Estimated Project Cost	*$ 385,366,500*

[8] Union Pacific owns 100 feet of right-of-way on its mainline, which can fit three tracks. Therefore, it was assumed that right-of-way purchase would be limited to the train storage area.

Chapter 7. Potential Grant and Funding Opportunities

This chapter outlines the funding opportunities for both capital and operating costs of an extension of the Metra UP-West line.

Operational Funding and Governance

As Chapter 5 describes, the City of DeKalb would need to provide between $8 and 12 million dollars annually (2023 dollars) to Metra to operate the UP-West extension to DeKalb. Metra would only enter into agreement with the city if the operating funds came from a dedicated funding source. Within the current legal structure in Illinois there are two ways to secure dedicated funding. One is the creation of a local mass transit district, while the other would be for DeKalb County to join the Chicago Regional Transportation Authority (RTA). Each option is described below, along with a high-level evaluation of This section provides a summary of the benefits of each below, as well as some of the associated issues.

Local Mass Transit District

The Local Mass Transit District Act (70 ILCS 3610) authorizes the creation of a mass transit district in Illinois for the purposes of providing public transit service to the local community. With referendum approval these districts can be created beyond single county or municipal boundaries. Local mass transit districts have the power to purchase property, enter into service purchase agreements, and issue bonds. Purchase of service from Metra would be a key outcome if DeKalb created a mass transit district.

Districts can levy up to a 0.25% property tax on property in its jurisdiction, but it may only levy a property tax and all taxes must be approved by referendum. However, the district may contract with other local governments with broader taxation authority to fund operations.[9]

Table 15. Evaluation of Creating a Mass Transit District

Pros	Cons
Can be created without regard to county or municipal boundaries	Can only levy property taxes
Has power to purchase property, enter into service purchase agreements, issue bonds, etc.	Imposition of a property tax requires referendum approval
Can levy up to a .25% property tax	Requires separate administration
Can contract with local government with broader taxation authority for funding	
Consolidate with DeKalb Public Transit services	

[9] Local Mass Transit District Act, 70 ILCS 3610. https://www.ilga.gov/legislation/ilcs/ilcs3.asp?ActID=983&ChapterID=15

Joining Chicago RTA

Another key option for DeKalb would be to join the RTA. The RTA Act outlines the process for joining the RTA (70 ILCS 3615/3.06), however, the originating legislation limits RTA's powers outside of the original six counties (Cook, Lake, McHenry, Kane, DuPage, and Will).

The RTA Act outlines the taxation authority and maximum rates the RTA can collect in the original six county area. However, the Act does not grant taxation authority in annexed areas.[10] This means that the RTA can operate service beyond the six-county area but cannot receive operating funds in return. As a result, there have been no RTA annexations to date.

Another key consideration for DeKalb is that joining RTA would result in the loss of FTA Urbanized Area Formula Grant (5307) funds. City Council would have to decide if the benefit received from RTA would outweigh the loss of local funds for DeKalb Public Transit.

Table 16. Evaluation of Joining Chicago RTA

Pros	Cons
Can be created without regard to county or municipal boundaries	No tax collected outside current six county area
Administered directly by RTA	Requires legislative change to levy taxes outside the 6 RTA counties
Requires no service purchase agreements	No RTA annexation to date
Could be financed through other methods	City would lose 5307 funds

Changes to RTA Act

Granting the RTA taxation authority outside of the original six-county area would require a legislative update, but the Illinois General Assembly has taken the beginning steps in doing so. In 2022, the Illinois General Assembly passed Public Act 102-1028, which directed the Chicago Metropolitan Agency for Planning (CMAP) to undergo a study developing legislative recommendations on public transit in northeast Illinois. The CMAP Plan of Action for Regional Transit (PART) study is currently underway and will deliver a series of recommendations by the end of 2023. PART seeks to address the financial viability and funding of transit, the rider experience, the governance of local transit agencies, and community and economic development opportunities.[11]

Given the currently changing legislative environment surrounding transit funding and governance in Illinois, the City of DeKalb and NIU should monitor the ongoing developments, and should the opportunity present itself, lobby the Illinois General Assembly for updates to the RTA Act that would favorably benefit the proposed extension.

[10] Regional Transportation Authority Act, 70 ILCS 3615 (1983). https://www.ilga.gov/legislation/ilcs/ilcs5.asp?ActID=984&ChapterID=15

[11] *Plan of Action for Regional Transit—CMAP*. (n.d.). Retrieved April 28, 2023, from https://www.cmap.illinois.gov/programs/regional-transit-action

Capital Funding Opportunities

With the recent passage of the Infrastructure Investment and Jobs Act (IIJA), federal capital funds for transit investment are substantially increased over previous years. Several new grant programs have been established, while existing programs are funded at higher levels than in the past.

FTA Capital Investment Grant Program

This section details the Federal Transit Administration's (FTA) Capital Investment Grant (CIG) program, more commonly known as New Starts and Small Starts. New Starts is the primary grant program for large transit infrastructure projects in the United States, with $4.6B in annual funding for FY2022.

All New Starts projects have a project cost of $400M+ or a federal share of $150M+ and CIG grants require at least a 20% local match from non-federal sources. These funds can come from state spending, local governments, private donors, bonds.

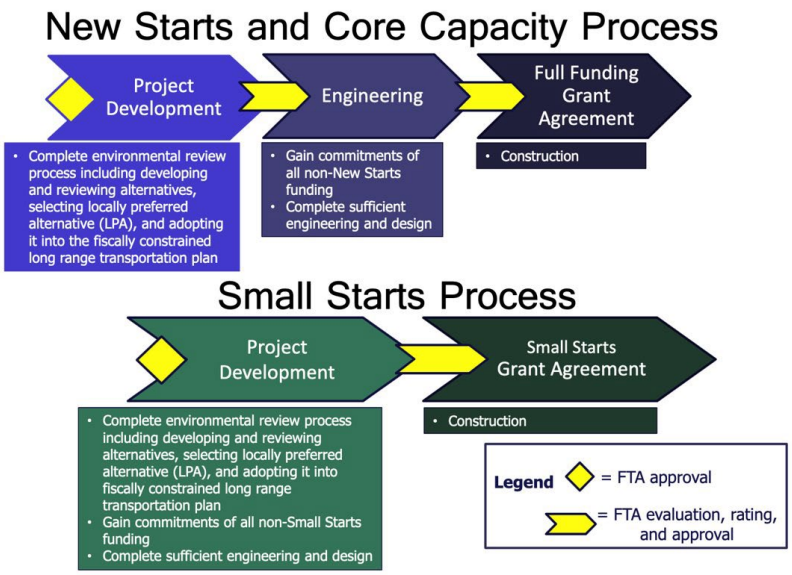


Figure 13. Outline of FTA CIG Program Process

In the recent past, successful projects typically have had a high local match of upwards of 50% of the total project cost. It is possible that these thresholds may relax as IIJA money becomes available for the CIG program. For this project, the City of DeKalb may choose to partner with state, regional, institutional, and private organizations to raise funds to meet the local match requirement.

All CIG applications are reviewed based on seven criteria: mobility improvements, environmental benefits, congestion relief, economic development effects, land use, and cost-effectiveness. New Starts projects that have been accepted by the FTA enter two phases prior to construction: Project Development and Engineering.

Project Development: This phase requires the selection of a locally preferred alternative (LPA), which includes an alignment, station location, and service operations that will continue for further development. Following the selection of an LPA, the local Metropolitan Planning Organization (MPO) must adopt it into their fiscally constrained metropolitan transportation plan. Also during project development, the National Environmental Policy Act (NEPA) environmental review process must be completed. However, because projects are limited to two years in the Project Development phase, projects expecting difficult, or time-consuming NEPA review processes may want to begin the NEPA process prior to entering Project Development. Note: project costs incurred prior to entering Project Development are not eligible for reimbursement from CIG funds and do not count towards local match. Before exiting Project Development, the project must have 30% of design and engineering completed and secure commitment of 30% of local funds.

Engineering: This phase has no time limit, however 50% of local funds must be committed five years after entering Engineering. During Engineering, the design, cost, scope, and schedule of the project will be finalized. Before exiting Engineering, 100% of non-CIG funds must be committed.

Fully Funded Grant Agreement: After exiting Engineering, the last step for a project is to secure the Fully Funded Grant Agreement (FFGA). The FTA and sponsoring agency sign the FFGA as a legally binding document of the project, thereby allowing construction to begin.[12]

Small Starts is the FTA's program for smaller transit infrastructure projects. Small Starts projects have a cost of less than $400M and less than $150M in CIG funding. The Small Starts program follows a similar process as the New Starts program, but with no Engineering phase. Small Starts projects only have the Project Development phase, which has no time limit. However, 50% of local funds must be committed within three years of entering Project Development. All design and funding commitments must be completed prior to exiting Project Development.

Other Grant Programs

While New Starts and Small Starts are the primary funding mechanisms for new transit infrastructure in the United States, using funding from other grant programs may strengthen an application or allow for alternative funding structures, such as pursuing a Small Starts grant as opposed to a New Starts Grant. Table 6 below outlines some grant programs that could be used to offset CIG funds.

Table 17. Potential Grant Funding Opportunities[13]

Program	Description
FTA Capital Improvement Grants (New Starts and Small Starts)	Funds transit capital investments, including heavy rail, commuter rail, light rail, streetcars, and bus rapid transit
National Infrastructure Project Assistance (Mega Grants)	Supports large, complex projects that are difficult to fund by other means and likely to generate national or regional economic, mobility, or safety benefits.
Consolidated Rail Infrastructure and Safety Improvements (CRISI) Program	Funds projects that improve the safety, efficiency, and reliability of intercity passenger and freight rail
Rebuilding American Infrastructure with Sustainability and Equity (RAISE)	Helps project sponsors at the State and local levels complete critical freight and passenger transportation infrastructure projects with a focus on equity and sustainability
Railroad Crossing Elimination Grant Program	Provides funding for highway-rail or pathway-rail grade crossing improvement projects that focus on improving the safety and mobility of people and goods

[12] *CIG Policy Guidance January 2023*. (2023). Federal Transit Administration.

https://www.transit.dot.gov/sites/fta.dot.gov/files/2023-01/CIG-Policy-Guidance-January-2023.pdf

[13] *Grant Programs | FTA*. (n.d.). Retrieved April 28, 2023, from https://www.transit.dot.gov/grants

Chapter 8. Recommendation and Next Steps

This project would be a major undertaking for the City of DeKalb and decisions on next steps should not be taken lightly. The cost of the project will be expensive. The $285M+ infrastructure cost, along with the annual commitment of $8M+ in operating funds, is a considerable outlay. However, we point to the value and the opportunities this project can provide.

The value of a Metra extension is both quantitative – in terms of the number of people who travel on the Metra, the reduction in vehicle miles traveled, and the development it catalyzes in DeKalb, among other metrics – and qualitative – in terms of the cost and travel burden it eases for NIU students and other potential Metra riders, and the resulting improvement in people's lives. Providing high quality transit to those who need it is an equity imperative and bringing it to a new city is an important transportation goal.

For DeKalb it is an opportunity to enhance the connection with the region's main economic engine in Chicago and the western suburbs. While I-88 already provides a direct link to Chicago, Metra's consistent travel times and access to downtown would enhance this connection. Further, the introduction of passenger rail would help to open up new opportunities to both city and suburbs, while also providing a way for low-income Chicago residents to access jobs and education in DeKalb.

For Northern Illinois University, Metra service is an opportunity to make the campus an attractive destination. A more seamless connection to Chicago would provide job and cultural opportunities and improve recruitment for faculty and staff. It would also enhance enrollment. As a public university with tuition that is low relative to its closest counterparts (less than UIC and Illinois State), NIU is an appealing option for low-income and first-generation college students. However, its relative inaccessibility via public transport makes the cost of attending much higher than tuition, since most students will have to relocate to DeKalb (versus living with their families for the course of their education) or will be inclined to purchase a personal vehicle to access the city.

For the rest of Chicago and its suburbs the project is an opportunity to expand and unify the Chicago Metropolitan Area, including rethinking how economic potential and transportation access is provided to its citizens and visitors.

Next Steps

If DeKalb City Council elects to continue the project, the recommended next phase of study is to conduct a Planning & Environmental Linkages (PEL) study. The PEL process is designed 'to encourage transportation decisionmakers to incorporate environing mental, community, and economic goals early in the transportation planning process'.[14] A PEL study 1) considers environmental, community, and economic goals early in the transportation planning process, and 2) uses the information, analysis, and products developed during planning to inform the environmental review process.[15]

The PEL would select a locally preferred alternative (LPA) that could be used to enter the FTA Capital Investment Grant process. It would also establish some of the material required for a National Environmental Policy Act (NEPA) process and can shorten the planning timeframe accordingly.

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[14]PEL Benefits: Measuring the Benefits of Planning and Environmental Linkages (PEL) October 2015. Federal Highway Administration of the U.S. Department of Transportation Office of Planning, Environment, and Realty, Washington, DC. https://www.environment.fhwa.dot.gov/env_initiatives/pel/pel_benefits_report.aspx accessed 5/3/23.

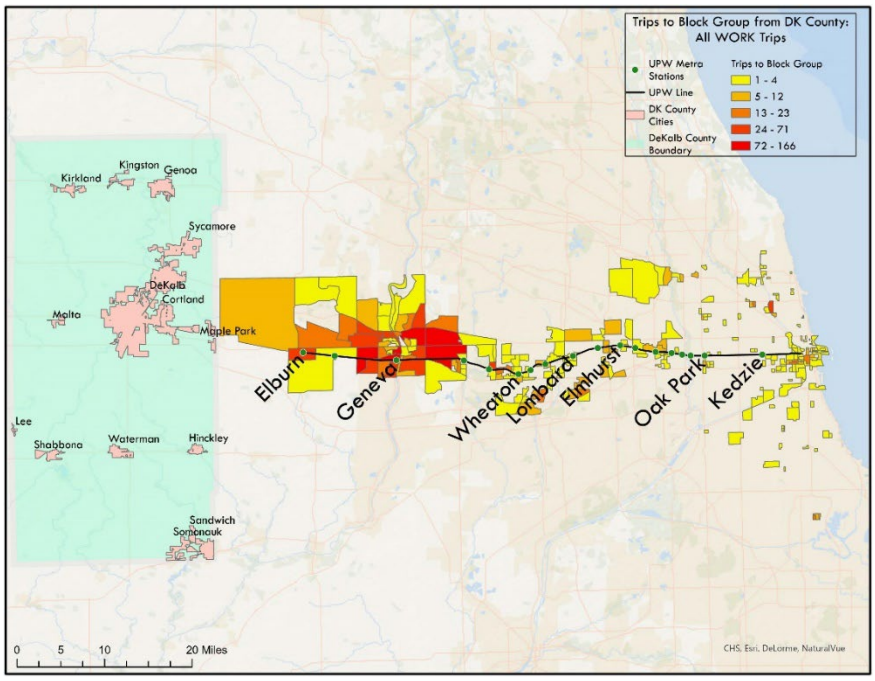
[15] Federal Highway Administration Environmental Review Toolkit: Initiatives to Accelerate Project Delivery. https://www.environment.fhwa.dot.gov/env_initiatives/PEL.aspx accessed 5/3/23.

Appendix A: Replica Maps

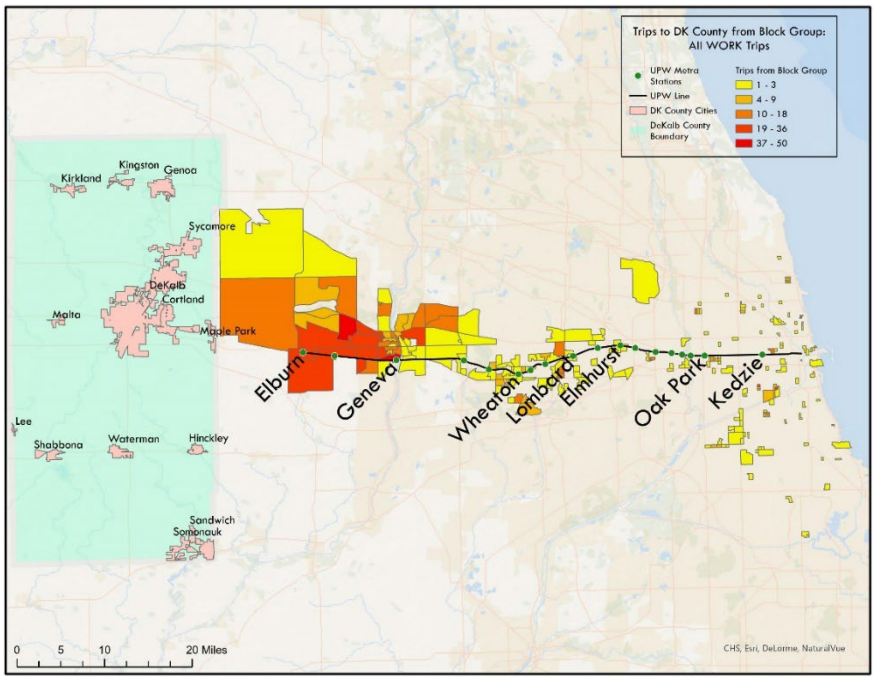
Maps of Replica data by different variables (trip purpose, demographic group, etc.) are provided on the following pages. The maps shows that most trips, regardless of demographic variable analyzed, start (if traveling to DeKalb County) or end (if originating in DeKalb County) in the block groups neighboring DeKalb County to the east. These block groups are also within the transit-shed of the three westernmost stops along the UP-W Metra line (Elburn, La Fox, and Geneva, from west to east). The maps below examine travel patterns given various criteria: total trips, work trips, non-work trips, trips by non-white populations, and trips by people without vehicle access (the team also investigated transit trips, vs car trips, but did not find enough data to draw conclusions).

These maps also examine travel among non-white populations because non-white people are more likely to be transit users. Of the ten highest areas for non-white populations to end a daily trip, nine are directly along the UP-W line between the Elburn and Geneva stations. Outside of this concentration, the block group containing O'Hare Airport is a significant destination for non-white populations, averaging sixty-three daily trips. However, O'Hare Airport is not easily accessible via the UP-W line and would not be expected to generate Metra trips should the line be extended.

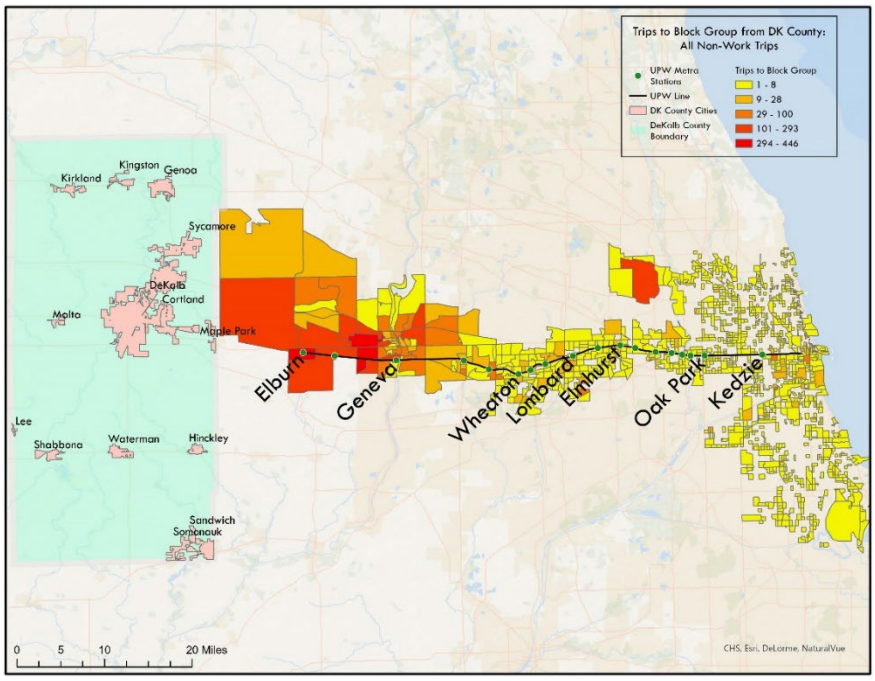
All Work Trips to Block Groups from DeKalb County



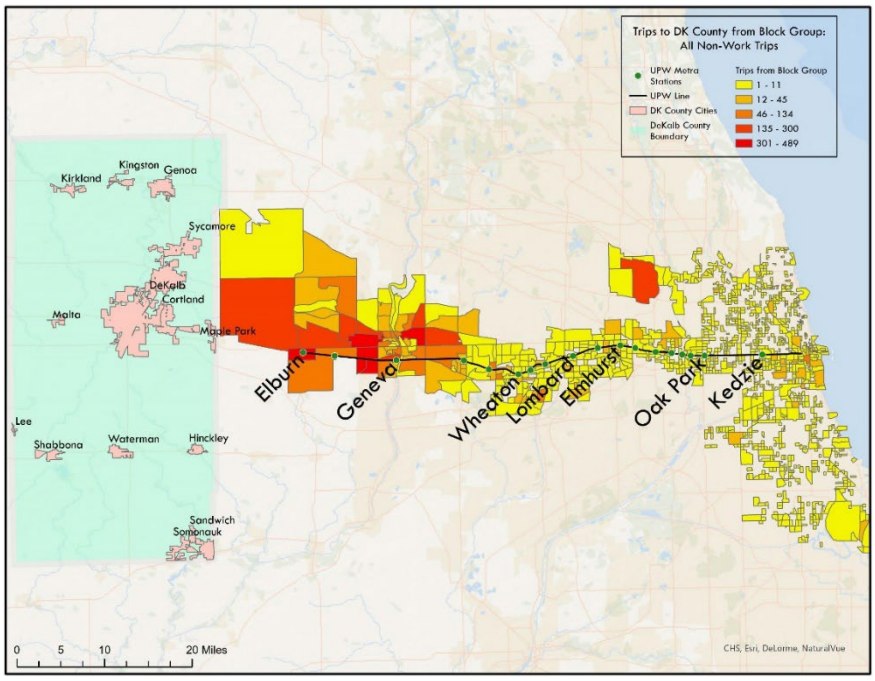
All Work Trips to DeKalb County from Block Groups



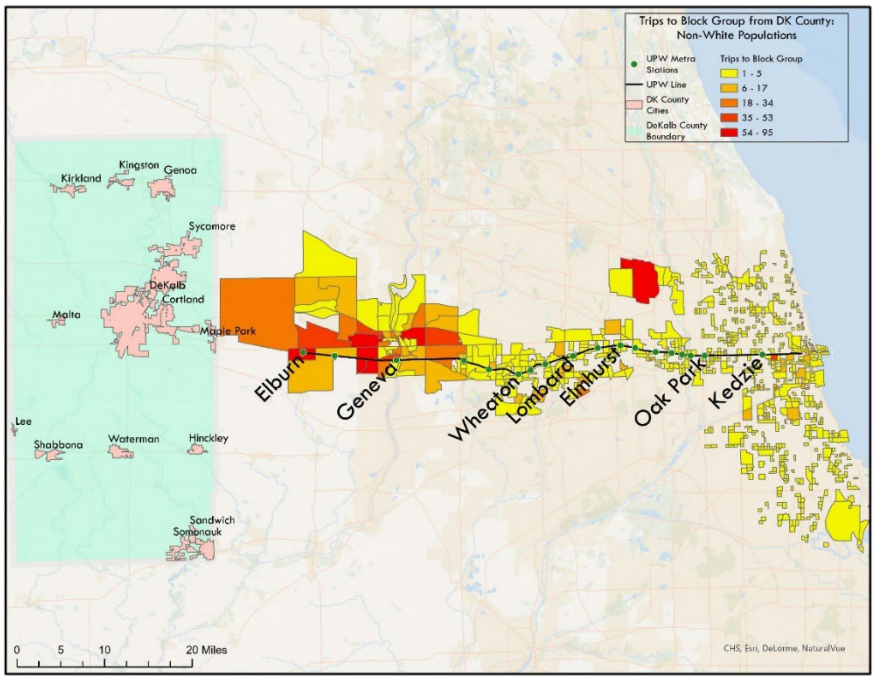
All Non-Work Trips to Block Groups from DeKalb County



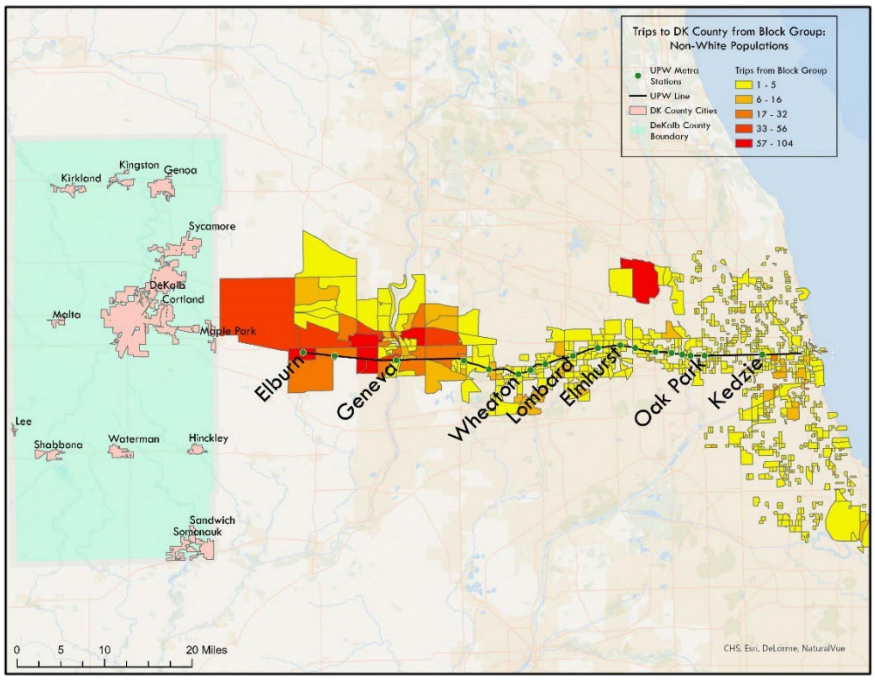
All Non-Work Trips to DeKalb County from Block Groups



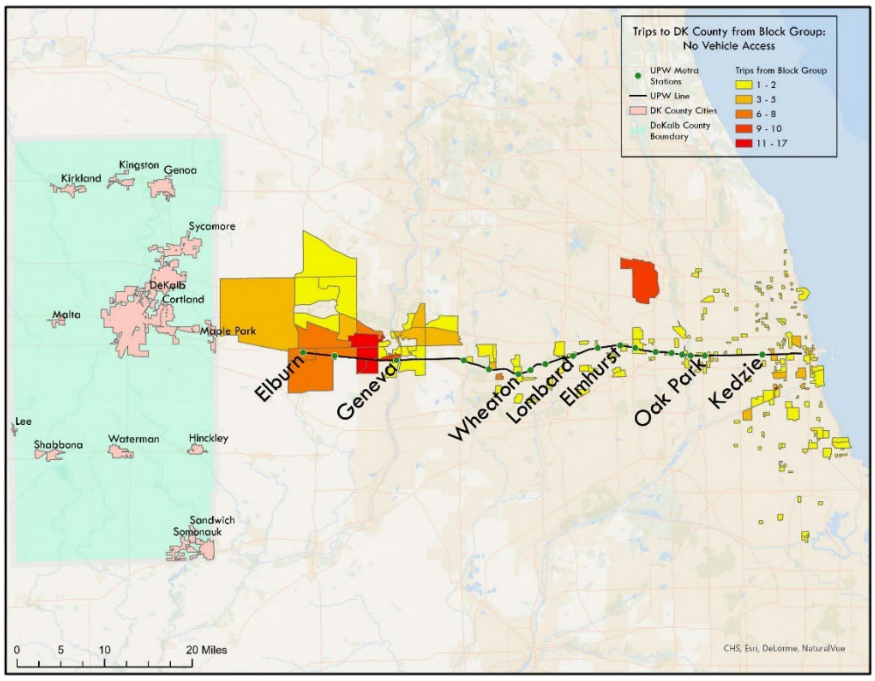
Trips to Block Groups from DeKalb County: Non-White Populations



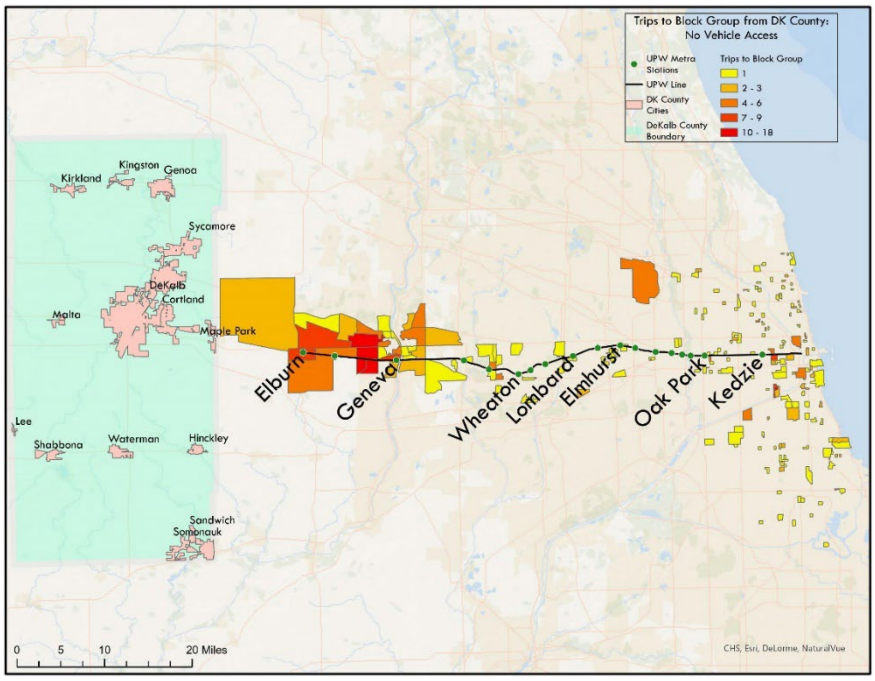
Trips to DeKalb County from Block Groups: Non-White Populations



Trips to DeKalb County from Block Groups: No Vehicle Access

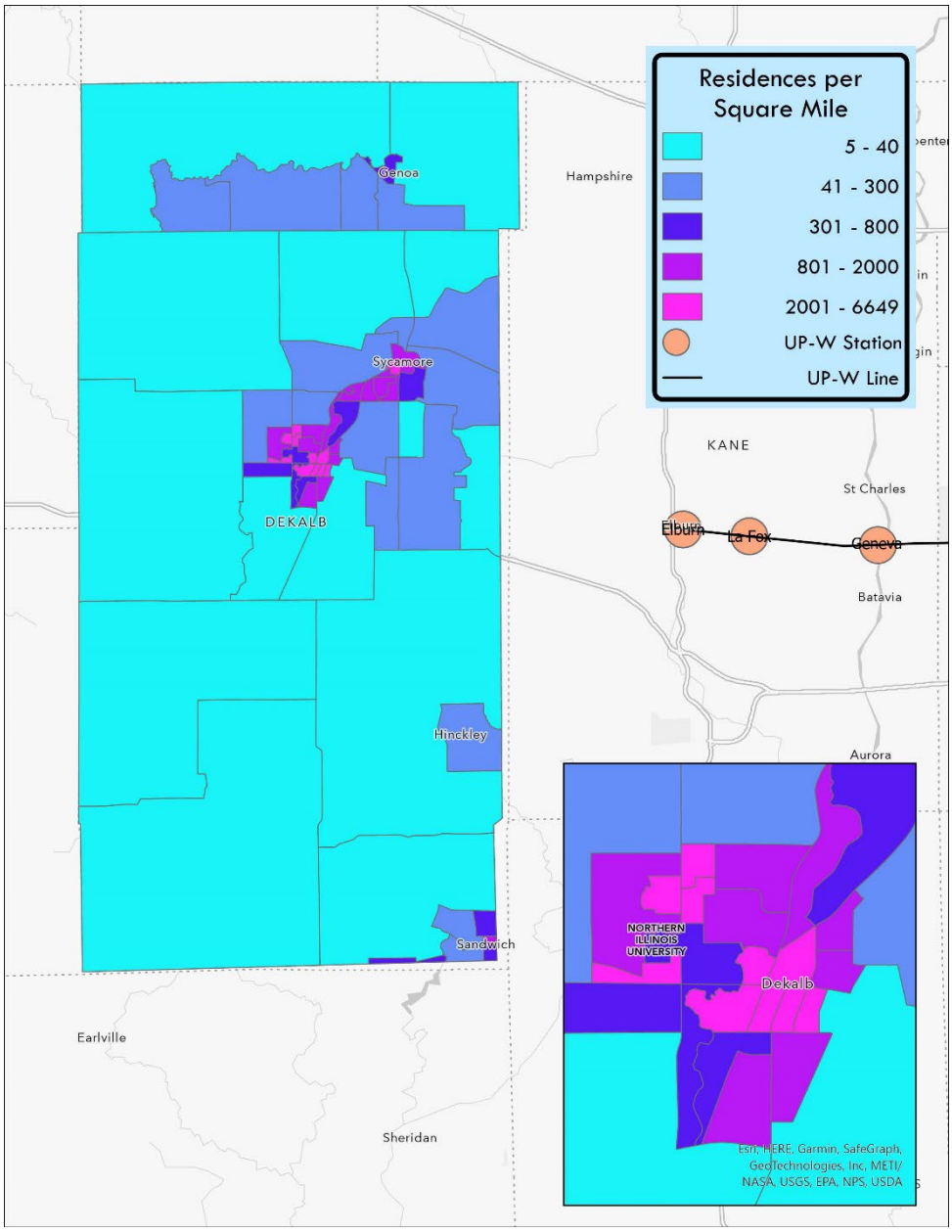


Trips to Block Groups from DeKalb County: No Vehicle Access



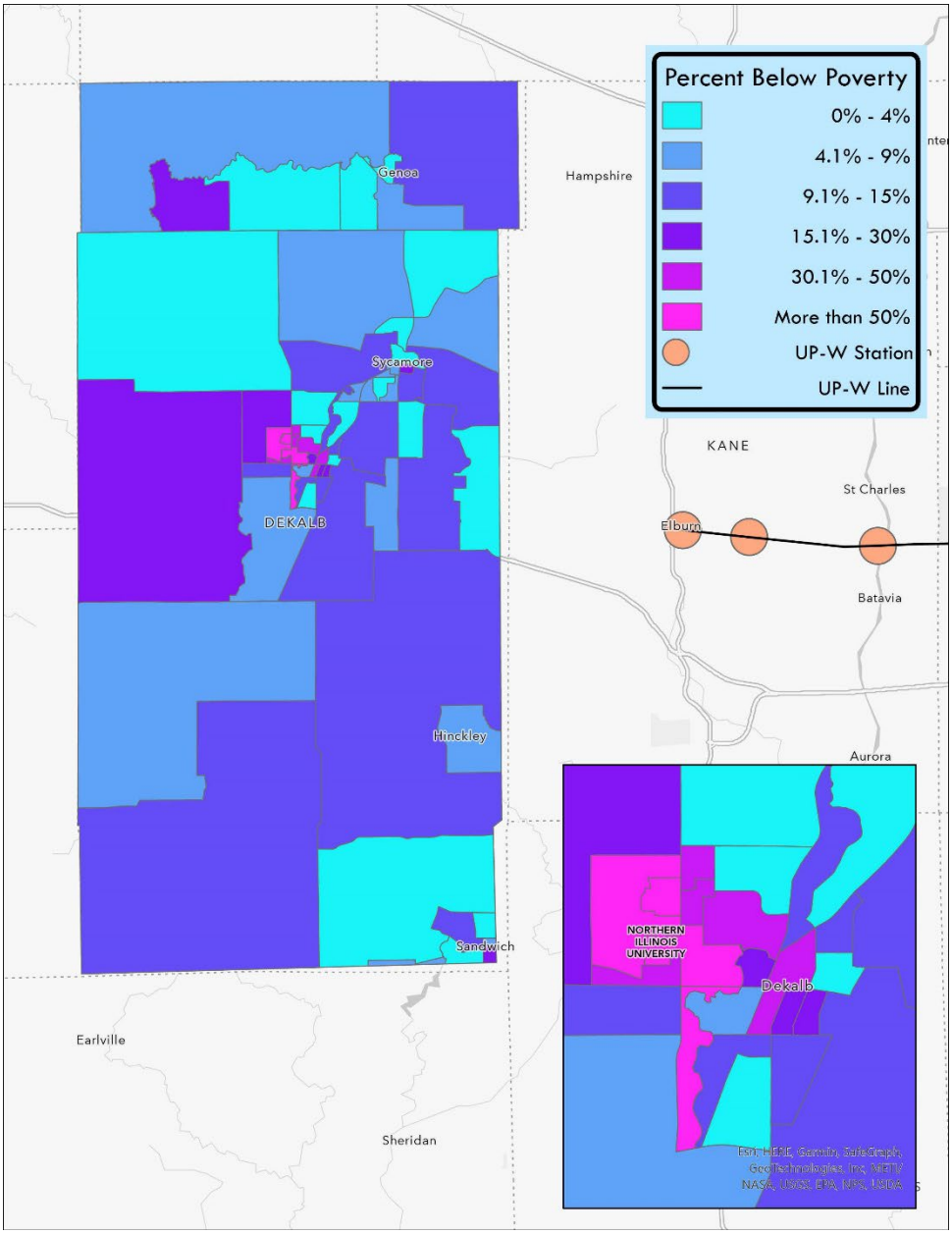
Appendix B: Demographic Maps

Residential Density per Square Mile



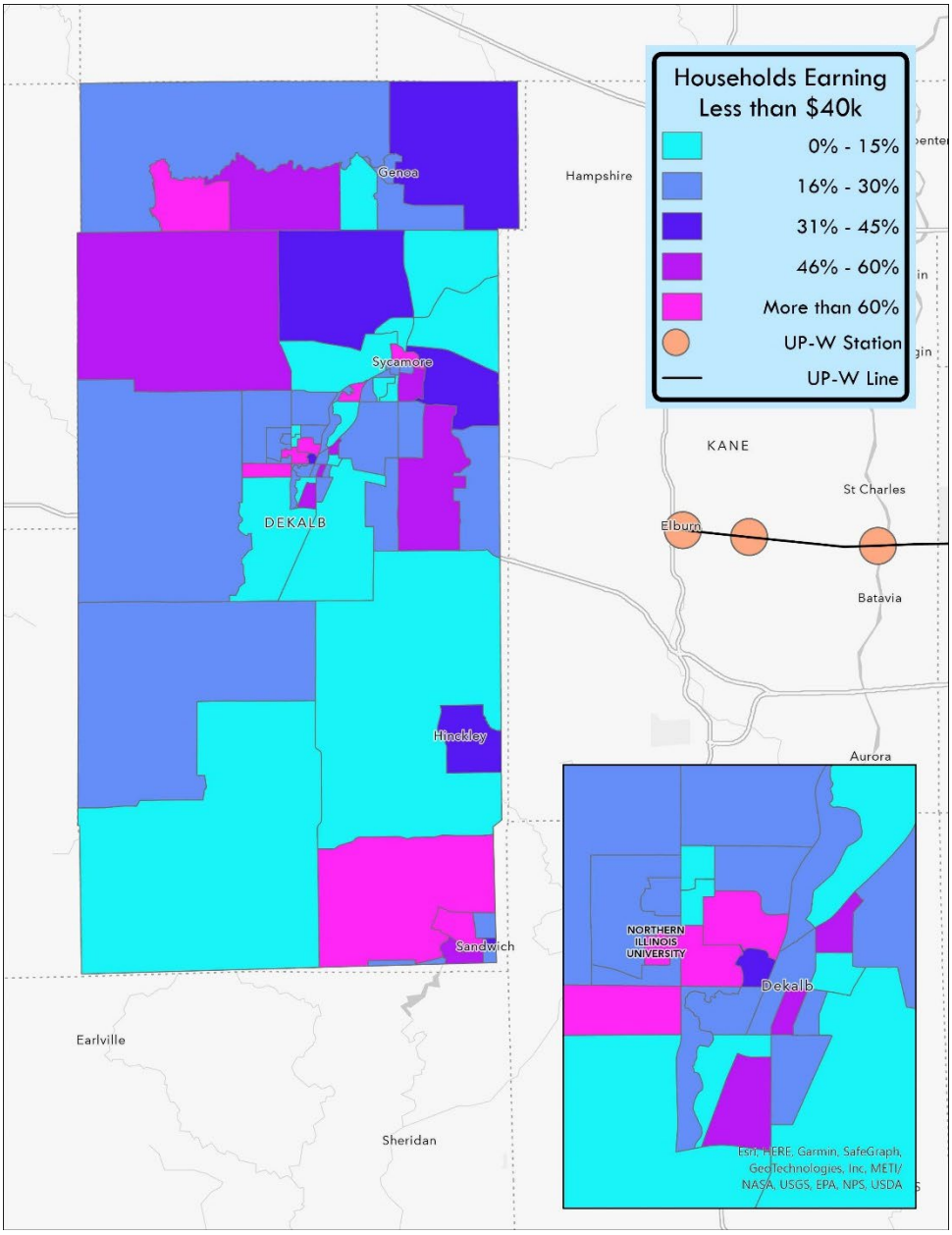
Residential density is a good starting point for identifying strong transit markets as most transit trips begin or end at home. The three highest density block groups in DeKalb County are continuous and are directly north of NIU. Residential density follows similar population and employment density patterns from DeKalb up highway 23 to Sycamore. Higher density areas are scattered throughout the county, as is the case in Sandwich to the southeast, and in the villages of Kirkland, Kingston, and Genoa along Highway 72.

Percent of Population Living Below Poverty Level



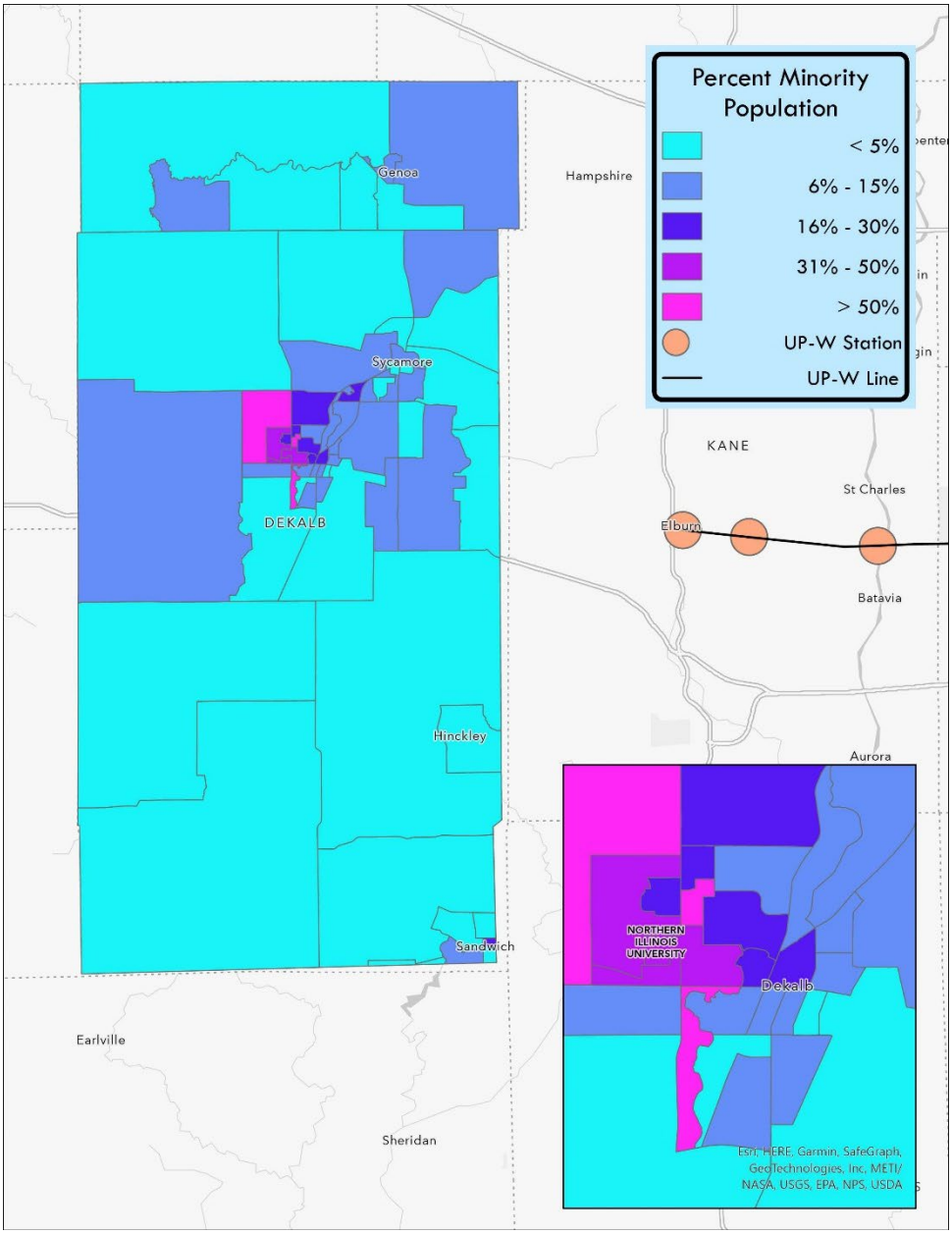
For many households living below the poverty level, the cost of owning a vehicle can be burdensome, which makes transit a more attractive option. Of all 66 block groups in the study area, the 10 largest clusters of residents living below the census-defined poverty level are within 2 miles of NIU. Forty-nine percent of residents in these 10 block groups live below the poverty level, compared to just 9% county-wide. While this is largely inflated by the large young student population residing here, these block groups contain dense neighborhoods with populations ranging in age, race, and employment status. There are also anecdotal reports that many of the residents around NIU are not students, but low-income residents who have relocated from Chicago and would be likely to take transit to visit friends and family if it was more easily accessible.

Percent of Households Earning Less than $40,000 Annually



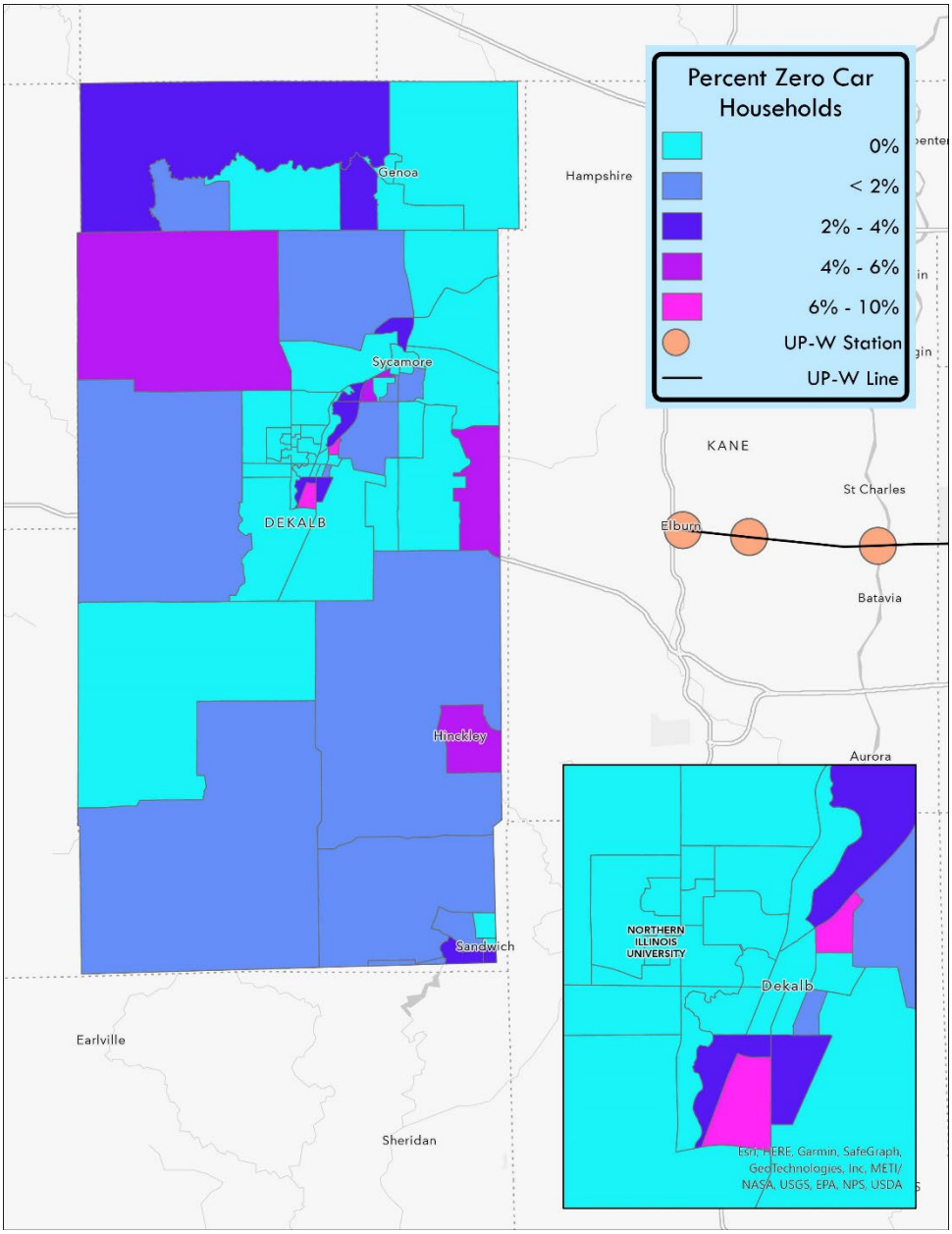
Low-income households are more likely to seek to use public transportation because the costs associated with car ownership (or, in car-dependent communities, second or third car ownership) will be a heavier financial burden that people who have higher incomes. There are households earning less than $40,000/year is scattered throughout DeKalb County; however, there is a concentration of lower income earners within DeKalb city limits, mirroring poverty levels in these block groups.

Percent of Minority Population



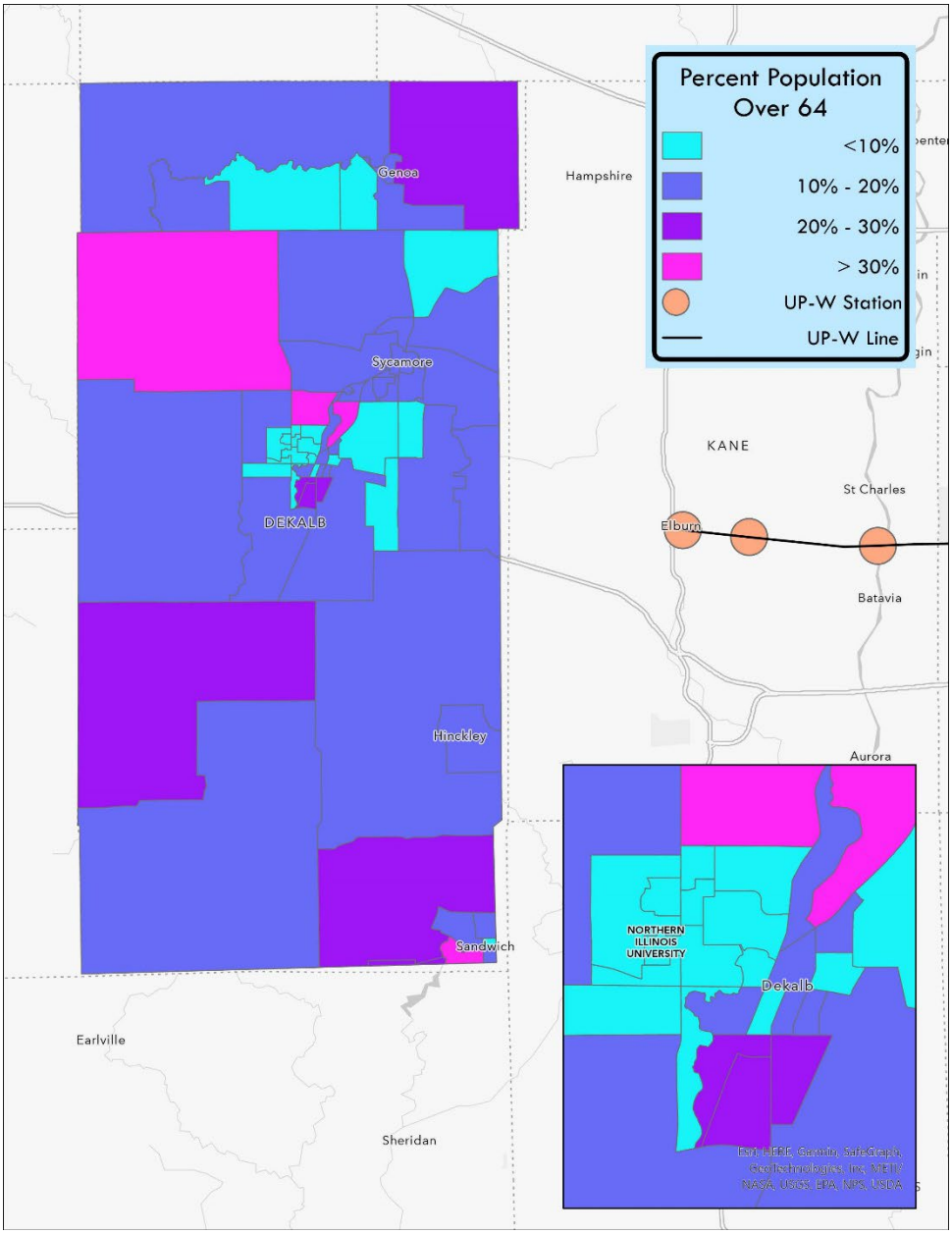
Density of minority populations is often correlated with other metrics discussed above: minority populations are more likely to ride transit. This may be because non-white populations tend to live in urban areas; are more likely to be car-free or low income; and because Black and LatinX populations tend to live further away from their jobs, diminishing the option of walking or riding a bicycle.

Percent of Population Without Access to a Private Vehicle



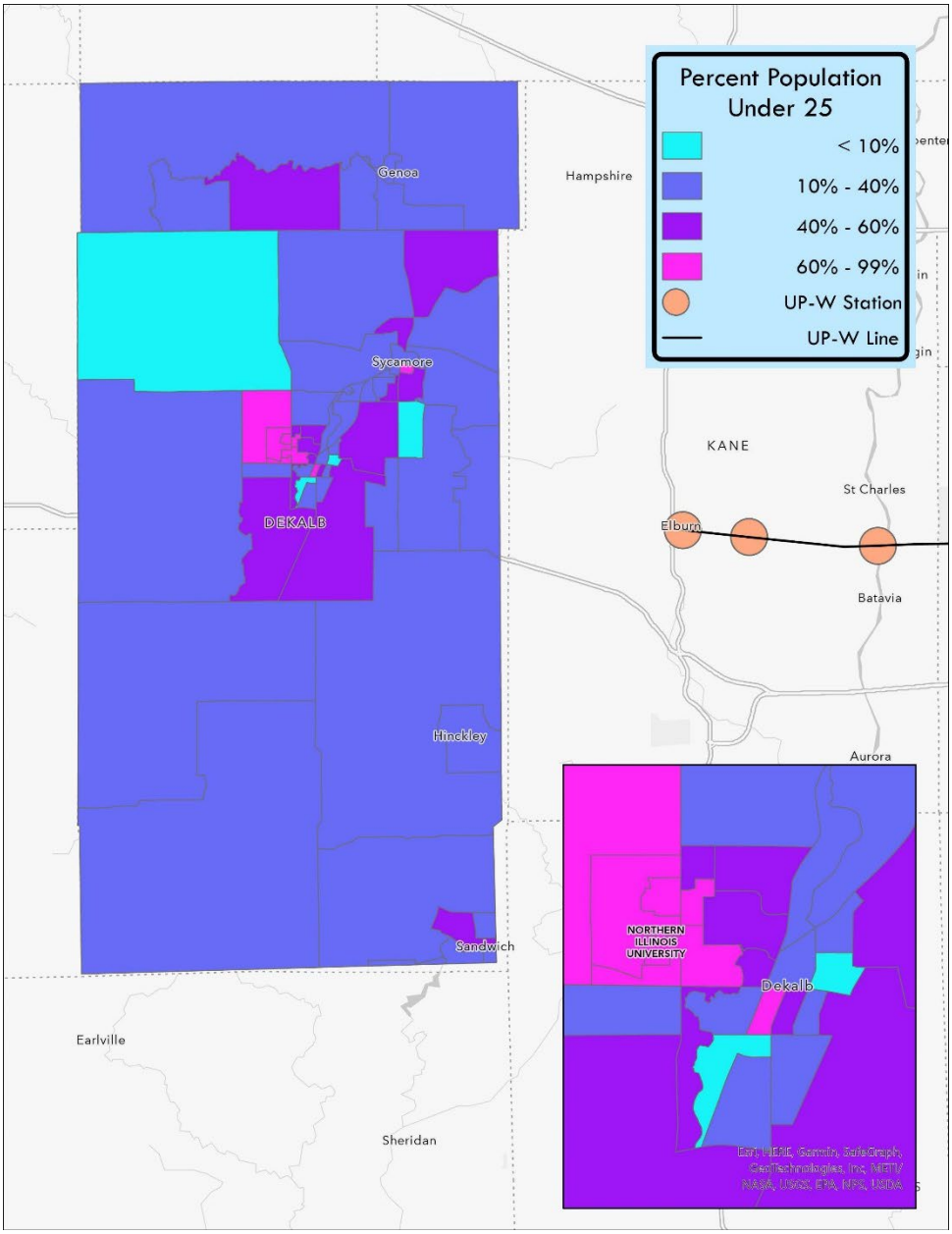
Car access correlates closely with transit usage, and households without cars will support higher levels of transit service than similar densities of households with cars since these residents are far more likely than the average resident to ride transit. That said, because of the low-density land use and small populations in villages well served by local highways, nearly every household in DeKalb County has access to at least one car, with the majority owning two cars per household. All of the block groups around NIU report having access to at least one car.

Percent of Population Over 64 Years Old



Older people are likely to be on a fixed income and therefore sensitive to the cost of driving versus the cost of taking transit. They are also likely (as a group if not individually) to have health concerns or disabilities that may preclude them from driving themselves places. There are no block groups around NIU with more than 10% of the population over 64 years old. The less dense, mostly agricultural areas of the county are far more likely to have more individuals over 64 years old.

Percent of Population Under 25 Years Old



Youth is correlated with transit ridership because it tends to correspond to some of the metrics above. Young people are less likely to own vehicles; are more likely to live in dense areas; and are more likely to be low-income. They are also more likely to have more control over their time than other demographics since they are less likely to have caregiving responsibilities. The city of DeKalb has a significant population under the age of 25, driven largely by the high number of students attending NIU.

Appendix C: Case Studies of Commuter Rail Extensions

The consultant team completed a scan of communities across the US to identify locations where commuter rail service has been extended to understand the ridership implications. In the Chicago area, the most relevant case study is the BNSF Kendall Extension Study, with the most recent phase of study completed in 2020. The next steps in the Kendall study were slowed down because of the pandemic; however, there are many parallels between proposed Kendall and DeKalb extensions, discussed in more detail below.

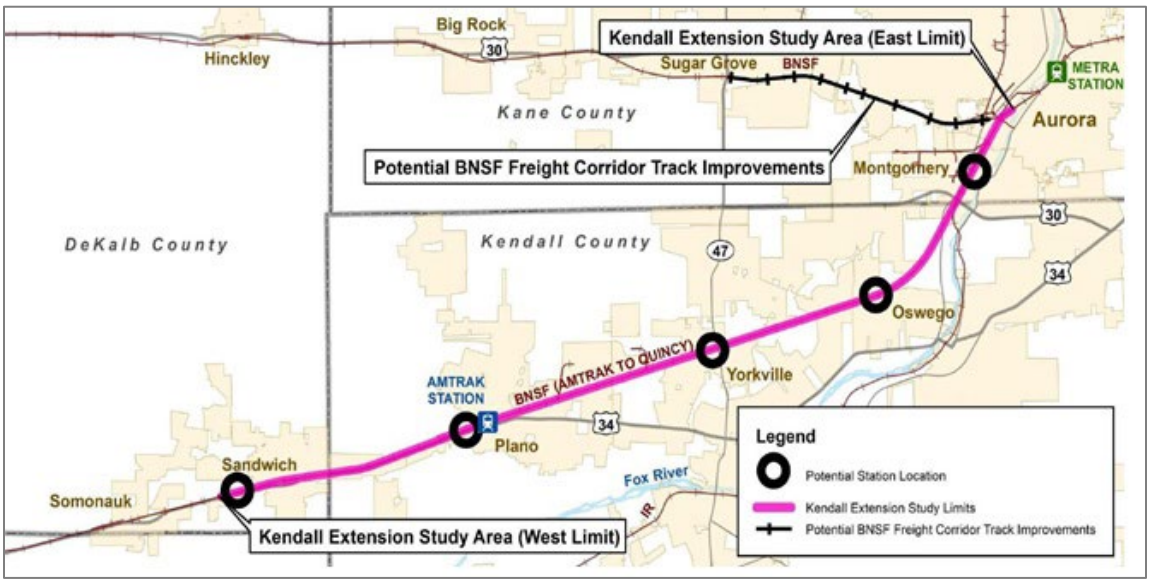
Another relevant example is the NICTD West Lake Corridor Commuter Rail Extension, which was the largest public transit infrastructure project in Indiana history. This project broke ground in October 2020, with a slated completion in 2025.

Finally, the South Coast Rail project of the Massachusetts Bay Transit Authority (MBTA), like a proposed DeKalb extension, was designed to address service gaps in regional rail: Taunton, New Bedford and Fall River were the only cities within 50 miles of Boston not served by regional rail access. Phase 1 of this project will conclude in late 2023.

BNSF Kendall Extension Study, Kendall County, IL

The Kendall Extension Study considered the benefits and costs of extending Metra's BNSF commuter rail service from its current terminus in Aurora to a new terminal in Yorkville, Plano, or Sandwich. Like DeKalb County, Kendall County is outside the RTA service area; unlike DeKalb County, it is a member of the Chicago Metropolitan Agency for Planning (CMAP) metropolitan region.

If Kendall County was to proceed with the project, their most likely path to revenue service would be to create a Local Mass Transit District Authority to pay for the capital and operating costs to extend Metra into the county. If the project ultimately included Sandwich, the transit district would have included sections of DeKalb County as well. The 2020 study did not make a determination as to whether it was preferable to purchase service from the RTA or join the RTA directly.



Proposed Kendall County Extension

The 2020 study defined the service extension as between four and 12 trains per weekday (2-6 round trips). The net ridership increase for the extension is between 1,500 and 2,000 additional riders,

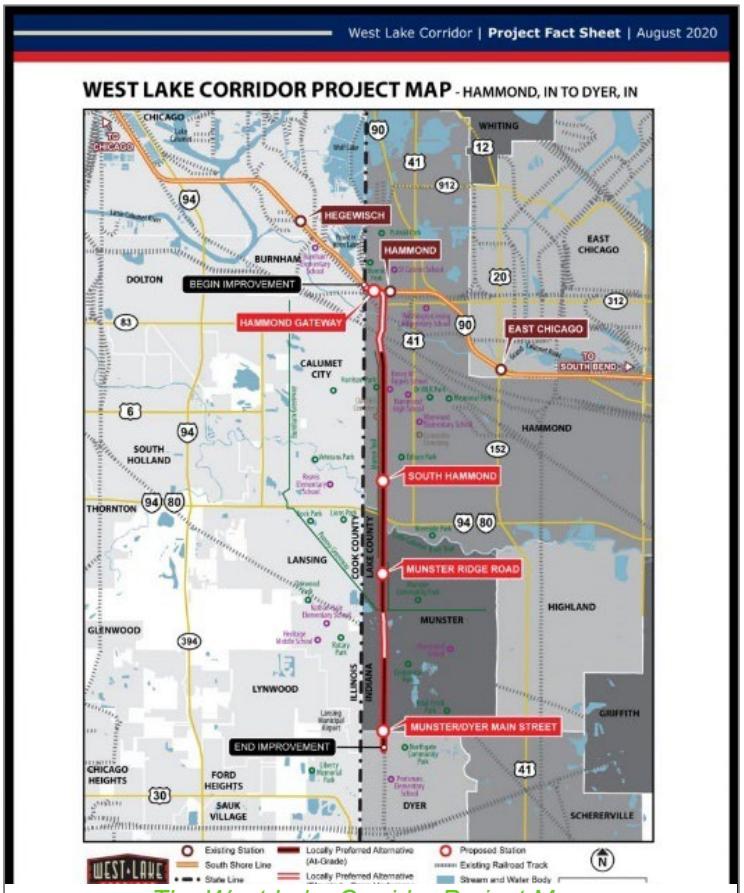
depending on the number of train trips and the chosen terminal, but this was based on a pre-COVID traditional commute market.

From a capital perspective, the Kendall extension was estimated to cost between $400 to $700M, depending on the specifics of the extension; an additional $6 to $14m annually would be required for operations & maintenance[16]. In news articles, officials have stated that they are leaning toward the $400M iteration of the proposed expansion.

The final open house for the Kendall Extension was held in March 2021. In December 2022, Rep. Lauren Underwood secured a $20M federal funding package, of which $4.8M was earmarked for an environmental impact statement, but there has been no news about the next steps of the project since.

West Lake Corridor Commuter Rail Extension, Northern Indiana Commuter Transportation District, IN

The West Lake Corridor is a single-track project that will run from Hammond to Dyer in northwest Indiana, with four new stations along eight miles of track. The extension is projected to cost $945 million and will be funded by a mix of sources. A Railroad Rehabilitation and Improvements (RRIF) loan will cover $203.3M of the anticipated cost. The project also received funding from the Federal Transit Administration's Capital Investment Grants Program, and $197M in Congressional allotments.



The West Lake Corridor Project Map.

The project is designed to allow for further, future expansion to Lowell and Valparaiso.

The project groundbreaking was in October 2020 and a recent news article reported that the project is on schedule for a 2025 opening, with 15-20% of the work complete as of Jan 31st, 2023.

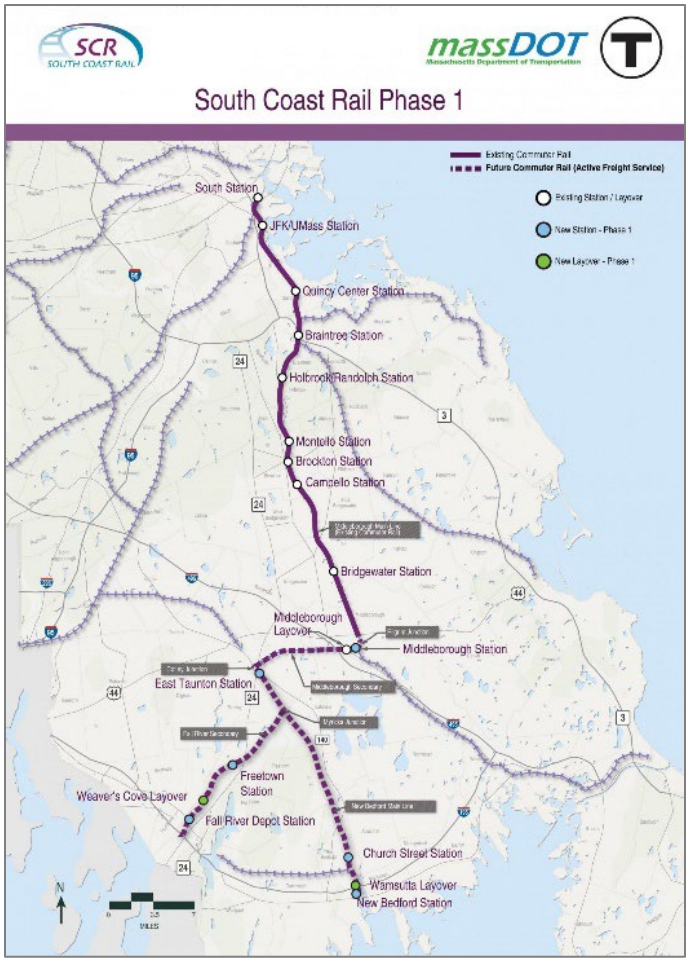
The West Lake Corridor project is being billed as transit-oriented development. The EIS stated that the project would share rail infrastructure with existing commuter rail service and would add 12 trains per day to nearly 200 existing trains that already travel on the South Short Line/Metra Electric District corridor. It is projected to result in 3,750 daily boardings in 2037.[17]

[16] https://www.kendallcountyil.gov/departments/administration-services/kendall-rail-extension

[17] West Lake Corridor Final Environmental Impact Statement/ Record of Decision and Section 4(f) Evaluation, https://www.nictdwestlake.com/assets/documents/FEIS_ExecutiveSummary.pdf. Accessed 2/20/23.

MBTA South Coast Rail Extension, Fall River, Taunton, & New Bedford, MA

Phase I of the commuter rail extension began in July 2019 and completion of Phase I is expected in late 2023. As with DeKalb, the cities slated to be reconnected to the regional rail system had previously been connected to Boston but have not had rail service for the last 50 years. The current capital project will restore historic service, but new stations are being constructed as part of the project. The first phase is projected to cost $159M, with an additional $400M construction package that includes construction on the New Bedford Main Line and the Middleborough Secondary. The contract was awarded in August 2020 and includes four new stations with two layover facilities. In 2022, the Fall River Line was 40% complete and the New Bedford Main Line/Signals contract is 20% complete.



South Coast Rail Expansion currently under construction.

Phase I will reconstruct 12.1 miles of track to Fall River and 24.1 miles of Middleborough Secondary and New Bedford Main Lines, while also improving freight service by building in redundancy for commuter rail.

The funding mechanism – whether to join the MBTA (RTA equivalent) or not – was included on the 2022 election ballot in the relevant cities, a final hurdle to beginning transit service in 2023. The ballot measure passed with 78% in favor. Fall River's portion is expected to be $900,000 per year, but they will receive a credit from their payment into the existing Southeastern Regional Transit Authority.

The MBTA plans to operate three morning peak trains and three evening peak trains to New Bedford and Fall River, with six trains passing through Middleborough and Taunton. Fares have not been confirmed as of writing, but one-way tickets are expected to cost about $13.00. Parking will likely be $4 at the station. There are currently nine trains per day between South Station and Staughton, the existing terminus.

Ridership estimates reflect pre-pandemic travel patterns and have ranged from 1,600 in 2030 and 3,900 in 2040.[18]

[18] Baker, Polito call South Coast Rail a matter of fairnesss. CommonWealthMagazine.org. https://commonwealthmagazine.org/transportation/baker-polito-call-south-coast-rail-a-matter-of-fairness/. Accessed February 27, 2023.