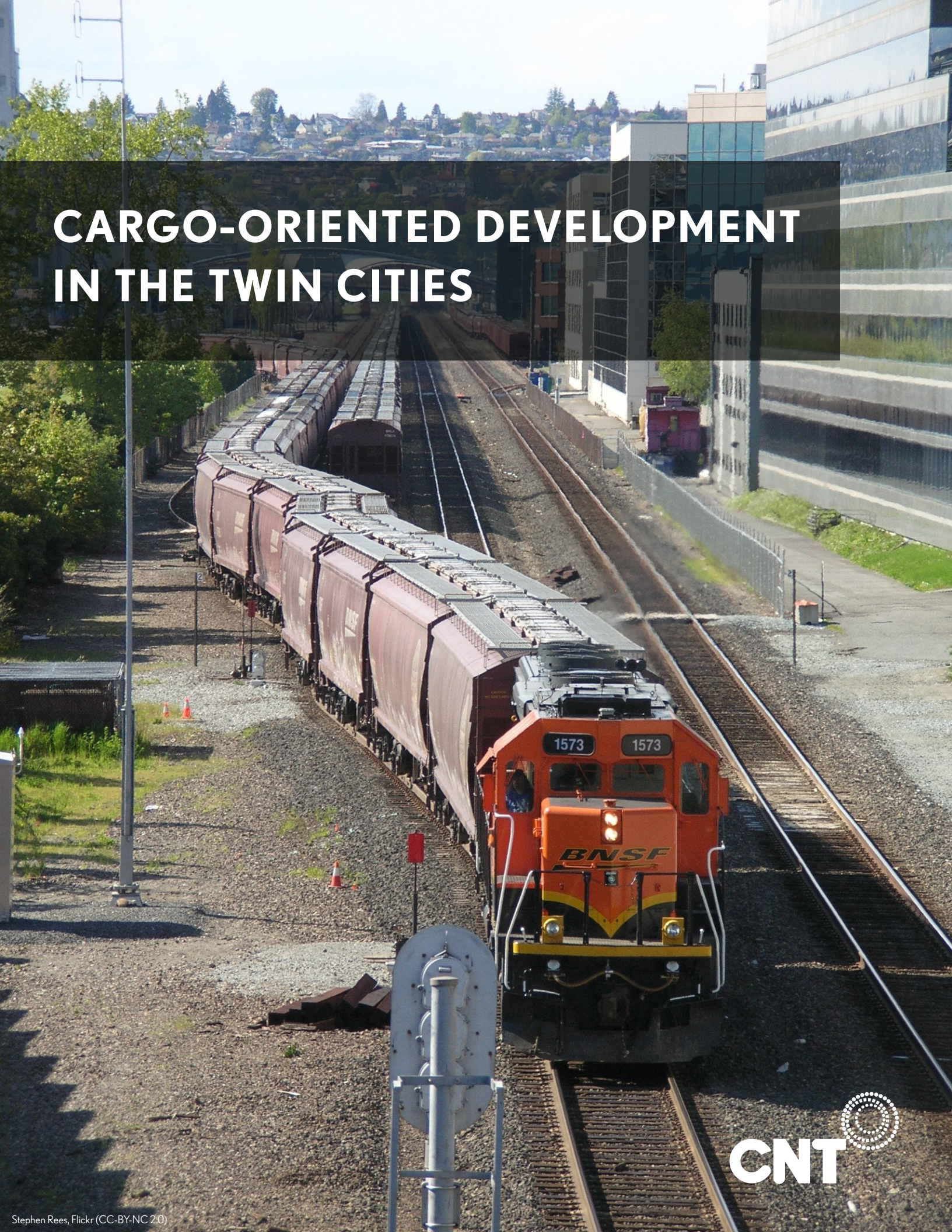


CARGO-ORIENTED DEVELOPMENT IN THE TWIN CITIES



BACKGROUND

Manufacturing is a vital component of the Minneapolis-St. Paul regional economy. In 2014 manufacturing accounted for 13% of regional Gross Domestic Product (GDP), 40% of the region's GDP growth, and was the sector with the highest total annual compensation for workers. The manufacturing sector is diverse; its strength arises from a network of thriving, interconnected clusters of complementary industries that bring raw materials into the region, transform them into valuable products, and transport those products to customers in the region and around the country. Comparisons with the national economy and peer regions demonstrate that the Twin Cities foster one of America's largest and most effective manufacturing sectors.

Established urban industrial districts in the Twin Cities have a mixture of thriving businesses and vacant properties. Some of these vacant or underutilized properties have been overlooked by industrial developers in favor of greenfield sites due to challenges related to land acquisition and cleanup, site configuration, changing nearby land uses, and infrastructure condition. However, new technologies that reduce energy use, freight congestion, and space required for industrial operations combined with increasing expectations of same day fulfillment are creating new development opportunities for existing industrial districts. Working collaboratively, the public, private, and nonprofit sector can support a thriving manufacturing sector, make sustainable public investments in infrastructure, and improve economic opportunities and quality of life for residents.

Cargo-oriented development (COD) is a development strategy that promotes efficient and sustainable freight movement and industrial development. Like transit-oriented development (TOD), COD focuses on coordinating transportation and land use investment to maximize economic and social benefits, supporting industrial businesses in districts with access to multiple modes of freight transportation, strengthening access to nearby workers, and deploying greener vehicles and cleaner technologies. Over the past two years, the Center for Neighborhood Technology (CNT) has worked closely with local partners to identify, analyze,

and rank industrial areas in the Twin Cities based on their potential for COD. These studies help to quantify the potential economic benefit of COD and highlight issues and opportunities that need additional action by local stakeholders.




VoxEfx, Flickr (CC-BY-NC-2.0)

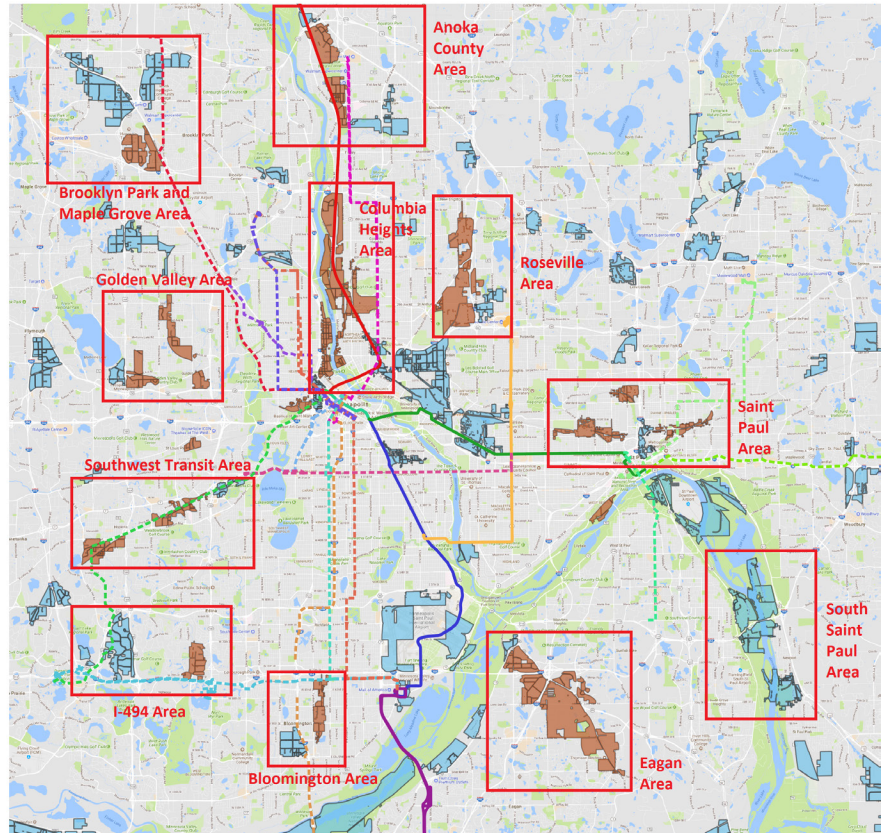
The remainder of this document covers three particular issues and opportunities for COD:

- **Industrial land preservation**
- **Scoring criteria for equitable infrastructure investment**
- **Worker access to industrial jobs**

Figure 1. Industrial Districts and Transit Ways (existing and planned)

Industrial Districts and Transitways (existing and planned)

- Districts matching the criteria
 - Other districts
 - Transitway Alignments**
 - Red Line BRT
 - Green Line LRT
 - Blue Line LRT
 - Northstar Commuter Rail
 - Blue and Green Line
 - A Line ABRT
 - Planned Transitway Alignments**
 - American Boulevard ABRT
 - Bottineau - NB (Blue Line Extension)
 - Bottineau - SB (Blue Line Extension)
 - Cedar Ave BRT - Phase 2 (Red Line)
 - Central Avenue ABRT
 - Chicago-Fremont D Line ABRT
 - East 7th St. ABRT
 - Gateway Gold Line BRT
 - Hennepin Avenue E Line ABRT
 - I-35W BRT - NB (Orange Line BRT)
 - I-35W BRT - SB (Orange Line BRT)
 - Lake St. B Line ABRT
 - Nicollet Avenue ABRT
 - Penn Avenue C Line ABRT
 - Robert St. ABRT
 - Southwest LRT (Green Line Extension)
 - West Broadway Avenue ABRT
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INDUSTRIAL LAND PRESERVATION

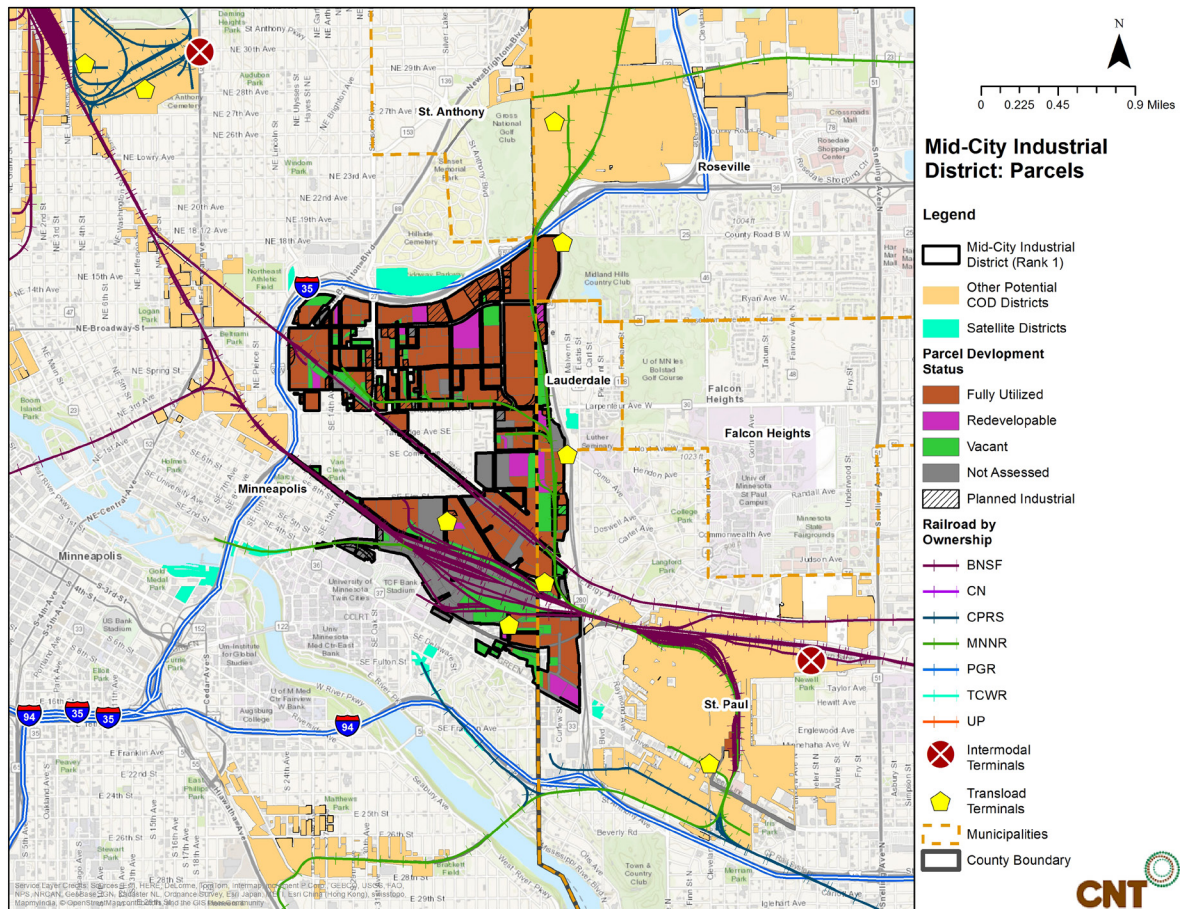
This issue brief argues that municipalities and development authorities in the Twin Cities should use zoning and other regulatory tools, planning efforts, funding programs, and collaboration with the nonprofit sector to sustain the region's urban manufacturing districts. Manufacturing is a key part of the economy of the Twin Cities and maintaining this strength will require deliberate attention.

Industrial development is an important land use in thriving cities, particularly for creating good jobs accessible to workers without college degrees. However, market pressures often threaten to convert formerly industrial space to residential, office, or other purposes. To combat this, local governments can use zoning tools and incentive programs to drive industrial infill

development, but must balance tradeoffs between supporting industrial uses and restricting other uses that generate economic activity, attract and serve the industrial workforce (restaurants, retail, etc.) or meet other municipal development goals (such as affordable housing).

The [Potential Industrial Infill Development Districts in the Minneapolis – St. Paul Region](#) report identified and analyzed more than 100 industrial districts in the region for COD potential based on measures including the amount and usage of industrial acreage, efficiency of freight and worker access, and density of businesses and employment within and surrounding each district. After identifying the 23 highest-scoring districts based on these measures, local stakeholders provided additional feedback to focus industrial retention

Figure 2. Mid-City Industrial District Parcel Development Status



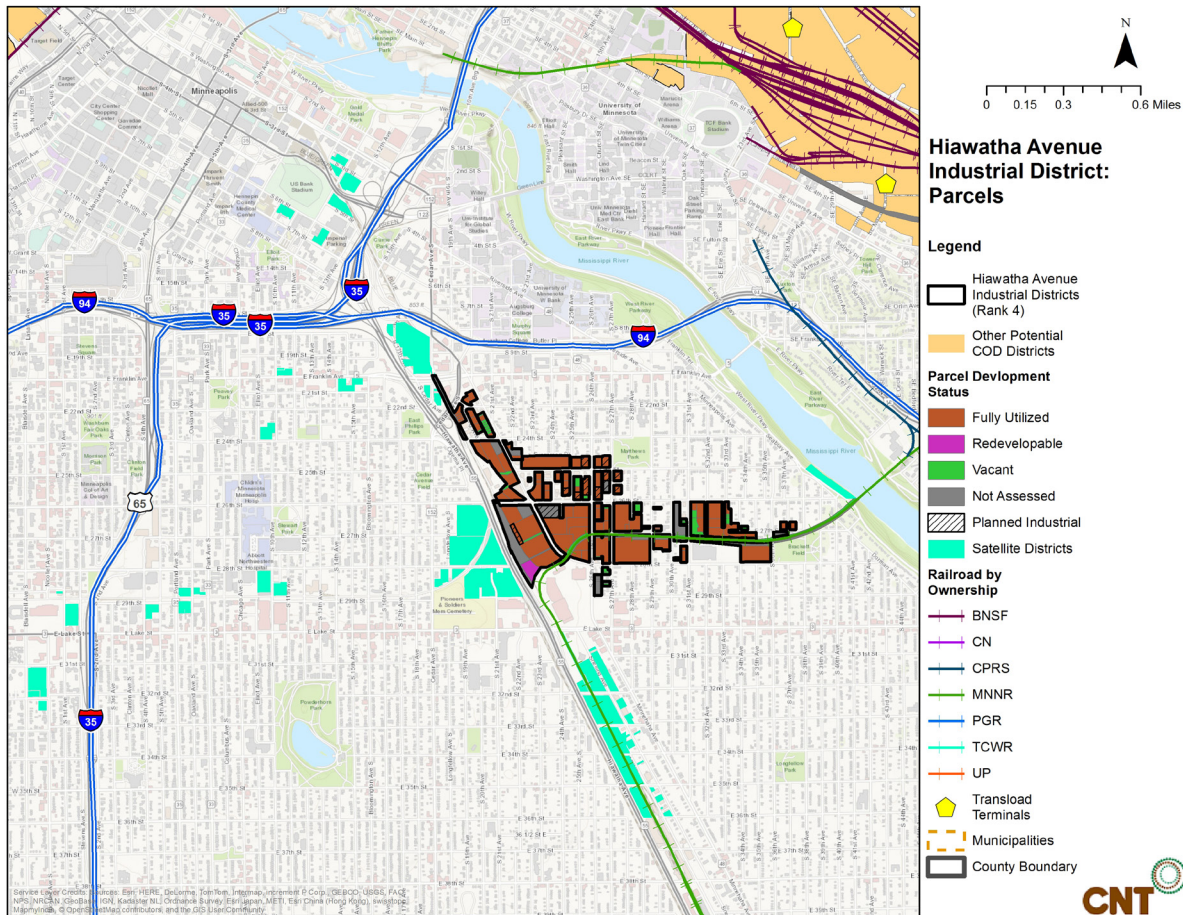
strategies on a handful of districts with existing and increasing pressure for converting land to other uses. The districts selected for further study include several central city districts in Minneapolis and St. Paul as well as suburban districts in St. Louis Park and Bloomington. These districts each face specific challenges related to industrial retention, but some commonalities emerge.

The central city districts of Mid-City, Midway, Shoreham Yards, and Hiawatha have the highest potential for COD out of all the industrial districts in the region. Their proximity to transload facilities, intermodal terminals, and other freight infrastructure as well as local workers have contributed to a diverse ecosystem of industrial uses. There is a growing sense among industrial developers that these infrastructure assets are a significant attraction to customers, particularly those serving markets where just in time delivery is a high priority.

However, these districts still have vacant and underutilized land, and have seen existing industrial land converted to other uses. More concerning, fully-utilized land in these districts appears to be at greater risk of conversion than underutilized or vacant land. For example, in the Hiawatha district, approximately 5 acres, or 6% of what had been fully-utilized industrial land in 2005 was converted to commercial or institutional uses by 2016. However, only 10% of the district's 2005 vacant industrial land had been developed for any purpose by 2016. Similarly, in Logan Park, a satellite industrial cluster of the Mid-City district, 30% of what had been fully-utilized industrial land in 2005 had been converted to commercial use by 2016, while all of the district's redevelopable and vacant land remained underutilized.

The suburban districts in St. Louis Park and Bloomington have experienced less conversion of industrial land to other uses over the past decade.

Figure 3. Hiawatha Industrial District Parcel Development Status

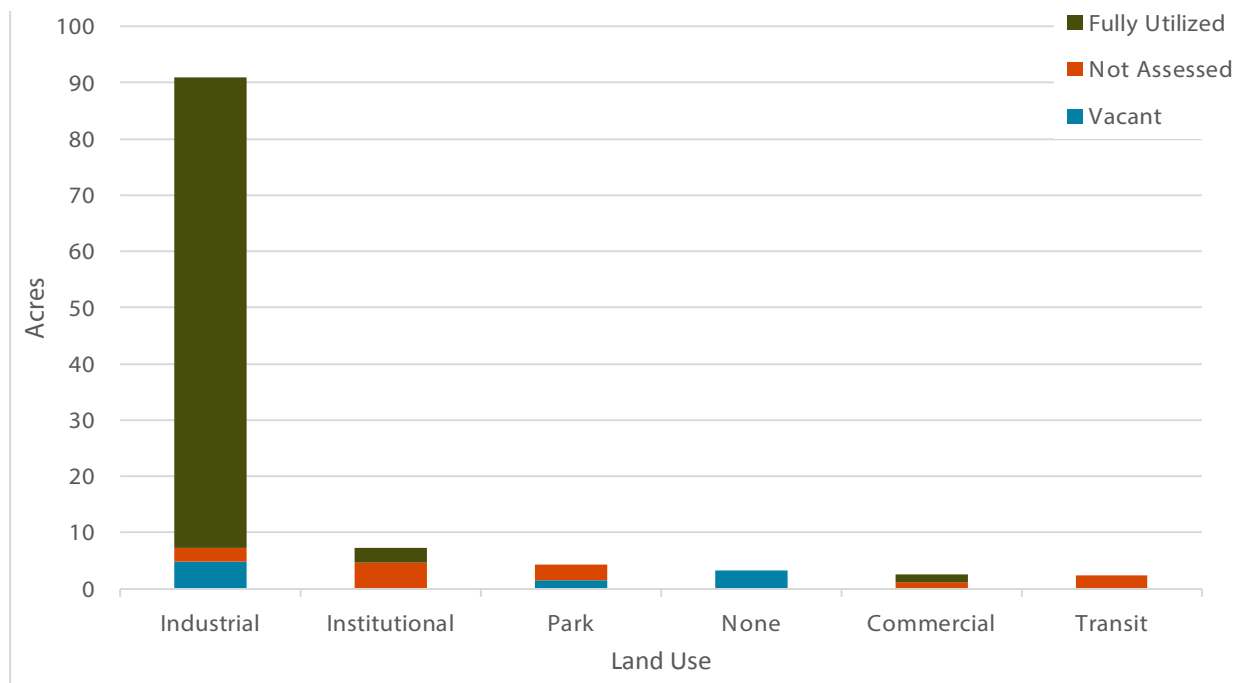


However, these districts face imminent changes, with extensions of the region’s transit system including stops in formerly industrial areas. Construction of the Green Line Extension through St. Louis Park began in the summer of 2019 and is scheduled to be complete in 2023. The Orange Line, a bus rapid transit line also currently under construction, includes a stop near the Bloomington South industrial district. Both Bloomington and St. Louis Park have active planning efforts related to these transportation investments and the surrounding development patterns, including existing industrial land. In Bloomington, planning efforts are focused on the Lyndale Avenue corridor, which borders one of the community’s two industrial districts. The goal of the project is to “transform the corridor from an auto-oriented, aging thoroughfare into a series of walkable neighborhood centers.” In St. Louis Park, plans are underway to redevelop the Beltline Boulevard station area, which is currently an industrial district, for mixed-use transit-oriented development

Factors Driving Industrial Conversion in the Twin Cities

Several factors are driving conversion of industrial land in these key industrial districts in the Twin Cities. The first is rising land prices. In the Hiawatha and Mid-City districts, the average land value of fully-utilized industrial land rose by more than 50% between 2005 and 2016. A thriving real estate market makes it difficult to acquire, remediate, renovate, and lease industrial property at rates that are tenable for industrial businesses. Interviews with industrial developers in the Twin Cities region indicate that a substantial subsidy is necessary for these sites to compete with greenfield alternatives. These prices make it more likely that any unsubsidized redevelopment that happens in these areas is likely to be for commercial or residential purposes.

Figure 4. Hiawatha District Land Use by Development Status of 2005 Industrial-Zoned Land in 2016



Structural issues such as small lot sizes, older building stock, and fragmented ownership exacerbate challenges of industrial redevelopment. Multi-story industrial buildings are a particular challenge to reuse for industrial purposes. These characteristics, common among older industrial districts in urban or inner-ring suburban districts, make existing industrial buildings difficult to adapt to current market demand (such as high ceilings, large loading docks, and semitrailer storage/parking). This was an issue mentioned by stakeholders in urban and suburban districts. In the Bloomington area, interviewees noted that lack of space for workforce parking was a limiting factor for some redevelopment efforts. One interview subject in the Midway district mentioned that it can be challenging to meet impervious surface and stormwater retention goals on an individual site.

Another factor affecting industrial districts is demand for land in these areas for institutional uses— particularly churches, charter schools, and university purposes. In the Hiawatha district, three former industrial properties were purchased for religious institutions between 2014 and 2016. One of these sites, formerly an aerial lift rental business, is now an Islamic Center, while the other two are now Ethiopian Orthodox Churches. The businesses that formerly occupied these sites appear to have contracted or consolidated with other firms with facilities in the Twin Cities area, frequently into another of the region’s high-ranking industrial districts. Although regional land use files do not yet indicate a growth in charter school use in the region’s industrial districts, stakeholder interviews consistently cited them as another institutional development type that is increasingly moving into converted industrial buildings. According to an online directory of Minnesota Charter Schools, there are currently 6 charter schools located in high-priority industrial districts. This currently appears to be primarily a phenomenon affecting the central city district.

The conversion of industrial land to residential and institutional purposes not only affects the site where redevelopment occurs, but the surrounding area, fueling increases in land value and demand for additional non-industrial development. It can also exacerbate congestion and road safety issues by increasing demand on the road network and increasing conflicts between truck traffic and pedestrians and cyclists.

Models for Industrial Retention

Cities and regions around the country are recognizing the value of preserving industrial uses and jobs within industrial districts. Successful efforts involve collaboration between the public, non-profit, and private sector to provide regulatory certainty, financial support, and business development services to existing manufacturing firms and enable new development and redevelopment.

Local governments and their partners have a variety of tools that they can use to preserve and enable industrial development. Briefly, promising options include:

- Regulatory approaches, which can include restricting eligible development types to only include industrial or related uses, or adjusting zoning and development regulations to make industrial development easier, such as right-sizing employee parking, loading space requirements, and adjusting FAR requirements.
- Investments or incentives, such as technical assistance programs for business support, industrial development grants, revolving loans, tax abatements, and other incentives to preserve existing industrial development and facilitate industrial redevelopment.
- District-scale approaches to industrial development, such as shared parking for workers or vehicles, shared stormwater management and water reuse systems, district energy systems, co-located support services, and many other options.
- Planning documents, such as TOD plans, comprehensive plans, or other similar documents, that respect and encourage industrial developments and communicate their value and place within a community.

Below are case studies from within the region as well as around the country that offer models for successful industrial preservation.

Saint Paul: Saint Paul’s recently-adopted 2040 Comprehensive Plan includes a specific focus on industrial preservation, particularly in the Midway District. The plan includes a variety of policies with the goal of keeping

these land uses adaptable, relevant and supportive of well-paying jobs with low barriers to entry and a growing tax base. The nine policies they suggest address logistics are noted in the graphic on the next page. Additionally, it makes specific mentions to industrial development needing access to freight infrastructure.

Minneapolis: Minneapolis 2040 highlights [freight's role](#) in achieving a healthy, sustainable, and diverse economy. The City commits to fully utilizing currently zoned land use for freight rail infrastructure and innovating the truck route network for efficient delivery. The closure of the [Nokomis Wheat Mill](#) provides an opportunity for Minneapolis to preserve industrial zoned land.



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Pittsburgh: The Regional Industrial Development Corporation (RIDC) focuses on transforming buildings once used for past industries into updated spaces fit to accommodate current industries. One project in process is the transformation of a building once used by the J&L Steel Hazelwood Works and LTV Steel into a 265,000 square foot complex fit for present businesses. This development has created a new home for innovative businesses and university programs alike. The first of the three buildings in this redevelopment houses Carnegie Mellon University's Advanced Robotics for Manufacturing Institute (ARM) and CMU's Manufacturing Futures Initiative (MFI). Through this project and others like it, RIDC has been able to generate \$3.4M in real estate taxes in 2018.

Indianapolis: Legacy manufacturing districts in Indianapolis have faced sustained disinvestment and high rates of vacancy and underutilization. In an attempt to revitalize these districts, the city modified its existing zoning policy to allow for easier process for a zoning variance for vacant industrial properties. The revisions focused on incentivizing complementary uses to existing manufacturing firms, such as food production and artisan manufacturing, through a joint effort between the City of Indianapolis, LISC, and the local chamber of commerce. The City is directing CDBG funds toward smaller industrial preservation projects. LISC is supporting the residential land bank. The local chamber of commerce is developing eligibility criteria for some of the funding programs.

New York City: Faced with the loss of industrial businesses, New York City enacted new restrictions on hotel and self-storage development within its designated 21 industrial business zones (IBZ) and is considering additional restrictions for entertainment, office, and other uses in certain critical manufacturing districts. Complementary investments include tax incentives, training programs, incubator spaces, and many others.



Governor Tom Wolf, Flickr (CC-BY-NC-2.0)

Urban Manufacturing Alliance: The Urban Manufacturing Alliance is a national coalition of organizations and individuals focused on ensuring that cities and towns continue to be home to manufacturing facilities. Based on research and work in a number of cities, including Boston, Indianapolis, and Nashville, they have developed a suite of best practices for retaining maker and manufacturer industries.

Recommendations

Building from the strong industrial base of the Twin Cities, the following recommendations are intended to align the public, nonprofit, and private sectors to preserve job-dense industrial uses in existing industrial districts.

- Use regulatory approaches to encourage industrial land preservation. Already, efforts are underway in Minneapolis and St. Paul to encourage industrial development. Other cities have shown that restricting other uses is also important to prevent industrial development from being pushed out by other types of development.
- Provide investments and incentives. Regulatory approaches alone will not ensure industrial redevelopment; financial assistance will also likely be needed, through incentives and supportive programs. Land banks, community development corporations (CDCs) and nonprofit organizations can be useful “patient” partners in industrial redevelopment, but don’t often have experience with this development type. Public sector investment is also critical – and is covered at greater length in the next issue brief in this report.
- Provide district-level industrial amenities. In compact industrial districts it can be challenging for individual projects to meet stormwater, parking, and other infrastructure goals and requirements on-site. It often makes sense to approach these needs at the district scale. Services to explore offering at a larger scale include shared truck parking, employee parking and transportation services; green stormwater infrastructure and water reuse; and district energy.
- Include industrial uses in planning efforts. Industrial development is often left out of many future-oriented planning efforts, or segregated into undesirable locations. While frequently included in comprehensive plan, it is also important to consider in other land use and transportation plans. For example, job creating uses are as critical near transit as residential development, and industrial users need to be engaged in transit-oriented development (TOD) plans. And transportation plans like complete streets conversions need to consider freight transportation needs, or else risk developing streets that do not solve conflict between trucks and vulnerable users.

St. Paul Comprehensive Industrial Land Use Policies¹

Industrial land uses are a major source for employment in Saint Paul and are a significant net positive payer of property taxes, relative to the City services consumed. They have traditionally been defined as manufacturing, processing, warehousing, transportation of goods and utilities. More contemporary uses, driven by technological advances, include medical tech and limited production and processing. The intent is for this land use type to remain adaptable, relevant and supportive of well-paying jobs with low barriers to entry and a growing tax base. The following policies apply to the Industrial land use category:

Policy LU-44. Identify and assemble industrial sites within close proximity to logistics networks, including interstate freeways, river terminals, rail and other cargo/commodity shipping facilities.

Policy LU-45. Support and encourage development that maximizes tax base, job creation and/or job retention.

Policy LU-46. Retain and protect current industrial land from conversions to residential or institutional uses unless guided otherwise in a City of Saint Paul adopted plan.

Policy LU-47. Preserve the long-term tax base by evaluating the impact of tax-generating industrial land, as well as compatibility with adjacent land uses and infrastructure.

Policy LU-48. Minimize the amount of surface parking in industrial districts through a more efficient use of existing parking and development of shared parking.

Policy LU-49. Pursue partnerships to improve public open space access along the Mississippi River.

Policy LU-50. Support efforts to convert former industrial buildings to complementary production uses.

Policy LU-51. Support efforts to combine small parcels in industrial zones in order to allow for uses requiring larger building footprints.

Policy LU-52. Encourage investment in new employment uses, such as medical technology, maker space, and small-scale or custom production.

¹ Department of Planning & Economic Development. "2040 Comprehensive Plan: Land Use Chapter." Saint Paul, MN, June 19, 2019. <https://www.stpaul.gov/sites/default/files/Media%20Root/Planning%20%26%20Economic%20Development/Saint-Paul-For-All-2040-Comprehensive-Plan-Land-Use.pdf>.

SCORING CRITERIA FOR EQUITABLE INFRASTRUCTURE INVESTMENT



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This issue brief argues that the Twin Cities should re-examine several existing funding programs to prioritize infrastructure investments that support beneficial industrial development, with particular attention to equity outcomes. To support COD, the selection criteria for these programs could be modified to prioritize industrial uses within industrial districts, better capture the outside impact of transportation improvements on COD industries, support projects with long-term benefits for the local economy, and transparently evaluate whether the environmental, economic, and quality of life impacts of these projects are equitably distributed. Given the limited attention to this topic nationwide, a deliberate approach by the Twin Cities region can make it a leader in harnessing investment to maximize positive industrial outcomes.

The role of public investment in COD

Public infrastructure investment to support private real estate development is not a new concept. Developments of all types, particularly those in weaker-market areas, often require public investment in roads or transit, water systems, land cleanup, and other forms of infrastructure. Industrial developments are no exception, and in fact, are even more dependent on infrastructure quality than other types of development. Investments that can support COD include:

Site acquisition, cleanup, and redevelopment:

- Brownfield remediation
- Site acquisition and land assembly

- District-level planning, business development, and marketing
- District-level infrastructure and services, such as green infrastructure, freight consolidation facilities, truck/employee parking, etc.

Public infrastructure investments:

- Truck route improvements specifically focused on minimizing truck mileage, especially through communities
- Loading and parking facilities
- District-wide green infrastructure
- Fueling infrastructure
- Worker access improvements, including bicycle, pedestrian, and transit infrastructure

The importance of comprehensive scoring criteria for COD

Faced with the reality of scarce funding, many community leaders, elected officials, and

funding agencies have embraced the use of transparent performance measures and selection criteria to decide when and how to spend public money on infrastructure investments. States, counties, and cities are increasingly focused on evaluating potential investments using thoughtful and meaningful measures of economic, environmental, and equity impact.

In some fields, this is fairly advanced. For example, the value of transit-oriented residential and commercial development has been well-documented. Few public agencies need further convincing of the benefits of TOD, and many public programs deliberately prioritize TOD investments.

But the same cannot be said of COD, despite its economic, social, and environmental benefits: few programs explicitly recognize the benefits of industrial development or seek to prioritize and shape it. This is missed opportunity, because industries like manufacturing that are dependent on timely movement of goods stand to benefit substantially from transportation investments.

In part, this is because the practice of evaluating economic and equity impacts of infrastructure investment needs overall im-



brett flander, Flickr (CC-BY-NC-2.0)

provements. Dissertations could be written on this subject; this issue brief provides a few examples to demonstrate the point.

A common measure of economic benefit for transportation projects is the number of associated construction jobs, but far greater are the economic impacts of the investment to lower congestion, improve reliability, and increase safety, which then translate into increased access to customers and labor pools. Transportation agencies and researchers are developing methods to measure these benefits in more transparent ways. For example: In Chicago, the [regional agency's long-range plan](#) evaluated arterial roadway projects based on their connectivity to areas with concentrations of growing, export-oriented industries with high transportation costs. In Virginia, the State Department of Transportation's [Smart Scale program](#) assesses how well a project increases access to intermodal facilities, supports planned development, and supports transportation efficient land use that reduces demand on the transportation network.

Public agencies often struggle to evaluate the impact of infrastructure investments on equity, both from an economic and environmental perspective. Existing measures of economic equity are insufficient to capture the range of benefits and costs of transportation investments for disadvantaged communities. This is particularly true of freight investments, which may improve the efficiency of truck movements and increase access to jobs while not addressing community concerns related to noise, pollution, air quality, and safety. Evaluation of the impacts of industrial development should consider whether economic benefits accrue to the nearby community and consider mitigating features such as alternative fuel vehicles, access management and routing improvements, and green infrastructure.

Developments of all types can benefit from inclusion of green infrastructure, or natural systems that help to manage stormwater and provide other environmental services. This is particularly true with industrial development, where buffering from residential uses and improving local air quality is a priority. Green infrastructure improves water and air quality and public health, and there is evidence that it increases local

property values nearby. However, these co-benefits are often not considered by developers or the public sector when determining whether to make green infrastructure investments.

COD-relevant funding programs in the Twin Cities

MnDOT: Corridors of Commerce program and Transportation and Economic Development program

MnDOT's [Corridors of Commerce program](#) funds highway capacity expansion and freight improvement projects. The evaluation categories for the program are mandated by law, but MnDOT can establish and update measurements of these categories. For example, the current measure of economic competitiveness is based on project cost and highway district-level economic multipliers. This measure could be revised to better capture the outsize impact of transportation improvements on COD industries, their long-term benefits for the local economy, and their impacts on economic and social equity. This program has tended to fund large-scale highway improvements, such as a proposed plan to convert a state highway to a limited access freeway through Brooklyn Park and Brooklyn Center.

Another MnDOT funding source, the [Transportation and Economic Development \(TED\) program](#), operates in parallel with the Minnesota Department of Employment and Economic Development, and has different evaluation criteria for the metro area and for greater Minnesota. For the metro area, projects receive points for benefits to targeted industries including manufacturing, and vulnerable groups like low-income communities, tribal communities, people of color, or people with disabilities. Measures of transportation benefits include connections to port or intermodal facilities or improvement of geometric issues on oversize/overweight routes. This program has funded infrastructure investments (including rail spurs and other utilities) to support the development of a logistics park in International Falls, and improvements to Shady Oak Road in Eden Prairie, which serves as an industrial district highlighted in CNT's COD analysis.

DEED: Contamination Cleanup and Investigation and Redevelopment Grant Programs

The Department of Employment and Economic Development’s site cleanup and redevelopment programs offers several funding sources to clean and reuse brownfields. DEED also works with MnDOT to administer the Transportation Economic Development Infrastructure program, a parallel and complementary program to MnDOT’s Transportation and Economic Development Program. These funds have supported industrial redevelopment projects,

such as the Northern Stacks project in Fridley. However, these funds have also supported the conversion of industrial space to residential and commercial uses. Between 2012 and 2018, two programs – the Contamination Cleanup and Investigation program, and the Redevelopment Grant program – provided approximately \$14 million to projects in the Twin Cities region with an industrial or warehousing component and approximately \$51 million to mixed use, residential, office, retail, and other types of development.

The common use of these funds to convert industrial land, rather than preserve it for indus-

Figure 5. DEED Redevelopment funds awarded by redevelopment type, 2012 - 2019

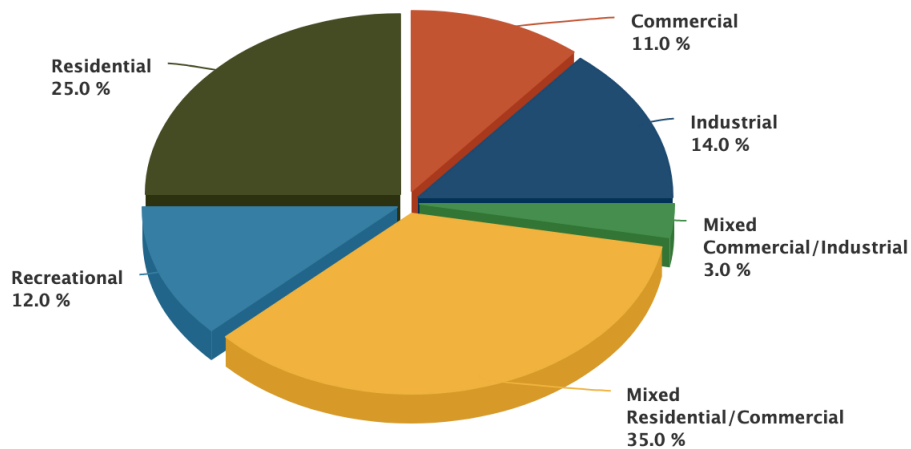
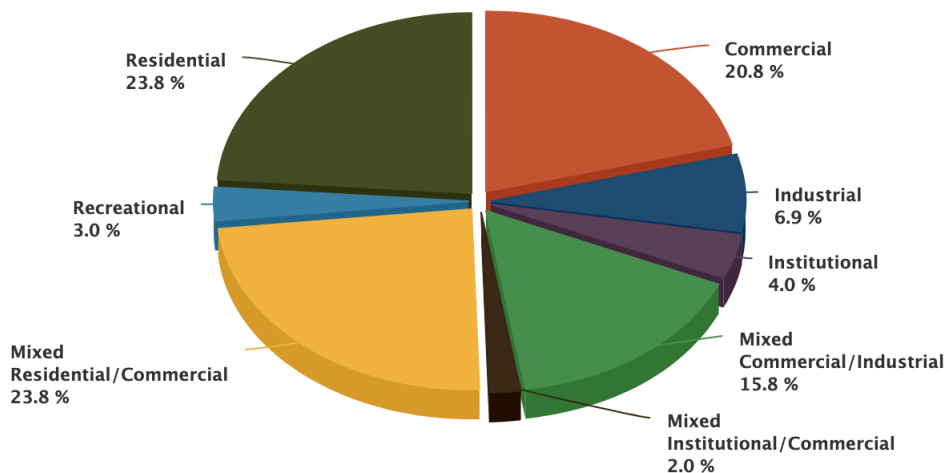


Figure 6. DEED Contamination Cleanup and Investigation funds awarded by redevelopment, 2012-2018



trial uses, deserves further exploration. Some developers interviewed for this project indicated that the resources provided by these programs are often insufficient by themselves, particularly as land values rise in urban areas, and need to be matched by other local and regional funding sources – but such funding sources are typically not geared toward industrial development.

imity to public transit, effect on job creation and tax base, support for affordable housing and transportation, and environmental impact. These are a solid set of criteria but are not geared to promote industrial preservation and redevelopment. With some adjustments to focus on job quality and long-term economic benefits, they could prioritize COD.

Adjustments to the scoring criteria for DEED’s Redevelopment Grants and Contamination Cleanup and Investigation Grants could change program outcomes. The programs use a variety of criteria to prioritize projects, including prox-



Google Street View 2020

Met Council

The Twin Cities region has long been a leader in investing in TOD. The Met Council currently offers TOD grants which promote mixed-use development near transit, with the goal of creating thriving pedestrian-friendly environments. According to the Met Council, the purpose of the program is “to integrate transportation, jobs and housing, leverage private investment, advance equity, and increase transit ridership.” Extending these goals beyond TOD, it is not hard to see the outline of a complementary program for COD. Such a program could prioritize projects that create accessible and stable jobs, mitigate local air quality concerns, and similar outcomes.

The Met Council’s Tax Base Revitalization account, also administered under the auspices of the Livable Communities grant program, funds site investigation and cleanup in collaboration with DEED funding. The changes in the DEED program suggested above could also be implemented by the Met Council.

Hennepin County

The well-regarded [Community Works](#) program in Hennepin County invests in infrastructure to improve the economy, environment, and quality of life in the county. These investments are in the fields of transportation infrastructure, open space, the natural environment, and other public works improvements.

The program does not specifically target industrial preservation. In fact, the [20-year report on the program](#) produced in 2014 notes that the program is designed to help suburban communities that are “burdened with economically obsolete industrial parks” – potentially an opportunity for implementation of COD, but given the reported program outcomes, more likely converted land to residential or commercial uses or environmental assets. Given the program’s mission to improve the local economy, it would seem that the addition of COD concepts would be a useful fit.

Alliance Equitable Development Principles and Scorecard

The [Equitable Development Principles and Scorecard](#) are meant to help communities advocate for equitable development, environmental justice, and affordability when confronting neighborhood change. Developed in partnership with the Harrison Neighborhood Association and Umoja Community Development Corporation, among others, the principles and scorecard are now available for any organization’s use around the region.

Equitable Development Principles & Scorecard

A TOOL FOR COMMUNITIES AND PLANNERS



The Alliance 2016

These are usable by public agencies and community groups alike and could be used to evaluate potential COD investments. For example, the Blue Line Coalition developed a version of the Equitable Development Principles and Scorecard for the Blue Line extension corridor. Community-oriented evaluation measures are particularly important for freight and other industrial projects due to their potentially negative community impacts.

Recommendations

Drawing inspiration from the leadership of the Twin Cities region in TOD and equity, the below recommendations are meant to better align existing infrastructure funding programs to support equitable COD.

- Update economic criteria for MnDOT Corridors of Commerce program. This has been identified already by local stakeholders as a priority and can be accomplished administratively without legislative action. Similar programs in other places like Virginia should be used as a model. Even if changing criteria of state programs is too much of a lift, the region could consider formal or informal methods of prioritizing potential projects based on their impact to the region.
- Increase use of DEED programs for industrial preservation among industrial developers and municipalities. To achieve this, it is necessary to improve awareness by industrial developers of the benefits of this program. DEED should also explore whether changes in program criteria would affect program use, or whether lack of complementary funding sources is larger barrier. Similar changes are possible to the Tax Base Revitalization program at Met Council.
- Establish COD set-aside similar to Met Council TOD grants. This could be geographically targeted to high ranking industrial districts and used to fund public infrastructure that makes COD possible (i.e. complementary to the brownfield remediation funding). Administration could be very similar to existing TOD grants, and other sources like CMAQ could also be explored.
- Initiate county-level programs to fund COD infrastructure, including early phases of infrastructure project development. Ramsey and Hennepin Counties both have the bones of these programs, but they are not specifically targeted to COD. Defining industrial preservation as program outcome would help to make this connection.
- Leverage the Equitable Development Principles and Scorecard and adapt them to focus on intersection of freight transportation and community impacts. To start with, regional stakeholders could develop a freight-oriented example, or request participation from the Alliance in running through the program for a freight project or creating customized COD version.
- Commit to develop improved measures to evaluate the equity impacts of transportation investments. Put simply, even best practices in transportation equity evaluation are not up to the task. The Twin Cities region, given its history of being a national leader on equity issues and the steps toward equitable investment already developed by Met Council, MnDOT, and the University of Minnesota, is well positioned to be a national leader on this topic. These organizations should initiate a multi-year process, with funding from the state and regional level and possibly contributions from the federal level as well, to develop new measures that are better at calculating equity impacts of transportation investments.

IMPROVING WORKER ACCESS TO INDUSTRIAL JOBS



This issue brief argues that transit agencies, local governments, and business groups should explore creative ways to improve access to industrial districts in suburban areas in the Twin Cities, particularly those that are in proximity to new transit expansions. A strong manufacturing sector can be a key contributor to economic equity, but only if industrial jobs are accessible to workers. The planned transit expansions in the Twin Cities region provide an excellent opportunity to improve accessibility to nearby industrial jobs without requiring car ownership.

The importance of transit access to industrial jobs

Expansions of transit service are widely understood to support new housing and commercial development, but the value of transit access to jobs is often overlooked. In particular, transit access to industrial jobs can increase opportunities for people in poverty and spur more

inclusive economic growth. Despite the general prosperity of the Twin Cities region, 19% of its residents live below the poverty level. Most of these residents are people of color and live in areas of concentrated poverty in the central cities of Minneapolis and St. Paul.

Industrial production jobs are commonly available to workers without college educations, and on average these jobs pay wages 50% higher than jobs in service industries with similar educational requirements. However, in the Twin Cities and in many other regions of the country, production jobs are increasingly located in suburban districts with limited transit connections. Lack of reliable transit access is a significant hardship for lower-income workers because of the high cost of car ownership and maintenance. Employers in suburban industrial areas also stand to benefit from improved transit access, which is shown to reduce employee turnover. But industrial jobs are historically difficult to serve with conventional fixed-route public transit: large sites and the need to accommodate truck traffic can create physical barriers, and shift changes often occur when transit service is not available.

Local and regional leaders in the Twin Cities region are committed to reducing racial and income disparities and increasing access to opportunity. The planned expansions of transit service to suburban municipalities in the Twin Cities have been intentionally designed to improve transit access to suburban job centers, including some of the region's critical industrial districts. These planned extensions present opportunities for a sea of change in the accessibility of large suburban industrial districts to workers from areas of concentrated poverty, but these opportunities will only materialize if there are effective systems for overcoming the "last mile" impediments to worker accessibility.

In the Twin Cities and in other regions of the country, a tremendous amount of experimentation is underway on new mobility, involving public sector and private transportation providers. Emerging transportation modes such

as car share, ride share, and bike share provide opportunities to complement transit service and enhance worker access. Much work is already underway in the Twin Cities on the use of shared modes through efforts like the Twin Cities Shared Mobility Collaborative and the Fridley Northstar Station and SouthWest Transit shuttle pilot programs. However, serving industrial jobs presents distinct issues, opportunities, and challenges beyond the broader adoption of shared mobility.

CNT's findings concerning the importance of transit access to industrial jobs build on a long legacy of similar work in the Twin Cities. The Center for Transportation Studies at the University of Minnesota has sustained a long-term and ongoing initiative to analyze the impacts of transit on critical aspects of life in the Twin Cities, with particular focus on access to employment.¹ In particular, a 2016 analysis, *Spatial and Skills Mismatch of Unemployment and Job Vacancies*, focuses on the double problem of spatial and skills mismatch.²

This report shows that unemployment and job vacancies are concentrated in neighborhoods of the region's two central cities, but some North Minneapolis areas and parts of Brooklyn Park and Brooklyn Center also face severe spatial mismatch as well as a lack of public transportation. Meanwhile, manufacturing job vacancies are mostly suburban, while transportation and warehousing job vacancies are both in the cities and in the suburbs. When the future transit system is considered, accessibility to manufacturing jobs should improve significantly; access to transportation and warehousing jobs should also improve though to a lesser degree. But the report concludes that transit improvements alone will not be a complete solution to spatial mismatch.

Industrial jobs are identified in the report as particularly important to serve. The report identifies "sweet-spot" occupations in seven high-demand sectors, including the manufacturing sector and the transportation and warehousing sector, where efforts could be concentrated.

1. University of Minnesota, Transitway Impacts Research Program: Research Projects and Publications, <http://www.cts.umn.edu/research/featured/transitways/research>

2. Yingling Fan, Andres Guthrie, and Kirti Vardhan Das, *Spatial and Skills Mismatch of Unemployment and Job Vacancies*, Opportunities for Integrated Transit Planning and Workforce Development, May 2016, file:///C:/Users/David/Downloads/CTS16-05%20(1).pdf

In these two sectors, most occupations with high vacancy rates do not require a postsecondary degree, and some offer good living wages. Among all the sectors in the study, transportation and warehousing job vacancies have the lowest educational requirements (less than 10% of jobs require a bachelor's degree or higher).

On the workforce development side, the Twin Cities region contains a rich network of public and not-for-profit workforce development organizations. COD, and its worker access component particularly, is meant to support workforce development organizations in dovetailing worker training with accessibility, so that aspiring workers are trained for jobs that they can reach from their communities through means other than driving alone. In the industrial sector, several programs have been launched to help job seekers gain skills and companies find qualified workers, such as Right Skills Now, HIRED, M-Powered, Everybody-In, and MSP WIN. These programs are discussed in an earlier study regarding the need and opportunity for COD in the Twin Cities.³

The Corridor 2 Careers project was launched by Ramsey County in 2014 and aimed at enhancing connections between employers and long-term unemployed residents in the Central Corridor (an 11-mile transit corridor connecting downtown St. Paul and Minneapolis). The results showed that a geographic mismatch exists between jobs and workers and that neither employers nor workers were aware of the importance of transit.⁴ For example, a wide range of jobs are available to St. Paul residents within half an hour's transit travel time of their homes, including jobs that paid living wages for workers without advanced skills.⁵ However, unaware of these transit-accessible job opportunities, some residents without cars sought jobs only near their homes, where skill-accessible jobs were generally scarce and often poorly paid.

3. Center for Neighborhood Technology, *Blueprint for Cargo-Oriented Development in the Minneapolis - St. Paul Region*, November 2017.

4. Ramsey County Regional Railroad Authority, *Jobs Central / Corridors 2 Careers, Creating Work-ready Communities*, February, 2014 <http://www.funderscollaborative.org/wp-content/uploads/2016/03/Job-sCentralC2CCreatingWork-readyCommunitiesFinalReport.pdf>

5. See the Center for Neighborhood Technology's on-line data tool, AllTransit™.

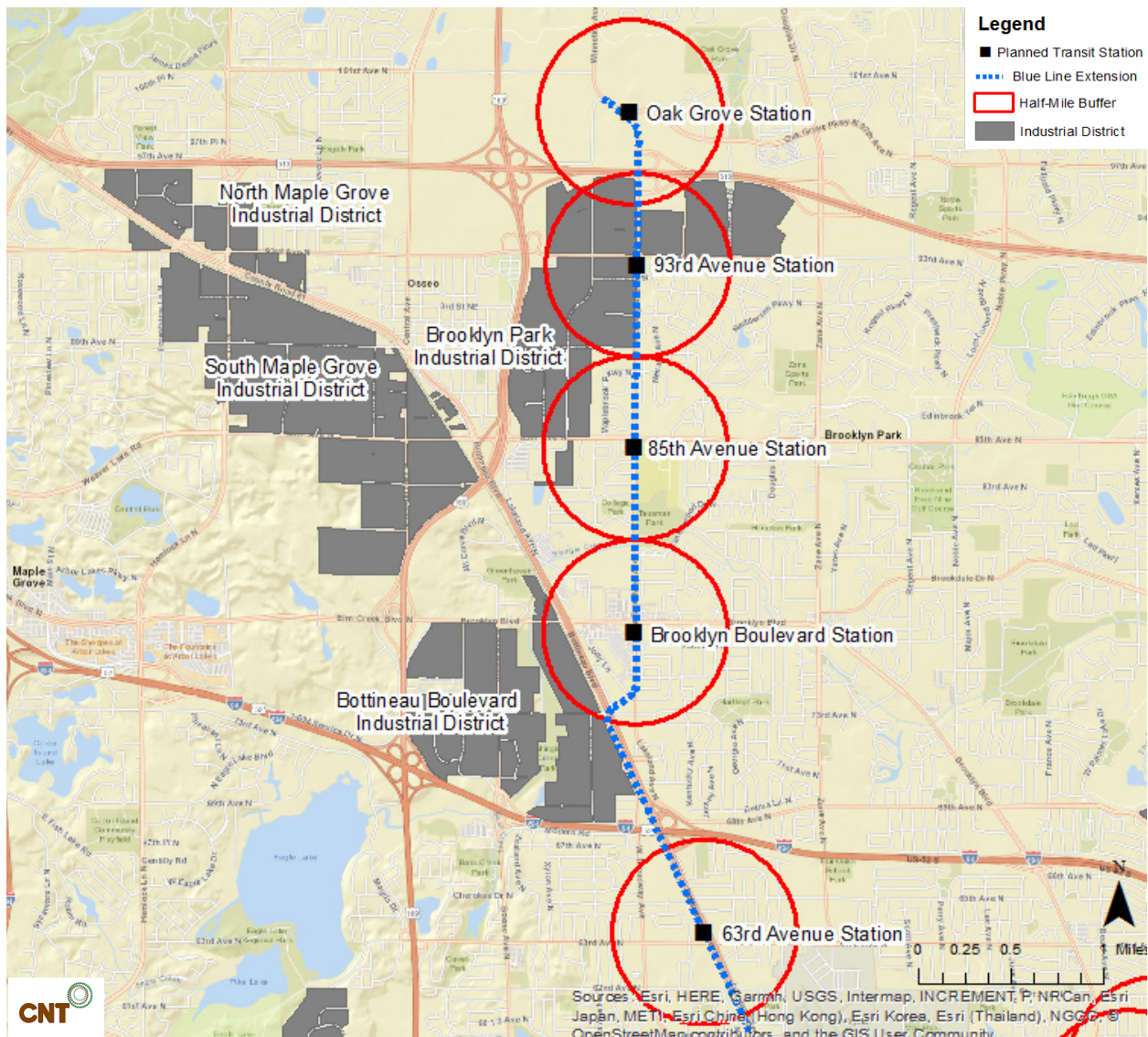
Opportunities created by new transit

The Twin Cities region has several planned extension and addition projects underway which will increase worker access to several potential COD districts.

The Blue Line Extension will connect with the current Blue Line at the Target Field Station. From there, this extension line will head northwest for 13 miles and pass through north Minneapolis, Golden Valley, Robbinsdale, Crystal and Brooklyn Park (shown [here](#)). Construction

is scheduled to begin in 2020, with a potential completion date of 2024. This schedule is contingent on the successful outcome of current negotiations with the BNSF Railway which would allow the line to be built within a BNSF corridor for an 8-mile section. When completed, the Blue Line Extension will provide light rail access to several potential COD districts. Within Minneapolis, a planned station at Olson and 7th Street will provide access to nearby jobs. As the LRT continues north, several planned stations will be located around two to three miles from several industrial districts in Golden Valley and near to the Bottineau Boulevard District and Brooklyn Park Industrial District in Brooklyn Park.

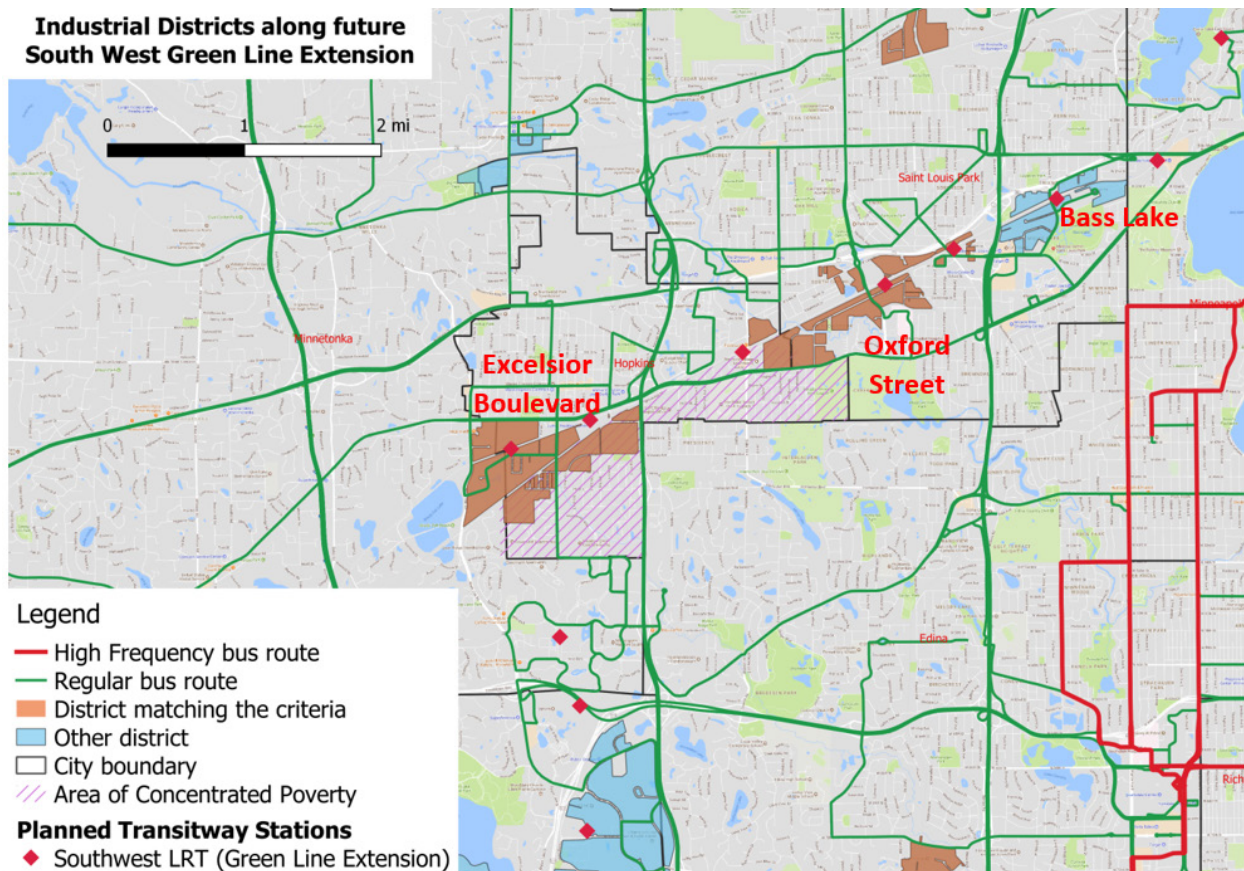
Figure 7. Proposed Blue Line Extension with Half-Mile Buffer Around Transit Station



The Green Line Extension, also known as the Southwest LRT, could substantially improve worker access to industrial jobs as this line will connect to six industrial districts with strong COD potential. This extension will join with the current Green Line at the Target Field station and head southwest for 14.5 miles and pass through south Minneapolis, St. Louis Park, Hopkins, Minnetonka and Eden Prairie (shown [here](#)). Service is scheduled to begin in 2023. Within Minneapolis, the new service will provide access to industrial jobs through a new station at Royalston Avenue. As the line moves further south, it will bisect the Glenwood Avenue Industrial District and connect to the Bass Lake Industrial District, Oxford Street Industrial District, Excelsior Boulevard Industrial District, and Eden Prairie-Golden Triangle Industrial District.

The Orange Line Bus Rapid Transit (BRT) will connect downtown Minneapolis with the suburbs located directly south of the city. This line will begin in downtown Minneapolis at 3rd Street and head south for 17 miles along the I-35W corridor, passing through south Minneapolis, Richfield, Bloomington, and Burnsville. In 2018, the Orange Line BRT received full federal funding and potentially will be completed by 2020. Although there are no planned stops in any of the identified industrial districts located in the south suburbs, this line does run adjacent to Bloomington South Industrial District in Bloomington, Black Dog Lake Industrial District in Burnsville, and Burnsville Landfill Industrial District, located in both Burnsville and Savage.

Figure 8. Industrial Districts along South West Green Line Extension



Case study 1 – Brooklyn Park

The Bottineau Boulevard Industrial District in Brooklyn Park – along with nearby districts in Maple Grove, Osseo, and Brooklyn Park – is an excellent example of a suburban district with considerable opportunity for COD. This district has high industrial density, with high counts of industrial firms and jobs per square mile, and strong potential for growth if worker access can be improved.

Currently no part of the district is located within half a mile of a high-frequency transit station, as there are presently no LRT, BRT, or high-frequency buses in Brooklyn Park. There are several regular buses nearby, including Metro Transit Routes 705, 721, and 764. All 2,257 industrial jobs in selected industries inside the Bottineau District are within half a mile of one of the routes. However, as shown in the table below, frequencies are low, and connectivity is limited.

prove worker access, if the line is augmented by bus service adjustments, shuttle transportation and improvements in infrastructure for walking and biking, and other last mile connections. Five new stations are planned, several in proximity to the area’s industrial districts.

The Bottineau Boulevard Industrial District could benefit from two stations nearby. The planned Brooklyn Boulevard Station will be less than ½ mile away from the eastern boundary of this district. Currently, there are sidewalks on at least one side of Brooklyn Boulevard that would allow workers to walk to the district from the station, but given the considerable scale of the Bottineau District, an LRT station nearly ½ mile from its boundary would not be sufficient to ensure worker access. However, the Brooklyn Boulevard Station could be an ideal anchor for a last mile service to connect to LRT trains and circulate through the Bottineau District. Another planned station at 63rd Avenue is located slightly less than a mile from the southeast

Route	Description	Schedule
705	Local bus route connecting Brooklyn Park and St. Louis Park through New Hope, Crystal, and Golden Valley. There are four stops near the borders of the district: two at the northeast near Greenhaven Park and two at the southeast on 71st Avenue just before I-94.	Every hour from 5:35 a.m. to 9:19 p.m., only on weekdays
721	Limited-stop bus route connecting Brooklyn Park to downtown Minneapolis through Crystal and New Hope. It goes through the district on Northland Drive. There is a station at each crossroads.	Every 30-60 minutes from 5:30 a.m. to 10:30 p.m.
764	Express bus route connecting Brooklyn Park to downtown Minneapolis through New Hope and Winnetka Avenue. There are two stops near the southeast border of the district on 71st Avenue just before I-94.	3-4 trips during rush hours, only on weekdays

Additionally, Routes 780, 781, 782, 783, 785, and 789 are express routes from Maple Grove to Minneapolis, operated by Maple Grove Transit. These routes all run along the border of the Bottineau Boulevard District but do not stop within the district. In short, current worker access to industrial jobs in the Brooklyn Park and Maple Grove area is quite limited, considering the scale and potential growth of the area’s industrial job base.

The advent of the planned Bottineau LRT (Blue Line Extension) could dramatically im-

prove worker access, if the line is augmented by bus service adjustments, shuttle transportation and improvements in infrastructure for walking and biking, and other last mile connections. Five new stations are planned, several in proximity to the area’s industrial districts.

Nearby, the Brooklyn Park Industrial District will benefit greatly from the planned 93rd Avenue LRT station, adjacent to northeastern area of the district. Bus Route 724 has a current stop at the proposed station and a current route that would allow workers to transfer to the bus from the LRT and be taken south through the district but currently has limited service. Another planned

LRT station at 85th Avenue is less than ½ mile from the southeastern boundary of the Brooklyn Park District. Currently, there are sidewalks along 85th Avenue that would allow workers to walk to the southern end of the district from the LRT station. Bus Route 724 also would connect to this station and workers could take the north-bound bus through the district, as noted above.

Bringing increased worker access through the Bottineau LRT to the Maple Grove North and South Industrial Districts will be more challenging than upgrading access in Brooklyn Park, but several improvement strategies deserve consideration. The planned 85th Avenue Station LRT station is approximately one mile from the eastern boundary of the South Maple Grove Industrial District, and the proposed 93rd Avenue Station is approximately two miles from the eastern boundary of the North Maple Grove Industrial District. A complementary strategy for improving worker access to Maple Grove industrial districts would be augmenting the current routes of the Maple Grove Transit service, which are express busses for commuters to reach downtown Minneapolis during morning rush hours and return in the afternoon or evening. Expanding this service to provide reserve commute options for workers from the central cities to reach jobs in Maple Grove's industrial parks would enlarge the workforce and contribute to the value of the city's industrial parks.

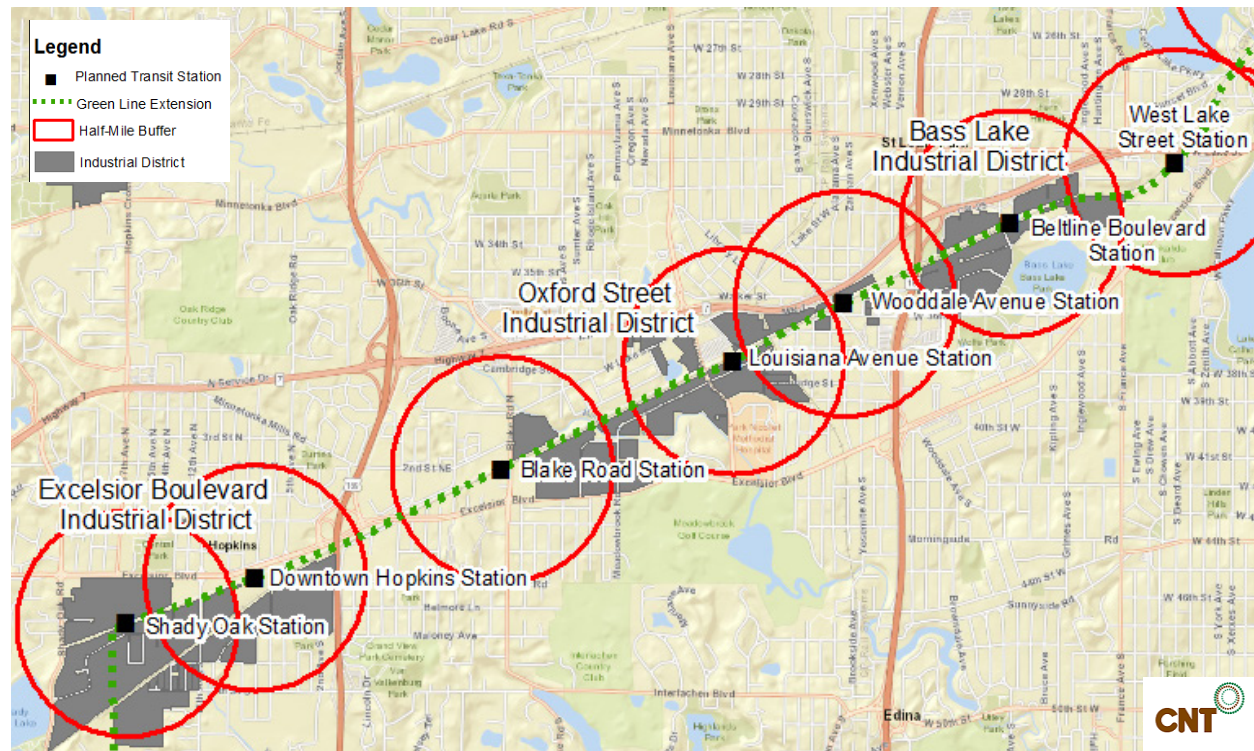
The critical factor in making the LRT a valuable channel for worker access will lie in achieving viable last mile options for connecting LRT stations to workplaces. Options include adjustments or additions to existing bus routes, shuttle services fanning out from LRT stations through industrial districts, shared mobility programs with vans or cars, other creative options like micromobility services or bikeshare or scooter programs, and infrastructure for reasonable pedestrian or bike connections to transit stops.

Case study 2 – St. Louis Park

A second high-priority case study involves industrial districts along the Southwest LRT in St. Louis Park, Minnetonka, and Hopkins. These areas will receive much higher levels of direct transit service, transforming the ability of transit-dependent workers to access jobs in these communities.

All the industrial districts of the Southwest Central Transit Area have some level of public transit service today. Existing Metro Transit Routes are described below. While at least 7 bus routes run near or adjacent to industrial districts along the Southwest LRT, only a few travel through the districts. Moreover, most of these lines only run on weekdays, and some provide service only during rush hours.

Figure 9. Proposed Green Line Extension with Half-Mile Buffer Around Transit Station



Currently, the area is around the median for industrial districts in terms of the numbers of workers who can reach the district from their homes within half an hour by transit. Access from high-poverty places is limited, but these districts are relatively accessible from some suburban concentrations of poverty. The Metropolitan Council’s analyses show that while overall poverty levels in the region have declined in recent years, areas of concentrated poverty in suburban cities have expanded.⁶ Improving access to local industrial jobs can be a significant strategy for addressing suburban poverty.

The Southwest LRT will create major opportunities to improve worker access to industrial jobs. The proposed line will join the current Green Line at Target Field in downtown Minneapolis and head southwest through several Minneapolis communities and suburbs in Hennepin County. The line will then bisect all three industrial districts in the area.

The Bass Lake Industrial District will see one station, the Beltline Boulevard Station, located centrally within the district. Approximately 90% of the Bass Lake District will be within ½ mile of the Beltline Boulevard Station. Sidewalks and the Cedar Lake Trail make this district highly accessible by foot.

⁶ Metropolitan Council, METROSTATS, Areas of Concentrated Poverty in 2016, <https://metrocouncil.org/Data-and-Maps/Publications-And-Resources/MetroStats/Census-and-Population/Areas-of-Concentrated-Poverty-in-2016.aspx>

The Oxford Street Industrial District will see two proposed stations within its boundaries and one station adjacent to its southwestern boundary. The three stations, Wooddale Avenue Station, Louisiana Avenue Station, and Blake Road Station will make nearly the entire district accessible within ½ mile, although sidewalks will need to be constructed in some sections of the district.

The Excelsior Boulevard Industrial District will see two proposed stations within its boundaries. The Downtown Hopkins Station and the Shady Oak Station will make the entire district accessible within ½ mile, although sidewalks will need to be constructed in some sections of the district.

This new service brings opportunities to adjust current bus lines so that every Southwest LRT station is connected to at least one bus route. The bus routes will bring workers from commu-

nities to the north and south of the Southwest LRT to these central locations, with intervening stops that will bring transit access still closer to industrial job sites in these districts.

Given the outstanding opportunities to walk between job sites and LRT stations or to make these last mile connections with local busses, ensuring a safe and convenient pedestrian and bicycle infrastructure is especially important in these districts. Inviting pedestrian and bicycle infrastructure, as well as local buses, should make these industrial districts highly accessible to neighboring communities. Micromobility or rideshare services may also be part of a viable solution.

Route	Description	Schedule
12	Local bus route between Minneapolis and Minnetonka through St. Louis Park and Hopkins. There are two stations on Excelsior Boulevard along the south border of the Oxford Street Industrial District and 12 stations in the Excelsior Boulevard Industrial District on Excelsior Boulevard, 11th Avenue, and 5th Street.	Every 15-30 minutes during rush hours on weekdays
17	Local bus route between Hopkins and Minneapolis through St. Louis Park. There are 12 stations in Bass Lake Industrial District on Highway 7 Service Road, Park Glen Road, Beltline Boulevard, and 36th Street. Only a few buses stop at these stations (one to three trips in each direction during rush hours on weekdays).	Every 5-15 minutes during the day on weekdays; Every 15-60 minutes the rest of the time
604	Local bus route in St. Louis Park. There are two stations in Oxford Street Industrial District on Louisiana Avenue.	2-3 trips in each direction during rush hour; Every hour during midday Only on weekdays
612	Local bus route between Minneapolis and Minnetonka through St. Louis Park and Hopkins. There are three stations on Excelsior Boulevard along the south border of Oxford Street Industrial District and five stations in Excelsior Boulevard Industrial District on 11th Avenue.	Every 20-40 minutes during midday on weekdays; Every 30-60 minutes during the evening and on weekends
615	Local bus route between Minnetonka and St. Louis Park through Hopkins. There are three stations in Oxford Street Industrial District and two stations in Bass Lake Industrial District, all on 36th Street.	Every hour from 7 a.m. to 8 p.m. on weekdays; Every 2 hours from 7 a.m. to 8 p.m. on Saturdays
664	Express bus route between Minneapolis and Minnetonka through St. Louis Park and Hopkins. There are three stations in Excelsior Boulevard on 11th Avenue.	4 trips during rush hours (to St. Louis Park in the morning and to Minneapolis in the afternoon), only on weekdays
670	Express bus route between Minneapolis and Minnetonka through Hopkins. There are two stations in Excelsior Boulevard Industrial District, located at Excelsior Boulevard & 8th Avenue and Excelsior Boulevard & 5th Avenue.	3 trips during rush hours, only 1 way (to Minneapolis in the morning and to Minnetonka in the afternoon)

Recommendations

The construction of new transit services provides a once-in-a-generation opportunity to improve worker access to industrial jobs, but will require creativity and innovation. Recommendations for future action include:

- Enhance relatively strong transit services to take advantage of special opportunities to improve worker access. For example, bus routing adjustments would improve the connections between industrial districts in central and eastern St. Paul and the Green Line LRT, making these districts accessible to more workers while building Green Line ridership to other types of employment.
- Increase the frequency and periods of transit service for districts that now have moderate or weak levels of service. Capital investment in LRT should be complemented by operational investments in local bus service to maximize access.
- Improve local conditions for non-motorized travel. In some locations, construction of new sidewalks is a basic step that should be taken to allow workers to safely walk from new LRT services to workplaces or bus connections. In addition, local governments should consider transit and pedestrian access when upgrading existing development or permitting new development.
- Investigate the role for new mobility services. Innovations in technology and service provision have allowed micromobility and rideshare companies to complement transit service in some locations. These services are very well-suited for making last mile connections.
- Consider various business models for offered last mile services. These services could be: owned and operated by the transit agency, such as the [SW Prime hybrid transit service](#); operated by a Transportation Management Association (TMA), like the Shuttle Bug program run by the [TMA of Lake-Cook](#); or contracted to private companies, like [late-night trips contracted](#) to Lyft by the City of Detroit.
- Include thorough extensive stakeholder input. Traditional stakeholders – local government leaders, transit providers, and workforce development professionals – are of course important to involve, but special effort should be made to involve the affected employers and workers in the design of new alternatives.