



TO HOSP

SAFE PLACE

1008

GARY PUBLIC TRANSPORTATION



7 TRANSIT



Finding Meaning

Introduction

The Transit Chapter of NWI 2050+ will develop a road map for implementing an achievable plan for a transit network that is attractive to riders and sustainable within available resources. It is important that the plan, developed with consensus by stakeholders, identifies a recommended network that serves local and regional goals.

This Finding Meaning report is the first phase of the Transit Plan. The report provides the background necessary to understand strengths and weaknesses of current transit services and identifies gaps and needs to define a path for the Creating Purpose and Purpose Driving Planning phases of NWI 2050+.

Existing Public Transportation Services

Commuter rail, fixed route bus, and demand response services are provided in Northwest Indiana. Each of these services is described below.

Commuter Rail

The South Shore Line regional rail service is Northwest Indiana’s predominant transit operator, accounting for 3.2 million unlinked trips in 2019. It is owned by the Northern Indiana Commuter Transportation District (NICTD). While the South Shore Line was originally a short name for the railroad’s official name (Chicago South Shore & South Bend Railroad), it is now, essentially, a brand name. Freight service is also operated on the same tracks by South Shore Freight, NICTD’s tenant.

The South Shore operates passenger service from early morning until late in the evening, 7-days/week, between the South Bend Station (located just east of LaPorte County, the easternmost NIRPC county) and Millennium Station in Downtown Chicago. Most trains operate between Michigan City and Downtown Chicago, with some trains operating through to the east terminal, located at the South Bend Airport, and some operating only west of Gary. Certain stops are not served by all trains. See Figure 7-1.

The South Shore Line has a zonal based fare system with eleven zones. With one minor exception (within Michigan City), the minimum full fare between stations within the same zone (i.e., between Hammond and East Chicago-about four miles or between the three stations within Gary-about 6.5 miles) is \$4.00 (\$2.00 for reduced fare riders). This fare is higher than local bus fares for similar trips. The South Shore Line has a traditional commuter rail fare structure with a nominal reduction for 10-ride tickets, about a 10% reduction for 25-ride tickets, and more on unlimited ride monthly tickets. There is no transfer interchange program between South Shore Line and local buses, or the Chicago Transit Authority (CTA).

The South Shore uses electrically powered trains. Between South Bend and the Illinois state line, South Shore Line service operates on tracks owned by NICTD, from the state line to 115th Street, the tracks are owned by South Shore Freight, and between Kensington/115th Street Station and Downtown Chicago, the South Shore Line is operated on tracks owned by Metra (the commuter rail division of the Northeast Illinois Regional Transportation Authority-RTA).

NICTD is currently implementing two major infrastructure projects on the South Shore Line:



Figure 7-1: South Shore Line Stations

- *Double Tracking Project:* East of Gary, the railroad has previously operated on a single main track with passing sidings. This greatly complicates operations and limits capacity. NICTD is currently installing a second main track as far east as Michigan City, in conjunction with several other upgrades. When the double-track project is completed (anticipated in 2024) a significant increase in ridership and a reduction in scheduled running time is anticipated. Seventy-nine (79) mile per hour operation is already permitted on major portions of the railroad, and more is anticipated as part of this project.
- *West Lake Corridor Project:* NICTD is constructing a new branch of South Shore Line service, approximately eight miles long and connecting a relocated Hammond Station (Hammond Gateway) to the Main Street Station on the Munster/Dyer border, with intermediate stations located in South Hammond and at Ridge Road in Munster. Twelve weekday peak period trips are planned to operate through downtown Chicago and 12 weekday off-peak period trips are planned to operate as shuttles connecting to mainline trains at the new Hammond Gateway station (Figure 7-2).

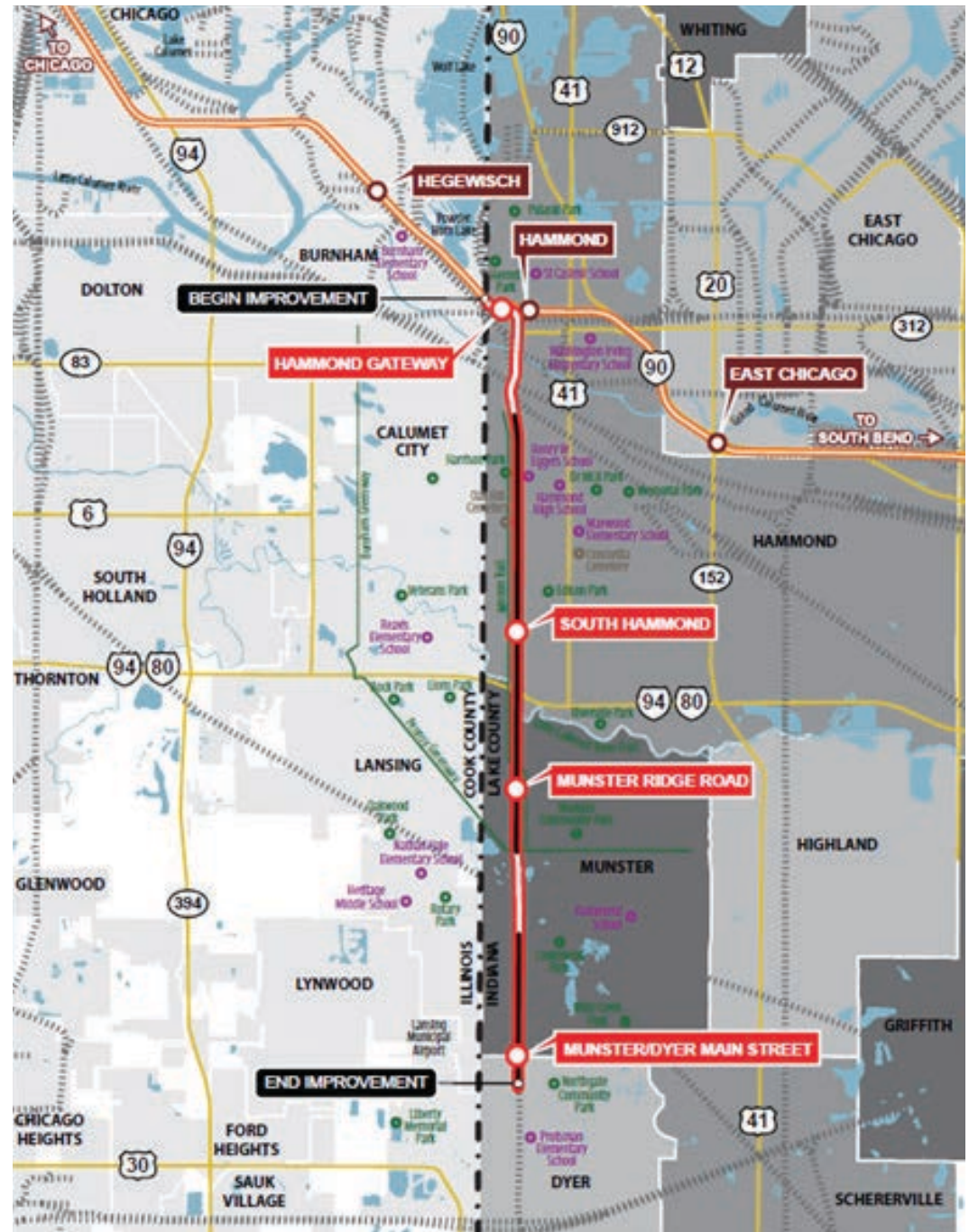


Figure 7-2: NICTD West Lake Corridor Project

Fixed Route Bus Services

There are four bus service operators in the region that operate fixed route bus service.

Gary Public Transportation Corporation (GPTC)

GPTC is the largest bus operator in the the region; it operates a fixed route bus service, using full-size buses, as well as the federally required complementary paratransit service for passengers with disabilities associated with these routes. All services are operated in-house. While it is based in Gary, a substantial portion of its operations are in the neighboring municipalities of Hammond, East Chicago, Merrillville, Munster, and Highland. This “regional service” is supported by funding through Gary, Lake County, Hammond, and Merrillville. Higher fares are charged on routes outside the Gary city limits. Service on all routes is operated for approximately 16 hours/day on weekdays and 8 hours on Saturdays. GPTC service information is shown in Table 7-1.

GPTC fares are \$1.60 for full fares for riders within Gary (80¢ for reduced fares) and \$2.25 on regional routes (\$1.00 for reduced fares) regardless of the length the rider’s trip.

It should be noted that two Pace bus routes (Routes 350 Sibley and 364 159th) come one block across the state line from Illinois into Hammond via Sibley Boulevard to meet GPTC Routes R1 and R4. Pace is the suburban bus operating agency of the Regional Transit Authority (RTA). A substantial number of passengers transfer here. There are no fare provisions for interagency transfers; a new fare is required.

Valpo Transit

Valpo Transit operates a few different types of fixed route service in the City of Valparaiso:

V-Line: Local service, coined as the V-Line, is provided on three routes, Brown, Green, and Yellow within Valparaiso and some adjacent areas. This service is operated with small “cutaway” buses. The Green Line serves the east side of the city, the Yellow Line serves the west side of the city, and the Brown Line serves the south side of the city and Valparaiso University. All three routes have fixed stops but can deviate up to ¾ mile from any posted stop provided the rider calls 24 hours in advance to request this; only one deviation per trip is allowed. Because it offers this route deviation option, complementary paratransit service is not provided.

All local services are operated hourly. Fourteen (14) trips are operated on the Green and Yellow routes from 6:15 a.m. to 7:15 p.m. Monday-

Saturday, with eight trips and reduced hours on Sundays. The Brown Line operates from noon to 9:00 p.m. Monday-Saturday with eight trips. No service is operated on major holidays. Fares are \$1.00 or 50¢ for reduced fare riders.

South Shore Connect: The South Shore Connect is an express bus service from Downtown Valparaiso to the Dune Park South Shore Line Station just outside of Chesterton, Indiana. Service operates on a schedule built around meeting South Shore Line trains with six round trips operated every day (with a different schedule for weekdays and weekends, coordinated with train schedules). Fares are the same as on the Valparaiso local service.

	Number	Name	Scheduled Frequency (minutes)	Note in GPTC Facebook post
Gary local routes	L1	E. 35 th /Marshalltown	60	
	L2	Oak & County Line Rd.	60	
	L3	6 th Ave. Tolleston	60	
	L4	University Park	60	Route not in operation
	L5	Horace Mann/Village via Taft	60	Route not in operation
Regional routes	R-BMX	Broadway Metro Express	60 *	Operating every 120 minutes
	R1	Lakeshore Connection	120	
	R2	US 30 Shuttle	60	
	R3	Burr Lake Ridge		Operating every 120 minutes
	R4	Lakeshore South	60 (no Sat. service)	Route not in operation
	R5	Merrillville Shuttle	40	Route not in operation

*30 minute service frequency expected in mid-2023 with electric buses
Table 7-1: Gary Public Transit Corporation (GPTC) Service Information



11th Street (currently closed due to construction as part of the double-track project). MCT also provides complementary paratransit services in their service area.

East Chicago Transit (ECT)

ECT operates two routes within the city. On Route 3: West Calumet, ten trips operate on weekdays between approximately 6 a.m. and 7 p.m. There are six trips on Saturdays, between approximately 9 a.m. and 4 p.m. On Route 2: Crosstown, nine trips are operated on weekdays between approximately 6 a.m. and 8 p.m. and five trips are operated on Saturdays between

approximately 9 a.m. and 4:40 p.m. There is no Sunday/holiday service. Headways are irregular and buses operate more than an hour apart. ECT has always been operated as a service that is free to riders. Medium-sized conventional transit buses are used. The city operates complementary paratransit service for the disabled. All trips originate at the East Chicago South Shore Line station. It is worth noting that GPTC Route R1 Lakeshore Connection operates on the same streets (notably, Indianapolis Boulevard and Columbus Drive) as ECT does for approximately four miles; however, the R1 only operates every two hours.

Chicago Dash: The Chicago Dash is a weekday express commuter bus service from Downtown Valparaiso to Downtown Chicago. Using intercity coach-type buses, three morning trips leave Valparaiso picking up from a commuter parking lot at 270 Brown Street at 6:00 a.m., 6:30 a.m., and 7:00 a.m. with three return trips originating at Randolph and Michigan at 4:00 p.m., 4:30 p.m., and 5:00 p.m., there are stops at two other downtown locations. The cash fare is \$8.00, similar to the South Shore Line fare, with reductions for 10-ride and monthly tickets purchased through the Token Transit app. The website shows that an intermediate stop at Hobart has been proposed.

Michigan City Transit (MCT)

MCT operates four local routes, with each leaving from the library in Downtown Michigan City, hourly from 6:30 a.m. (8:30 am on Saturdays) to 5:30 p.m.; there is no Sunday/holiday service. Small buses are used. Fares are \$1.00 or 50¢ for reduced fare riders. Three of the routes directly serve the South Shore Line’s station at



Demand Response Services

There are three demand response services that are operated by government agencies that are open to the general public. Demand response services are services that pick people up at their homes and drop them at their destinations, either “door to door” or “curb to curb”.

TransPorte

The City of LaPorte operates a demand-response service within its city limits. Service is provided between 6 a.m. and 7 p.m. on weekdays and 9 a.m. and 2 p.m. on Saturdays. There is no service on Sundays/holidays. The full fare is \$3.50, fare for seniors (over 60) and disabled passengers are \$2.50, and child fare is \$1.25 (when accompanying an adult). Service requests are all handled by phone calls to the TransPorte dispatcher. The agency does not use an app. The agency offers three types of trips: subscription (i.e., recurring), scheduled (requested more than 24 hours in advance), and demand-response (same day, even right away; these are the lowest priority and may not be able to be accommodated).

North Township Dial-A-Ride

North Township Dial-A-Ride includes the communities of East Chicago, Hammond, Highland, Munster, and Whiting. This service is operated Monday-Friday between 7 a.m. and 5 p.m. Service must be requested at least 24 hours in advance. Riders need to reside in North Township and be going somewhere in North Township. No fares are charged. Much of the area served is also served by GPTC and ECT fixed route buses.

Lake County Community Services (LCCS)

Lake County Community Services operates a demand response service that is provided to eleven municipalities and two townships in Lake County. Service hours are 8 a.m. to 4:30 p.m. Monday to Friday; no weekend service is provided. To schedule services, the rider needs to call 48 hours in advance. There is no app to use to schedule service. Fares are \$7.00/general public and \$5.00/seniors and disabled but can be reduced based on where the rider lives as different funding sources allows for different fares.

Other Demand Response Services

Note that there are other demand response services in the region that transport specific populations. Two of the larger providers are described below.

Opportunity Enterprises (OE)

Opportunity Enterprises is a non-profit organization that serves individuals with developmental disabilities. In addition to their other services, OE provides transportation services to residents of Porter County including transportation to doctor’s appointments, therapy sessions, or other community locations. Their curb-to-curb service includes a wheelchair accessible fleet of vehicles available 7 a.m. to 5 p.m. on weekdays. The rate is \$7.50 per one-way trip. Those who need assistance can have an attendant ride free of charge. OE Transportation is limited to Porter County and certain bordering county medical facilities.

Porter County Demand Response Services (PCACS)

PCACS provides demand response services to seniors (60 years+) and those with disabilities. Service is only available in Porter County. Riders must be registered to use PCACS transit services. Rides need to be arranged in advance by calling in or using an app. Rides are prioritized by type with medical trips and grocery store trips handled first; subscription type trips (e.g., to dialysis) are allowed. Service hours are Monday and Wednesday, 6 a.m. to 5 p.m. and Tuesday and Thursday, 9 a.m. to 4 p.m. Currently, there is no Friday or weekend service.

Fare Collection

Fare collection has evolved over the years for transit agencies. To reduce the potential for theft incidents for bus drivers, most bus transit agencies began requiring riders to pay with exact fares in the early 1970s, removing drivers from involvement with cash. However, having to carry exact fare is a major inconvenience for riders, which depresses ridership. To mitigate these conditions some small agencies, such as ECT and North Township Dial-A-Ride, have simply gone to fare-free operation.

In recent years most agencies have adopted smartphone-based apps. Typically, riders can download these at no charge. Larger agencies, such as the Chicago Transit Authority (CTA), have typically purchased custom apps, which may involve riders setting up an account, e.g. Ventra, which CTA shares with Pace and Metra. Because of the cost of custom-developed apps, smaller agencies typically use one of the publicly available apps that are available. Systems with simple fare structures, which require little/no customization may choose to use apps that require little/no

up-front payment but keep a commission on each sale. These apps generally do not require accounts to be established.

GPTC and Valpo have adopted the Token Transit app and have paid for a certain amount of customization. NICTD/South Shore Line has adopted the Byemark app. This has required customization to accommodate its zone fares and multiple-ride tickets.

All of these agencies indicated in interviews that it would be difficult and unaffordable to transition to another app that could be used by multiple agencies in the region. However, it is recommended that a universal fare app be

studied in the future to understand the feasibility and costs in implementing the same system for all. This would reduce confusion in understanding each system's payment structure and allow riders to more easily transfer between systems.

Socioeconomic Analysis

In addition to density thresholds, it also is important to look at populations that are more transit dependent. An analysis of each of these populations living in the region was conducted and is described below. The geography analyzed were Census Bureau block groups. Both percentages and concentrations (i.e. density) of these groups were analyzed.

Population and Job Density

The population density levels in the region were mapped and are shown in Figure 7-3. The highest population density in the study area can be found in the south side neighborhood of East Chicago. This neighborhood features two-flat housing that promotes greater population density than standalone, single-family, homes. While this type of housing is also present in other parts of the study area, this area has fewer vacant lots and buildings than comparative neighborhoods. East Chicago also has the other five densest neighborhoods in the study area. Other pockets of high density areas in the region are in Hammond, Gary, Michigan City, Whiting, and Griffith.

Job density is highest near Franciscan Hospital and along Hohman Avenue south of the hospital in Downtown Hammond; two other areas near hospitals are among the top five densest areas: Gary (Methodist Hospital) and Munster (Community Hospital). The downtown areas of LaPorte, Valparaiso, and Michigan City also have relatively high job density. The highest number of jobs regardless of density is in the retail corridor near the Southlake Mall in Merrillville. See Figure 7-4.



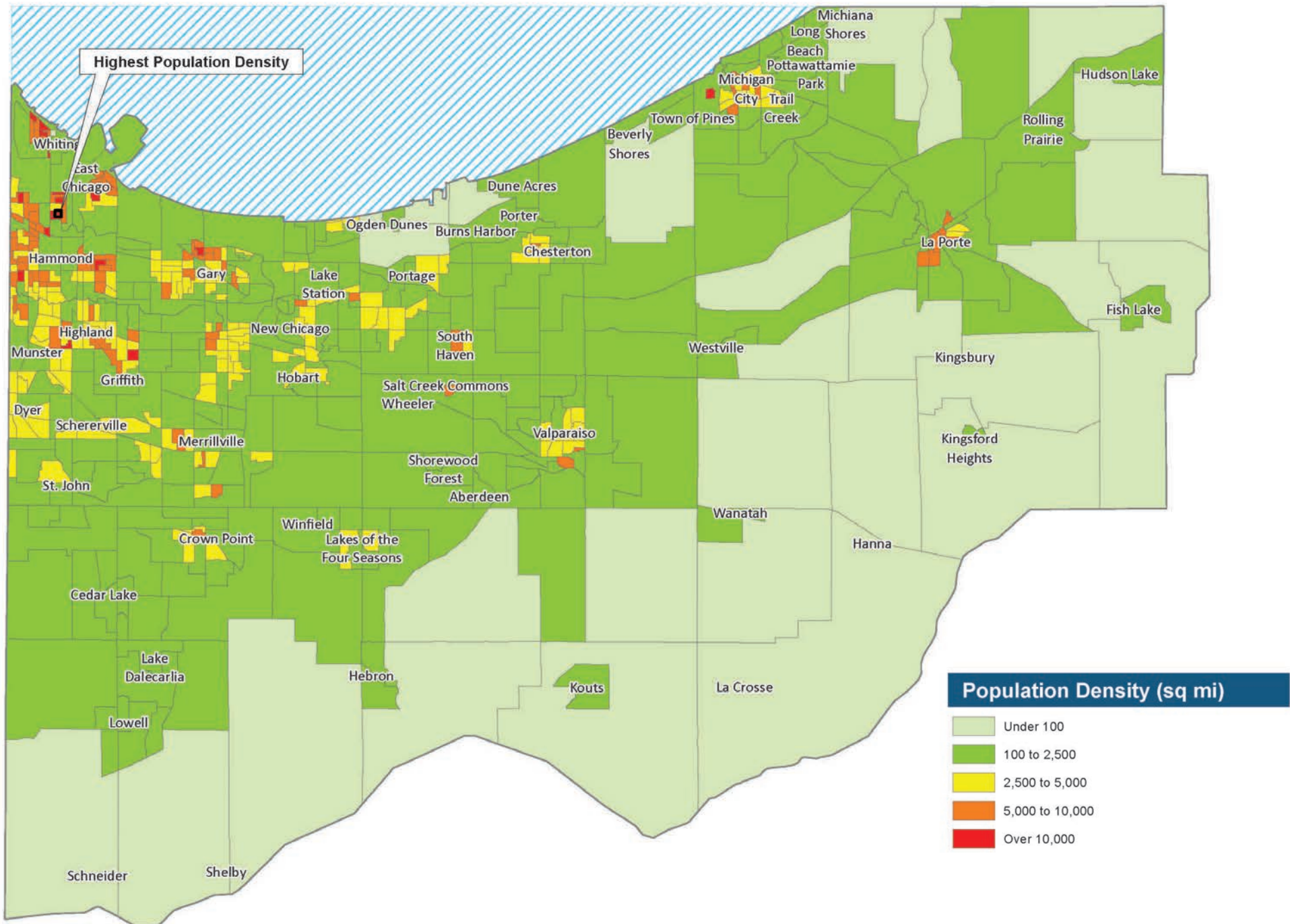


Figure 7-3: Population Density

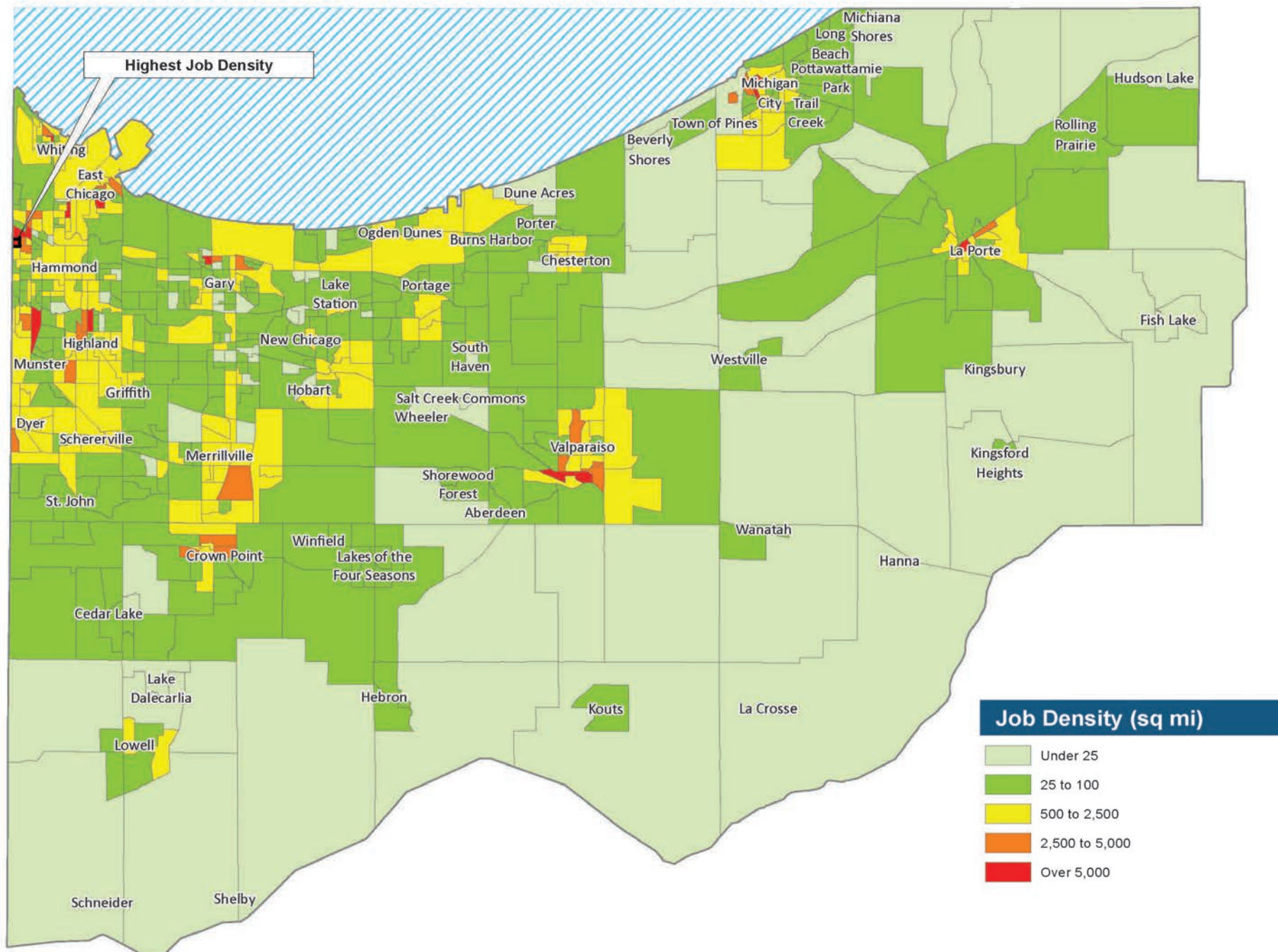


Figure 7-4: Job Density

Transit Dependent Populations

Certain populations tend to be more transit dependent¹; these populations are typically:

- Low Income (below \$15,000 annual income) - Low-income residents are about 1.5 times more likely to use transit
- Minority Population - Minority populations are more than twice as likely to use transit
- Persons Over 65 - People over 65 years old are 1.5 times more likely to use transit.
- Persons without a car - Those without access to a car are almost eight times more likely to use transit
- Individuals with a Disability (18-64) - Persons with disabilities are over 5 times more likely more likely to use transit

Low-Income

The west side of Hammond and east-central Gary have the highest concentration of low-income households in the study area. There are also high concentrations of low-income populations in areas of East Chicago, in and around the Lakeside Gardens low-income apartment complex. Of the areas with the greater density of low-income populations, three are in East Chicago (Southside and just north of the Sunnyside neighborhoods) and two are in Gary. See Figure 7-5.

Minority Population

The highest concentrations of minority residents are in East Chicago, Hammond, Gary, and Michigan City. While minority populations are located throughout the region, rural areas in Northwest Indiana have significantly fewer

minority residents than urban areas, and some block groups registered no minority residents. See Figure 7-6.

People with Disabilities

Unlike the previous demographic groups, there are relatively high percentages of people with disabilities in rural parts of the study area. High concentrations of people with disabilities are present in both urban and rural areas in the region. Areas with greater numbers of people with disabilities include the municipalities of Hammond, East Chicago, New Chicago, Lake Station, LaPorte, and in rural LaPorte County. There also is a large percentage of persons with disabilities living just south of the Hammond South Shore Line station. See Figure 7-7.

Senior Population

Concentrations of seniors (65 and over) are present throughout Northwest Indiana. The highest percentage of those 65 and over live in Merrillville, in the neighborhood where the Golden Living Center, Belvedere Senior Center, and the Spring Mill Health Campus are located. See Figure 7-8.

No Vehicle Access

People with no access to a vehicle are concentrated in Gary and East Chicago. The highest percentage of people without access to a vehicle corresponds to the block group with the highest percentage living in poverty (Lakeside Gardens in East Chicago). See Figure 7-9.

1 TCRP Report 28: Transit Markets of the Future: The Challenge of Change” Table 4 (Work trip data).

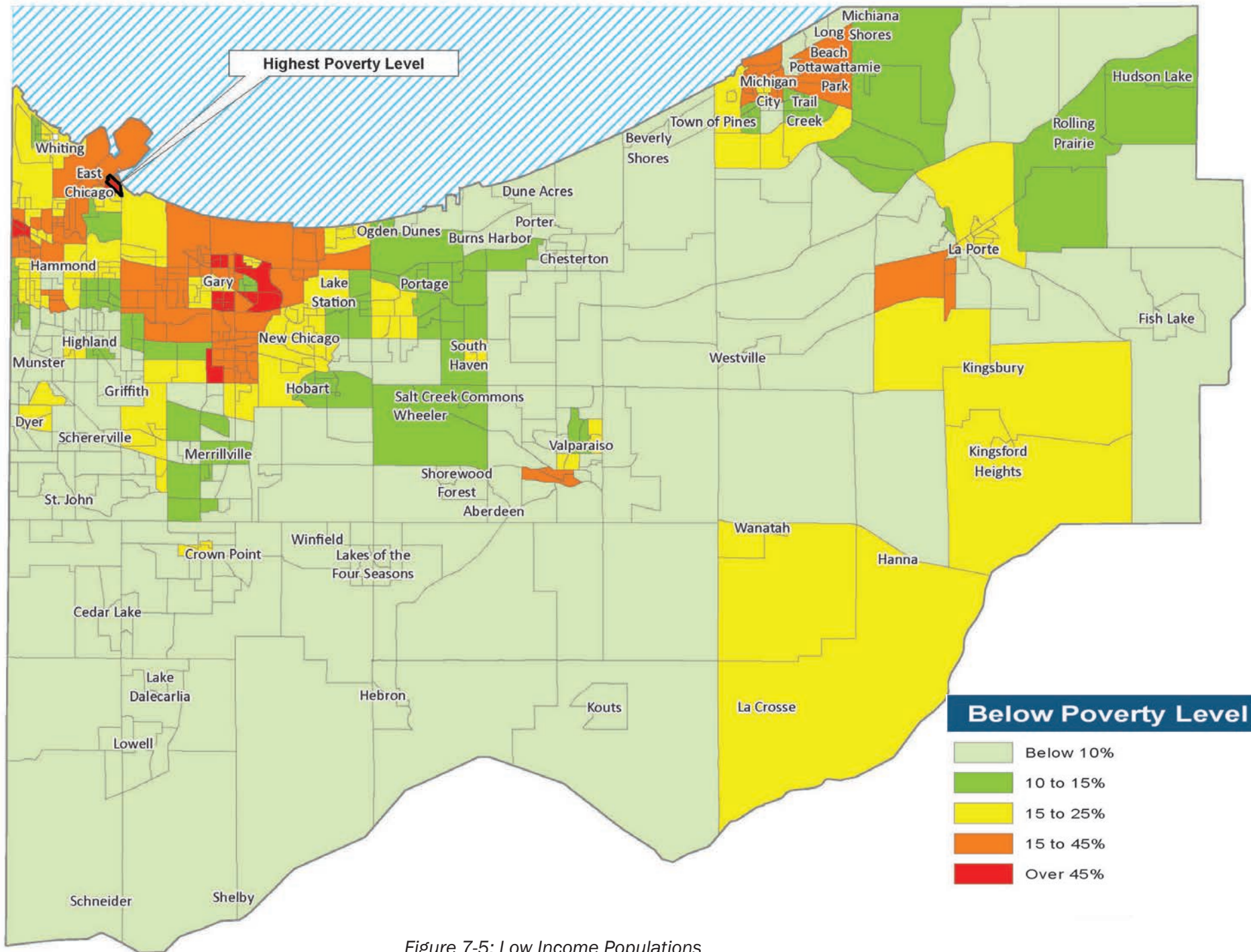


Figure 7-5: Low Income Populations

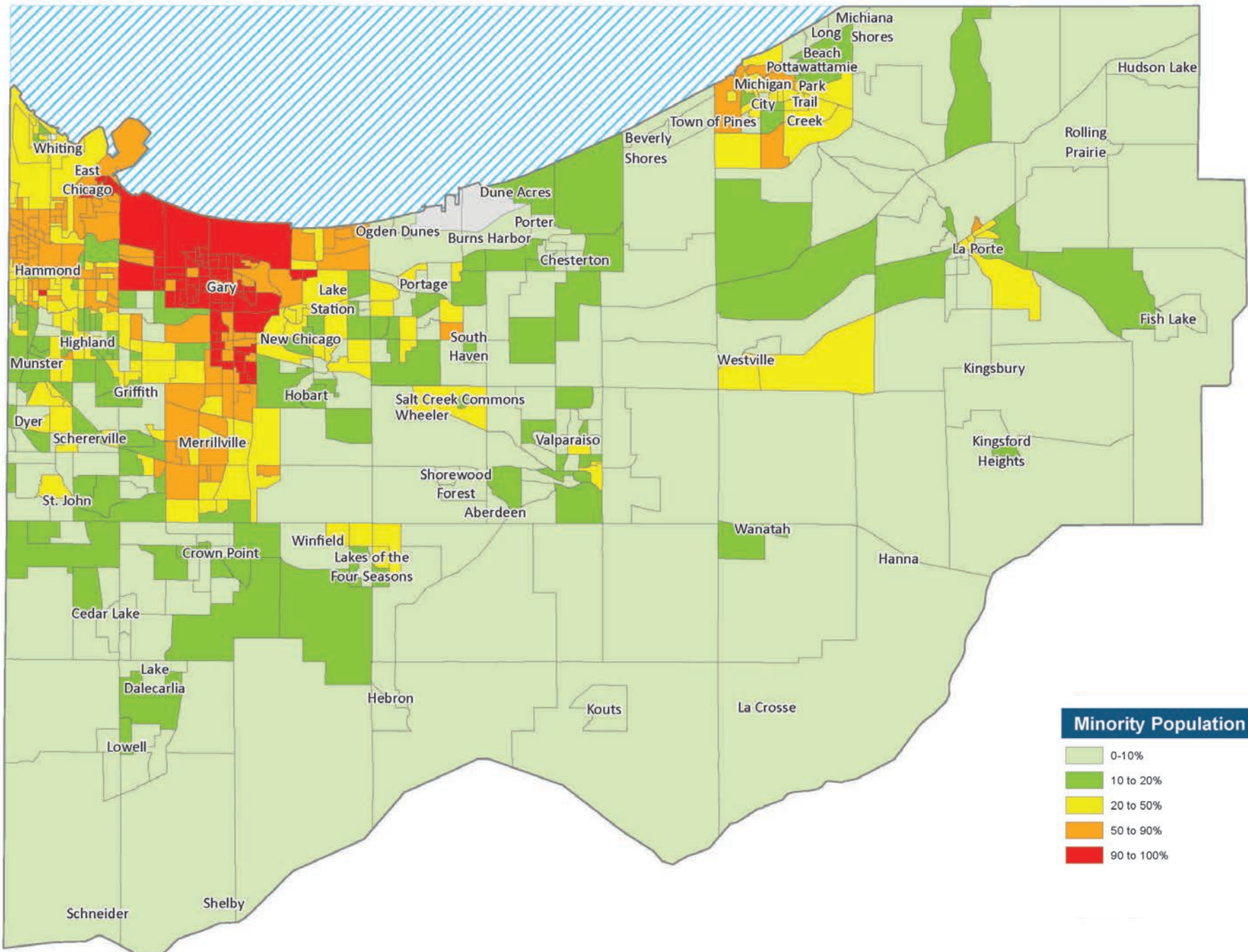


Figure 7-6: Minority Populations

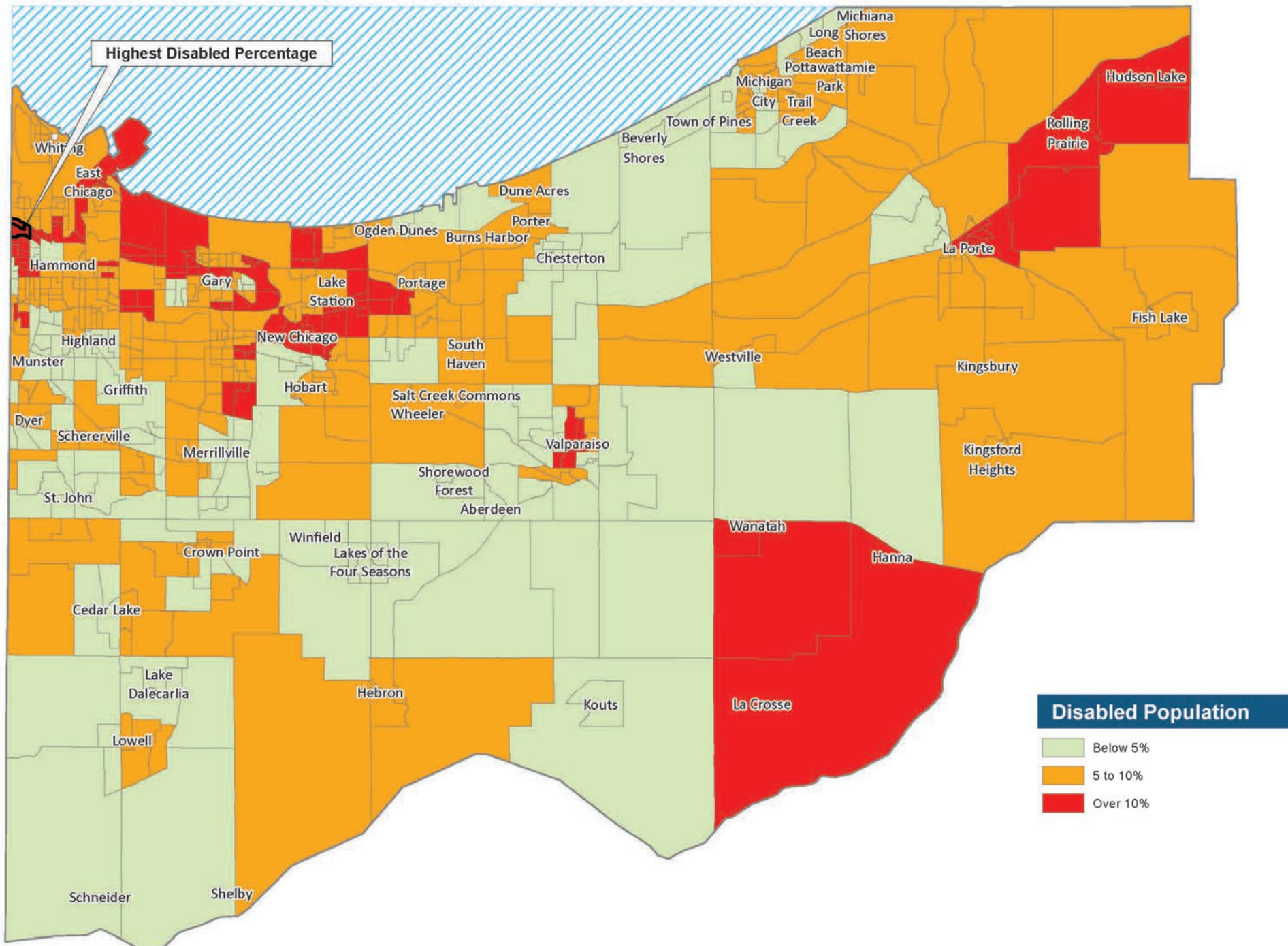


Figure 7-7: People with Disabilities

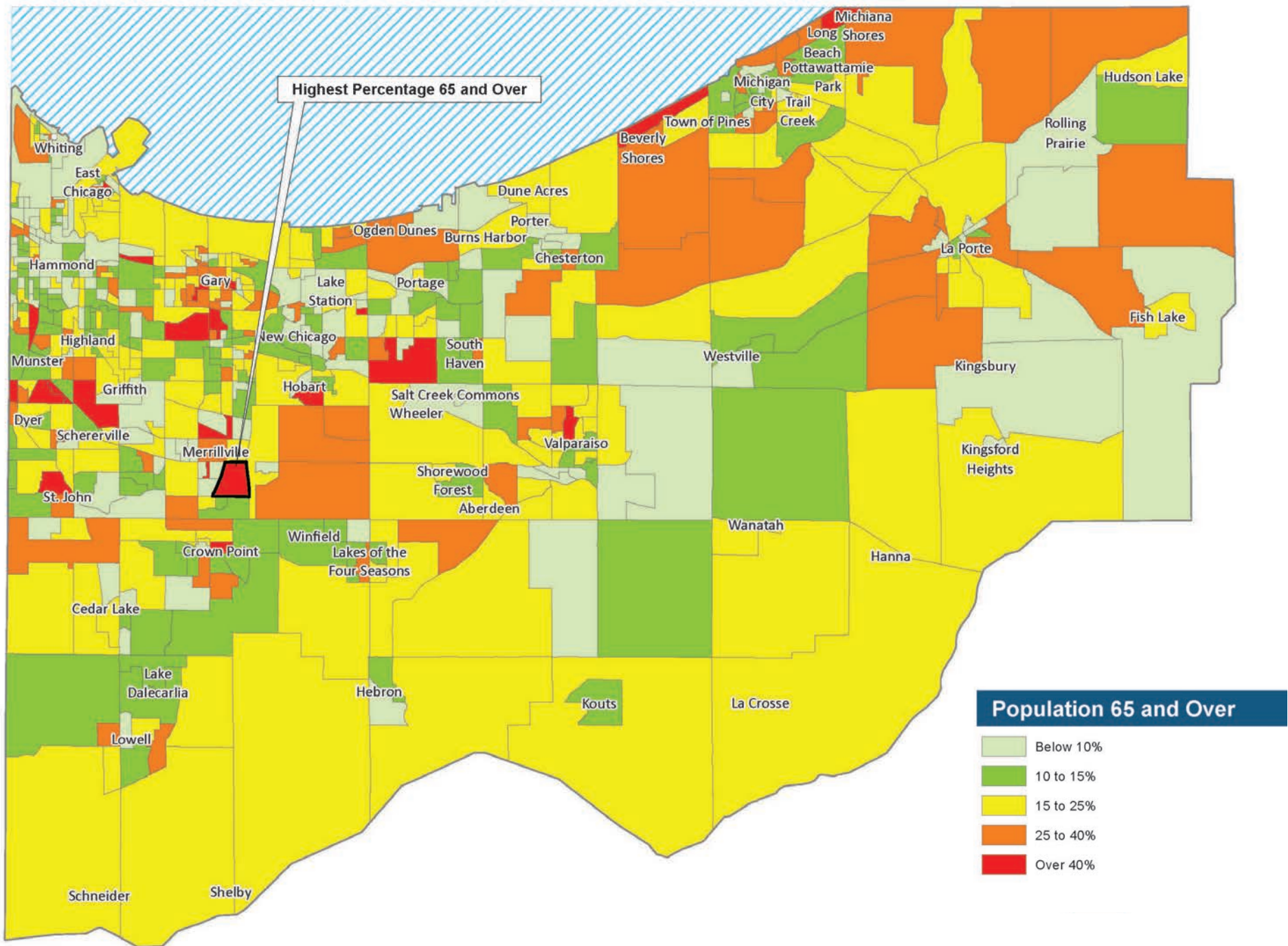


Figure 7-8: Senior Population

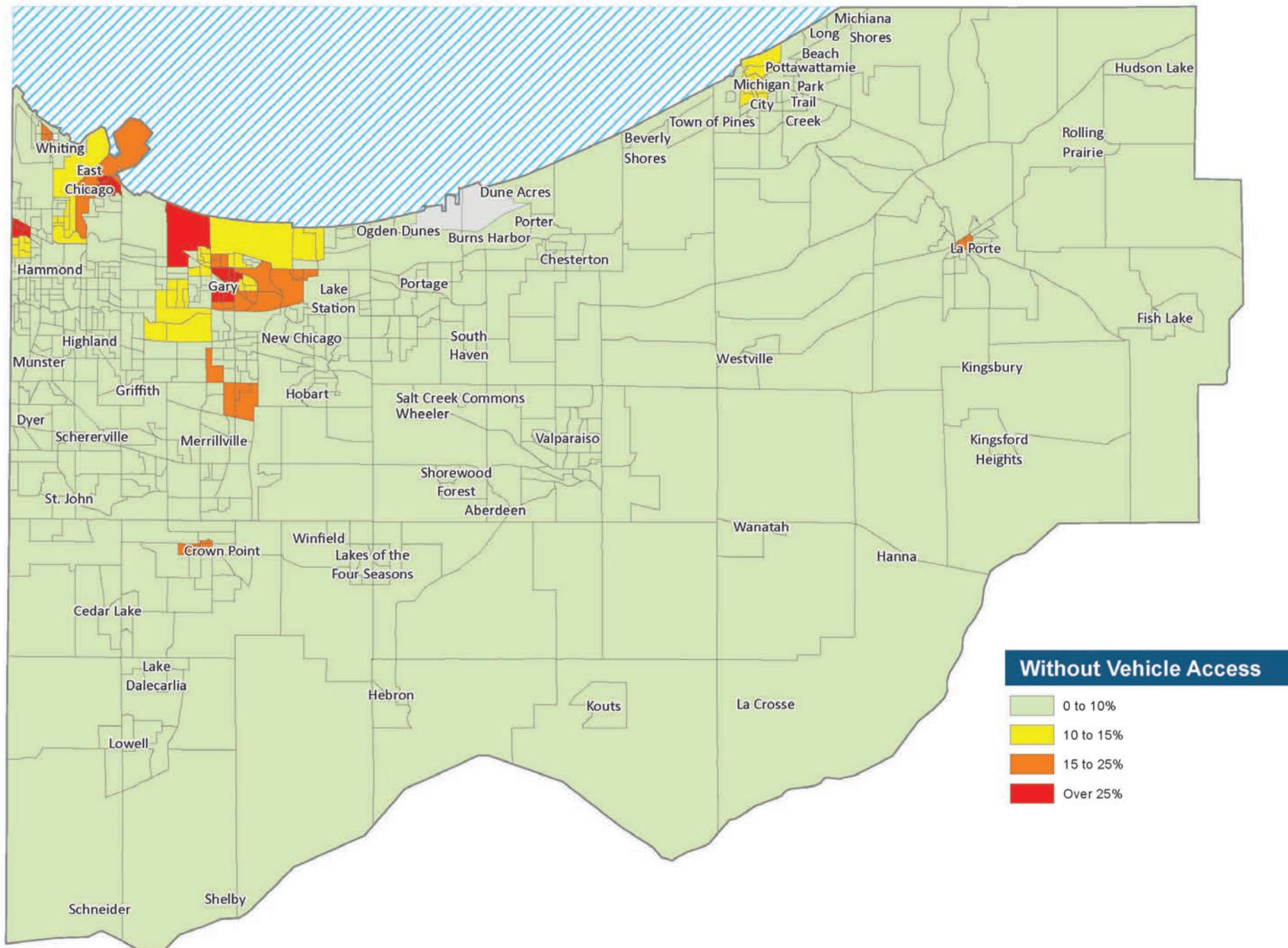


Figure 7-9: Vehicle Availability

Transit Dependency Index Data

By combining the individual factors above, a transit dependency index is created that includes a formula-based equation to measure overall transit dependency.

The equation takes into consideration the fact that these subgroups have different propensities to use transit. Multiplying the population of the groups by the factors shown below provides a more accurate picture of transit demand rather than just using total population. The methodology was based on data from block groups. The equation also considers the density of the block group surveyed.

$$\frac{\text{Population} + (\text{Minority} \times 2.3) + (\text{With Disability} \times 5.5) + (\text{Over 65} \times 1.6) + (\text{Below Poverty Level} \times 1.4) + (\text{Carless} \times 8) + (\text{Jobs} \times 0.50) + (\text{Service Jobs} \times 0.75)}{\text{Block Group Acres}}$$

Transit demand index maps were created for the study area and are shown in Figures 7-10 and 7-11. As indicated, northern Lake County and LaPorte County have areas of high to very high transit demand. These areas are focused on the cities of Hammond, Gary, East Chicago, Michigan City, and LaPorte.

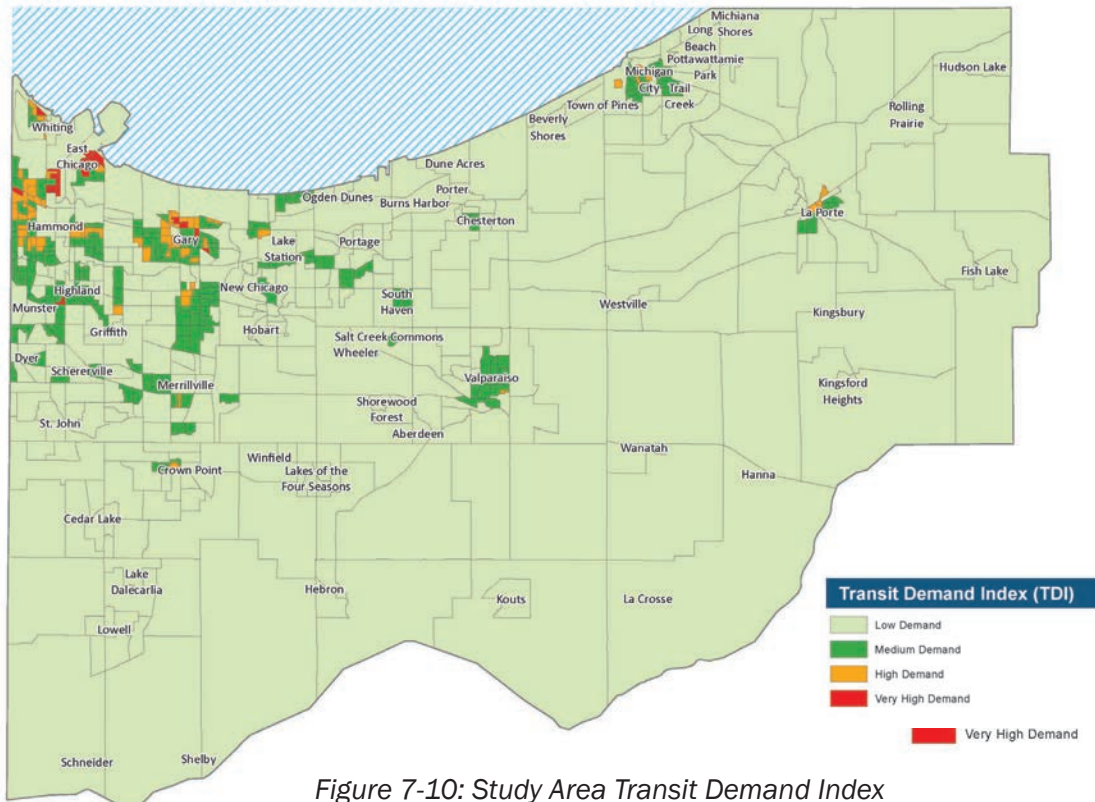


Figure 7-10: Study Area Transit Demand Index

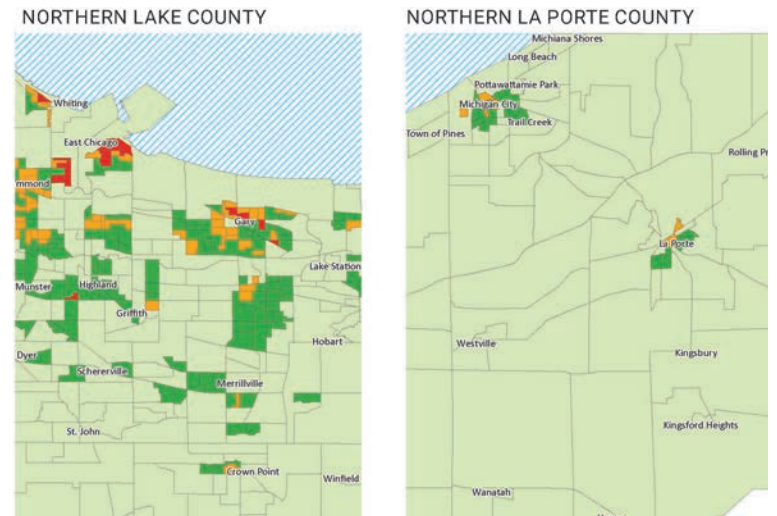


Figure 7-11: High Transit Demand Areas

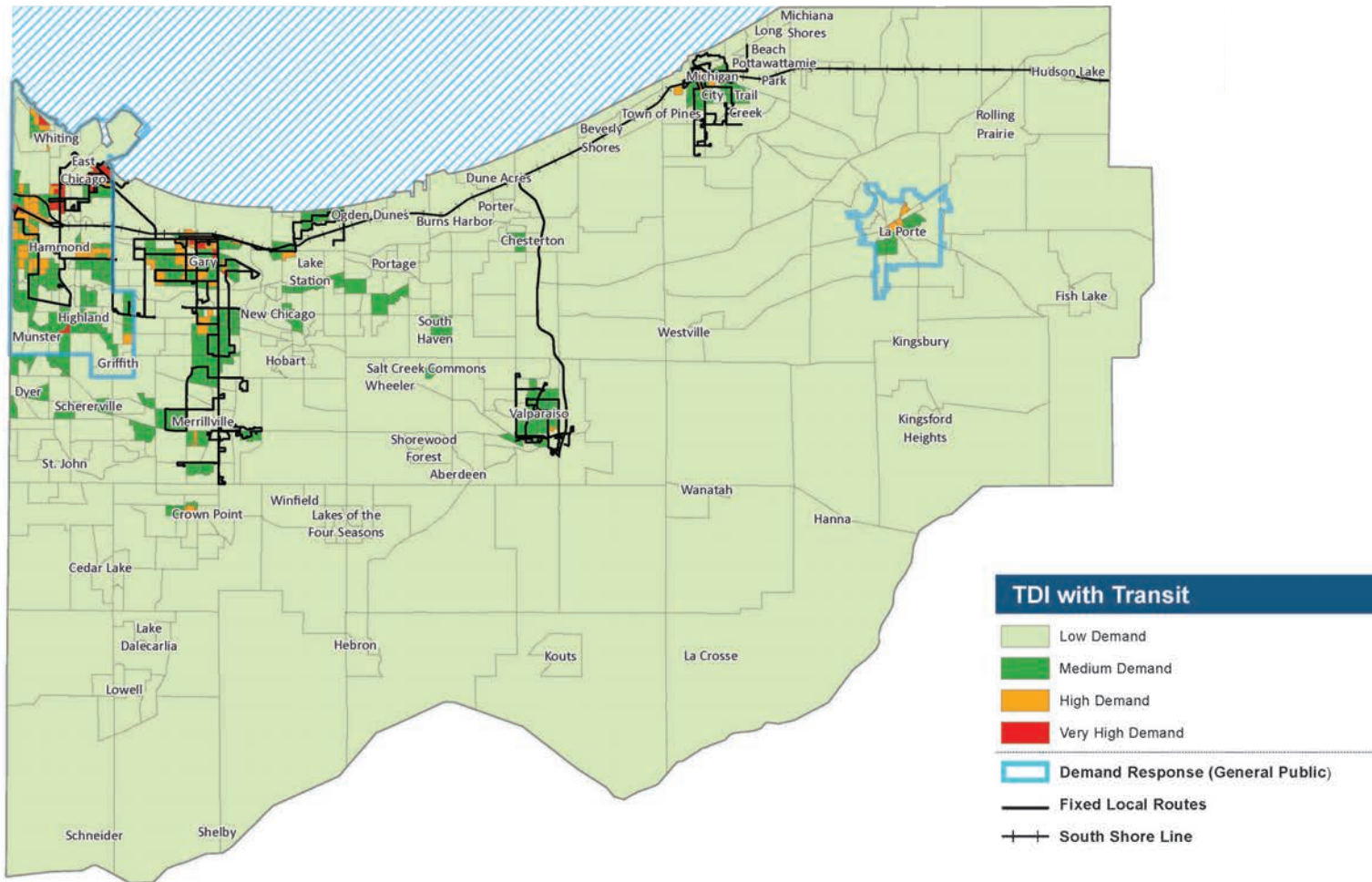


Figure 7-12: Transit Demand Index with Transit Service Overlaid

Figure 7-12 shows the existing transit services in the region overlaid on the transit demand index map. Eighty-three (83) percent of high transit demand areas are accessible by public transportation services. The high transit demand areas not served by public transportation services are the neighborhoods surrounding Whiting High School (in Whiting), the Porte De L'eau

Apartments (in Highland), and the Hampton (in Highland) apartment complex. More detailed transit demand index maps of each community served by fixed route services are shown in Appendix 3A.

Assessing Gaps and Needs

The following methods were used to identify transit gaps and needs in the region:

- Assessment of existing transit services to determine service efficiency, effectiveness, service overlaps and attractiveness
- Demographic analysis of transit routes using concentrations of overall population, jobs and transit dependent populations
- Stakeholder interviews with transit agencies and municipalities
- Input from the Transit Steering Committee
- Input from the public during the June 21-23rd public meetings
- Input from the online public survey hosted by NIRPC during the months of July through October.

Service Efficiency/Effectiveness Analysis

A simple analysis of the efficiency and effectiveness of the existing fixed route transit services was performed using statistics collected annually by the Federal Transit Administration (FTA) and published in agency profiles in the National Transit Database (NTD). Data for 2019, the last pre-pandemic year was used. Table 7-2 indicates the efficiency and effectiveness measures selected for analysis from the NTD for each of the transit operators in the region. Service efficiency is measured by examining a transit provider's operating expenses divided by vehicle revenue miles and vehicle revenue hours; a lower number indicates a service that is more efficient. Service effectiveness is measured by calculating annual rides per capita, dividing unlinked passenger trips by operating expenses, and dividing unlinked trips by vehicle revenue miles and vehicle revenue hours. Higher numbers for annual rides per capita and unlinked trips divided by vehicle revenue miles and vehicle revenue hours indicate a service that is more effective. A lower dollar amount for operating hours divided by unlinked passenger trips makes a service more effective.

An analysis of the transit agencies that provide fixed route bus service in the study area shows that the transit agencies in Gary and East Chicago have greater operating expenses than those in Valparaiso and Michigan City because their services cover a large area and serve a larger population. The service effectiveness of both fixed route and demand response services vary when looking at results.

A common way of analyzing the relative effectiveness of transit systems is to compare to peer agencies, using NTD data. Peers were selected based on similar sized municipality and socioeconomic conditions. Maps showing where the peers are located are in Appendix 3B.

Results are indicated in Tables 7-3 and 7-4. To interpret how the region transit agencies compare to their peers, refer to the "above/below median" column. Where there is a cost associated with a measurement it is better to be below the median value of all peer agencies, which is indicated by the down arrow (most of these are in the service efficiency category). For all other measurements, it is better to be above the median peer value, indicated by the up arrow (all of these are in the service effectiveness category).



	NICTD	GPTC	MCT	Valpo	ECT	North Twp	TransPorte	LCCS
Veh. Op.in Max Svc. (Rail)	70							
Veh. Op.in Max Svc. (Fixed Route)		17	4	6	3			
Veh. Op.in Max Svc. (Demand Response)		4	2		1	30	5	16
Veh. Op.in Max Svc. (Commuter Bus)			2	8				
Unlinked trips	3,283,603	793,716	182,049	176,849	117,785	41,002	42,352	43,445
Service area pop.	958,644	102,746	31,479	31,730	27,697	162,855	21,692	216,180
Service Efficiency								
- Op Exp/Rev. Veh. Mile	\$11.82	\$6.33	\$4.05	\$5.71	\$8.06	\$3.22	\$5.11	\$3.22
- Op Exp/Rev. Veh. Hr.	\$405.51	\$87.63	\$68.32	\$98.42	\$94.58	\$38.01	\$53.94	\$30.30
Service Effectiveness								
- Annual rides per capita	3.43	7.7	5.8	5.6	4.3	0.3	1.3	0.20
- Op Exp/unlinked Psgr trip	\$15.82	\$7.94	\$8.23	\$11.07	\$9.99	\$18.04	\$15.41	\$20.49
- Unlinked trips/Rev. Veh. Mi.	0.7	0.8	0.5	0.5	0.8	0.2	0.3	0.2
- Unlinked trips/Rev. Veh. Hr.	25.6	11	8.3	8.9	9.5	2.1	3.5	1.5
NICTD - South Shore Line GPTC - Gary MCT - Michigan City Valpo - Valparaiso ECT - East Chicago TransPorte - La Porte LCCS - Lake County Community Services								
2019 Data not Available, 2018 data used								

Table 7-2: Efficiency and Effectiveness Factors for Transit Providers (2019 data)



Gary (Fixed Route)								Valparaiso (Fixed Route)								
MODE: Fixed Route	GPTC	Above/ Below Median	PEERS					MEDIAN	Valpo	Above/ Below Median	PEERS					MEDIAN
			HART	CUE	Commerce	Norwalk	Cecil				Burink	Laudergo	PART	CATA	Arcadia	
Veh. Op.in Max Svc.	20		8	8	10	24	8	9	13		6	10	7	11	6	9
Unlinked trips, FR (ann.)	493,179		55,829	488,078	314,383	1,187,289	59,931	401,231	96,050		47,327	182,437	51,984	60,184	56,364	58,274
Service area pop.	102,746		200,495	22,565	12,997	637,365	102,383	102,565	31,730		449,772	129,495	61,963	155,236	41,709	95,729
Service Efficiency																
- Op Exp/Rev. Veh. Mile	\$7.77	↓	\$8.69	\$9.00	\$12.71	\$13.05	\$4.31	\$8.85	\$3.56	↓	\$4.63	\$10.08	\$4.49	\$8.37	\$6.65	\$5.64
- Op Exp/Rev. Veh. Hr.	\$102.76	↓	\$141.92	\$115.21	\$136.08	\$143.56	\$87.36	\$125.62	\$59.33	↓	\$85.59	\$95.47	\$92.67	\$111.65	\$75.21	\$89.13
Service Effectiveness																
- Annual rides per capita	4.80	↑	0.28	21.63	24.19	1.86	0.59	3.33	3.03	↑	0.11	1.41	0.84	0.39	1.35	1.10
- Op Exp/unlinked Psg trip	\$13.08	↑	\$58.86	\$8.20	\$12.88	\$11.72	\$23.86	\$12.98	\$10.78	↓	\$26.92	\$12.10	\$27.33	\$12.04	\$26.91	\$19.51
- Unlinked trips/Rev. Veh. Mi.	0.9	↔	0.1	1.1	1	1.1	0.2	1.0	0.3	↔	0.2	0.8	0.2	0.7	0.2	0.3
- Unlinked trips/Rev. Veh. Hr.	11.9	↑	2.4	14.1	10.6	12.2	3.7	11.25	5.5	↑	3.2	7.9	3.4	9.3	2.8	4.5
Michigan City (Fixed Route)								East Chicago (Fixed Route)								
MODE: Fixed Route	MCT	Above/ Below Median	PEERS					MEDIAN	ECT	Above/ Below Median	PEERS					MEDIAN
			MTS	Steel Valley	Owensboro	Electric City	CityLine				Clarkstown	Cecil	Long beach	Medina County	HART	
Veh. Op.in Max Svc.	4		4	7	9	6	7	7	3		8	8	5	7	8	8
Unlinked trips, FR (ann.)	120,446		120,388	131,745	274,442	295,336	196,576	164,161	72,076		50,238	59,931	156,690	35,148	55,829	57,880
Service area pop.	31,479		49,490	22,113	57,276	27,293	57,836	40,485	27,697		300,173	102,383	33,275	174,091	200,495	138,237
Service Efficiency																
- Op Exp/Rev. Veh. Mile	\$6.06	↑	\$4.88	\$7.02	\$4.34	\$3.19	\$4.92	\$4.90	\$8.00	↑	\$6.15	\$4.31	\$11.30	\$6.05	\$8.69	\$7.08
- Op Exp/Rev. Veh. Hr.	\$82.71	↑	\$72.67	\$101.20	\$63.08	\$58.31	\$66.84	\$69.76	\$108.21	↑	\$105.17	\$87.36	\$101.46	\$77.58	\$141.92	\$103.32
Service Effectiveness																
- Annual rides per capita	3.83	↓	2.43	5.96	4.79	10.82	3.40	4.31	2.60	↑	0.17	0.59	4.71	0.20	0.28	0.43
- Op Exp/unlinked Psg trip	\$9.44	↑	\$8.66	\$12.26	\$6.30	\$3.33	\$4.19	\$7.48	\$13.04	↓	\$23.15	\$23.86	\$15.05	\$24.03	\$58.86	\$23.51
- Unlinked trips/Rev. Veh. Mi.	0.6	↔	0.6	0.6	0.7	1	1.2	0.65	0.6	↑	0.3	0.2	0.8	0.3	0.1	0.3
- Unlinked trips/Rev. Veh. Hr.	8.8	↓	8.4	8.3	10	17.5	15.9	9.4	8.3	↑	4.5	3.7	6.7	3.2	2.4	4.1

Table 7-3: Peer Comparisons—Fixed Route Systems
(for peer comparisons, only statistics from the dominant mode are shown)

South Shore Line (Commuter Rail)									La Porte (Demand Response)							
	NICTD	Above/ Below Median	PEERS					MEDIAN	TransPorte	Above/ Below Median	PEERS					MEDIAN
			Sound Transit	VRE	CalTrain (West Bay)	MARC	Tri Rail				Go Transit	Allen Co RTA	JATA	Battle Creek	Shoreline Metro	
Veh. Op.in Max Svc.	70		70	99	134	149	43	85	5		30	8	7	7	6	7
Unlinked trips, (ann.)	995,049		1,265,882	3,222,428	13,692,716	6,680,248	742,714	2,244,155	28,291		42,469	26,751	22,159	23,431	18,564	25,091
Service area pop.	958,644		3,205,700	2,238,365	3,614,716	7,811,145	133,588	2,722,033	21,692		66,083	106,331	158,510	87,735	59,490	76,909
Service Efficiency																
- Op Exp/Rev. Veh. Mile	\$13.44	↓	\$35.60	\$36.33	\$20.19	\$28.81	\$29.29	\$29.05	\$7.18	↓	\$3.08	\$8.17	\$9.18	\$12.53	\$8.04	\$8.11
- Op Exp/Rev. Veh. Hr.	\$467.28	↓	\$1,072.04	\$1,119.81	\$653.01	\$1,104.25	\$818.89	\$945.47	\$65.86	↓	\$62.86	\$117.06	\$117.73	\$125.88	\$95.24	\$106.15
Service Effectiveness																
- Annual rides per capita	1.04	↓	0.39	1.44	3.79	0.86	5.56	1.24	1.30	↑	0.64	0.25	0.14	0.27	0.31	0.29
- Op Exp/unlinked Psgr trip	\$52.99	↑	\$42.98	\$24.19	\$9.57	\$24.14	\$26.27	\$25.23	\$25.10	↓	\$14.44	\$33.97	\$60.69	\$63.71	\$42.44	\$38.21
- Unlinked trips/Rev. Veh. M.	0.3	↓	0.8	1.5	2.1	1.2	1.1	1.15	0.3	↓	0.2	0.2	0.2	0.2	0.2	0.2
- Unlinked trips/Rev. Veh. Hr.	8.8	↓	25	46.3	68.3	45.7	31.2	38.45	2.6	↑	4.4	3.4	1.9	2	2.2	2.4
North Township (Demand Response)									Lake County Community Services (Demand Response)							
	North Twp	Above/ Below Median	PEERS					MEDIAN	LOCS	Above/ Below Median	PEERS					MEDIAN
			LCCS	Cecil	HART	Commerce	GCPT				North Twp	GCT	Cecil	HART	Medina County	
Veh. Op.in Max Svc.	6		18	7	12	4	4	7	18		6	4	7	12	14	10
Unlinked trips, (ann.)	18,961		22,348	19,839	20,576	9,032	12,554	19,400	22,348		18,961	12,554	19,839	20,576	25,438	20,208
Service area pop.	170,200		216,180	102,383	200,495	12,997	102,746	136,473	216,180		170,200	102,746	102,383	200,495	174,091	172,146
Service Efficiency																
- Op Exp/Rev. Veh. Mile	\$6.91	↓	\$4.51	\$3.60	\$15.44	\$12.70	\$10.68	\$8.80	\$4.51	↓	\$6.91	\$10.68	\$3.60	\$15.44	\$4.44	\$5.71
- Op Exp/Rev. Veh. Hr.	\$85.06	↓	\$50.47	\$77.27	\$191.16	\$131.74	\$140.75	\$108.40	\$50.47	↓	\$85.06	\$140.75	\$77.27	\$191.16	\$57.56	\$81.17
Service Effectiveness																
- Annual rides per capita	0.11	↓	0.10	0.19	0.10	0.69	0.12	0.12	0.10	↓	0.11	0.12	0.19	0.10	0.15	0.12
- Op Exp/unlinked Psgr trip	\$37.45	↓	\$37.38	\$21.43	\$95.66	\$86.76	\$54.99	\$46.02	\$37.38	↓	\$37.45	\$54.99	\$21.43	\$95.66	\$44.46	\$40.96
- Unlinked trips/Rev. Veh. M.	0.2	↔	0.1	0.2	0.2	0.1	0.2	0.2	0.1	↓	0.2	0.2	0.2	0.2	0.1	0.2
- Unlinked trips/Rev. Veh. Hr.	2.3	↑	1.4	3.6	2	1.5	2.6	2.2	1.4	↓	2.3	2.6	3.6	2	1.3	2.2

Table 7-4: Peer Comparisons—Commuter Rail and Demand Response Systems

Service Overlaps

An analysis was performed to identify areas where overlapping service is operated in an area by two or more transit agencies. The only portion of the study area where there is overlap is in the northwest corner of the region. Both GPTC (Routes R1 and R4) and North Township Dial-A-Ride provide service to the general public in this area. However, Route R1 is only scheduled to operate every 120 minutes (2 hours). In East Chicago there is also overlap between GPTC R1 and GPTC R4 with and ECT service, but the service patterns are different. It is important to note that the basic fare on GPTC R1 is \$2.25 (\$1 for reduced fare riders) while both the North Township Dial-a-Ride and East Chicago Transit charge no fares.

Service Gaps

Figure 7-13 indicates high and very high transit demand areas that are not served by fixed route service. Whiting, despite being close to the Gary and East Chicago transit systems, is isolated from a fixed route service. GPTC conducted a survey in October 2022 regarding future North Hammond/Whiting service. The results were very favorable for providing service. Whiting is served by North Township Dial-a-Ride, which covers a much greater area and has the potential to connect residents to regional transit services like the South Shore Line which has a station in nearby East Chicago. LaPorte also has very high transit demand near downtown but is only served by demand response service (TransPorte) and not fixed route. Since TransPorte only serves the City of LaPorte, these residents are unable to use transit to travel across the region. Riding

a demand response service, rather than a fixed route service, is often times more daunting for a rider and takes additional effort, causing it to only be used by the most transit dependent populations. The need to schedule the service 24 to 48 hours ahead of time, and the fact that, often, only certain types of trips can be honored, proves to be less attractive for non-transit dependent riders.

Two high transit demand areas are unserved by any form of public transportation: one on the east side of Downtown Crown Point and the block group that includes The Lakes at 8201 Apartment Homes in Merrillville.

There are other transit dependent areas without fixed route service as indicated on Figure 7-13.



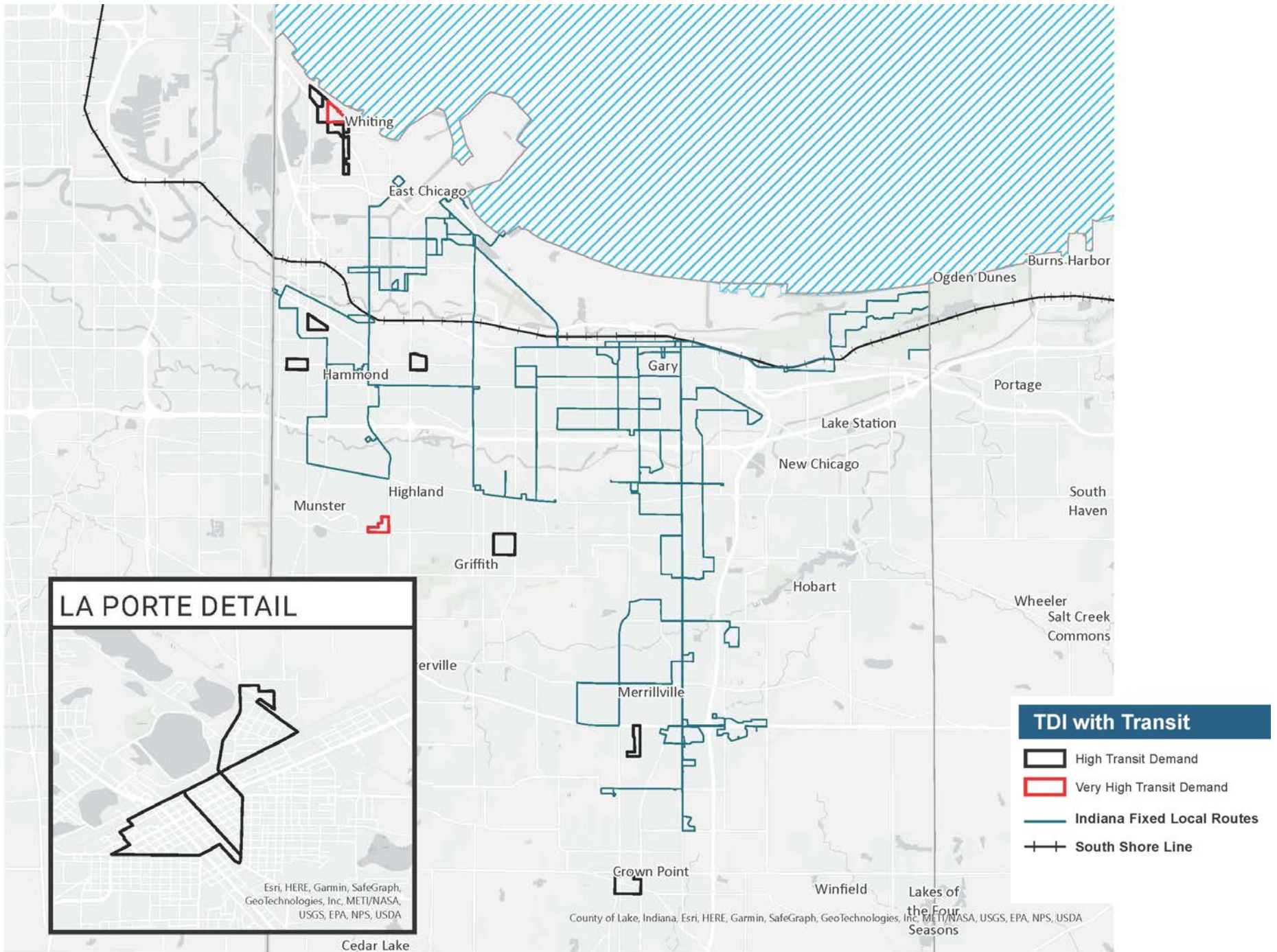


Figure 7-13: Unserved High Transit Demand Areas (Fixed Route Only)

Service Coverage

Approximately 15 percent of the land area of the region is covered by public transportation as shown in Figure 7-14, either fixed route or demand response service open to the general public. About three quarters of region residents live in this area and about the same percentage of all jobs in the region are located there¹.

Connections can be made via fixed route service in Hammond to Pace service. Express routes (ChicagoDash) connect residents to Downtown Chicago and to the CTA bus and rail routes. The South Shore Line shares six stations in Chicago with Metra, allowing cross platform transfers as necessary.

Most of the cities² in Northwest Indiana are served by fixed route transit, the exceptions being Portage and LaPorte (see Table 7-5). However, only a minority of towns (all other incorporated communities) are served.

	Number	Served	% Served
Cities	11	9	82%
Towns	30	6	20%

Table 7-5: Service Coverage of Municipalities

As Table 7-6 indicates very few hospitals are served due to the relocation of urban hospitals to more suburban and rural areas. Other destinations not served on this list include the Horseshoe Casino in Hammond and the Westville campus of Purdue University.

	Number	Served	% Served
Universities and Colleges	10	8	80%
Hospitals	18	6	33%
Casinos	4	3	75%

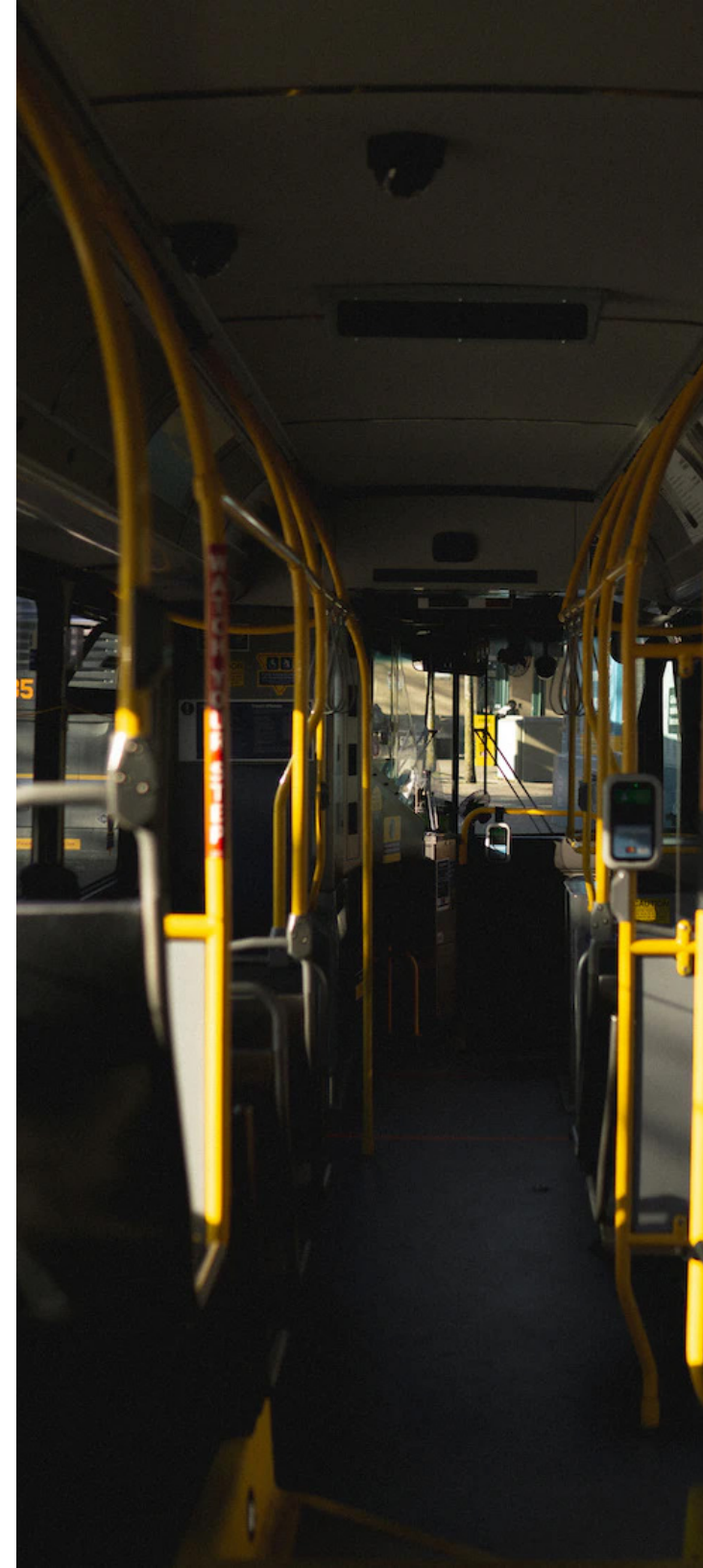
Table 7-6: Major Destinations Served

Service coverage was also examined by the percentage of arterial/major roads that have fixed route bus routes. There is an estimated 1,041 miles of arterial roadways in Northwest Indiana; 63 miles or 6% have fixed route bus service operating on them. Since most arterial road³ miles are in rural parts of the study area, few of these road miles are served by fixed route transit.

1 Exact numbers: 71 percent of the population and 72 percent of the jobs

2 Communities over 30,000 residents

3 Arterial roads in this context are non-limited access highways with a state or united states route designation



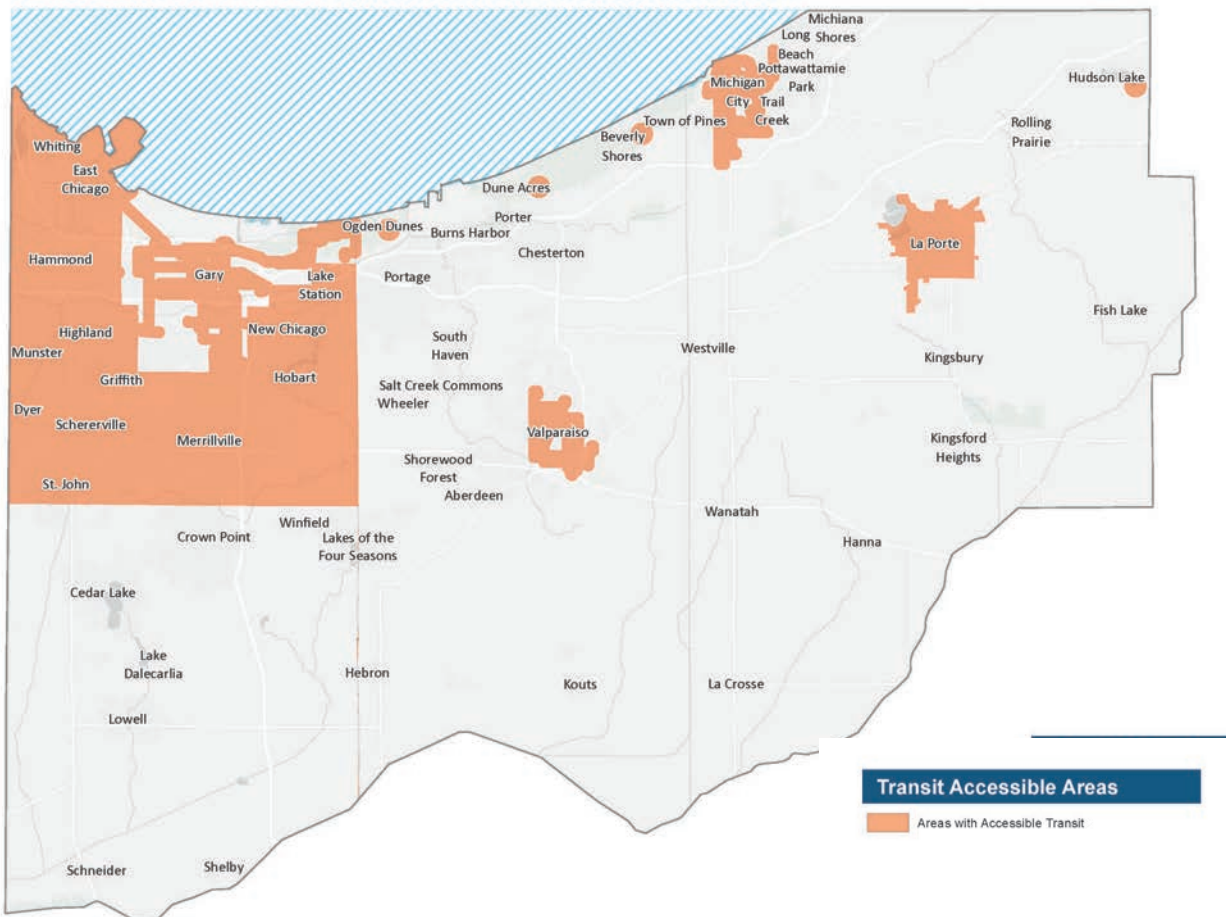


Figure 7-14: Access to Transit in the Study Area

Attractiveness of Service to Non-Transit Dependent Riders

Public transportation competes with the automobile, usually owned by individuals or families, but also taking the form of taxis or ride-hailing services (i.e., Uber or Lyft). In Northwest Indiana, the public transportation service that is most competitive with the automobile is the South Shore Line (SSL/NICTD) which operates fast, frequent service and allows passengers

to avoid the high cost of parking in Downtown Chicago. While it only operates during weekday peak periods, Valparaiso’s ChicagoDash express

bus service to Downtown Chicago has similar attributes.

Most public transportation in the region is local bus service, with buses stopping at corners along the route. Some bus stops in Northwest

Indiana are not marked with signs. The primary source of information regarding bus routes, stops, schedules, and fares are the websites of the operating agencies. There is no comprehensive website, there are few instances of links to the websites of other agencies, and they are inconsistent as to how comprehensive, or current, the posted information is. The lack of coordination regarding information and transfer opportunities between systems can be a detriment to attracting riders who want to ride regionally.

In addition, some routes are not as attractive if they cause the rider to travel for a long period of time to get to a destination. Several local bus routes in the region include long, broad loops operated in a single direction which means that riders traveling to/from stops near the start or end of the loop will need to ride a long amount of time and distance to or from their stop in one direction.

Fares on most systems have been held at low levels (\$1.00 adult full fares, with 50¢ reduced fares are common). GPTC fares are \$1.60 for full fares for riders within Gary (80¢ for reduced fares) and \$2.25 on regional routes (\$1.00 for reduced fares), regardless of the length the rider’s trip. However, even with low fares, local bus service, particularly on routes with broad loops or service that comes every hour or less frequently is not competitive for riders with the means to own an automobile, borrow one, use Uber or Lyft, or are able to get a ride from a friend or family member.

Stakeholder Meetings

A series of stakeholder meetings with transit operating agencies and other stakeholders were held in May and June 2022. The transit operating agencies were asked to identify the gaps that they perceived based on input from riders or their knowledge of destinations in or near their operating areas. The potential destinations that they identified as gaps in current service or areas for enhanced service are detailed below.

East Chicago Transit (ECT)

- Whiting
- Proposed senior center at Main Street/Martin Luther King Drive/Guthrie Street

Gary Public Transit Corporation (GPTC)

- New/enhanced connections to new West Lake Corridor/Hammond Station
- Proposed Lakeshore North Route (planned but not funded)
- Better service to Schererville/Ridgeville
- Better service to Merrillville
- Hobart (planned)
- Calumet College of St. Joseph
- Better service in the Hammond area and the northwest corner of the region, i.e., Whiting
- Porter County (outside their operating boundaries)
- Better service to Pace connections in Hammond

City of Hammond

- New/enhanced connections to new West Lake Corridor/Hammond Station
- Enhanced connections to Purdue University NW
- New service between Robertsdale and Whiting neighborhoods
- New/enhanced service in Hessville neighborhood

Lake County Community Services (LCCS)

- Requests to serve doctors/hospitals in Illinois, municipality of Lafayette, and North Township

TransPorte

- New service between LaPorte and Michigan City
- Expansion of service boundaries to serve unincorporated LaPorte – schools and businesses

Michigan City Transit (MCT)

- New service between Michigan City and LaPorte
- New service between Michigan City and Westville
- New service along US-421
- New service along IN-212
- New service to municipalities outside of Michigan City limits
- New service to Weatherstone Village (mobile home park)

NITCD/South Shore Line

- Better coordination with transit providers serving station areas
- Long term goal by NITCD/South Shore Line is to extend the West Lake Corridor line further south, and also eventually creating a diagonal branch off the mainline to the southeast to serve Valparaiso

Union Township

- Although there is no transit service operating within Union Township, there are plans to expand Highway 249 to meeting US 30 so expect future population/employment growth
- Future connections to Valparaiso and Hobart

Valpo Transit

- Northwest Health (Porter Regional) in Chesterton
- Porter County Expo Center/Fairgrounds
- New service to Gary and LaPorte
- Chicago Dash stop in Hobart



Transit Steering Committee Meeting

A Transit Steering Committee Meeting was held on Tuesday, June 28, 2022. Members of the Transit Steering Committee are listed in Appendix C. A presentation showing existing transit and transit demand was presented and Steering Committee members were asked to identify gaps and needs. Input received from the various operating agencies has been included above under the respective transit agencies.

In addition to input received by the transit agencies, NIRPC indicated that there are four themes as part of NIRPC's focus for improved transit in the region. This includes:

- A need for rail service to Valparaiso
- Better bus/rail connections
- Better connections across the Illinois State line
- Better connections between the 41 cities and towns in the region

Steering Committee members shared concerns about barriers to implementing improvements. These barriers include funding, staff shortages (notably bus drivers), bus rolling stock shortages, maintenance, or age issues, and operating boundary restrictions. Regarding the bus rolling stock, buses are back ordered and more expensive due to the impact of inflation and supply chain difficulties. There also is concern about the transition to electric vehicles, with the lack of electric charging stations and the potential impact on operations.



Public Meetings

Three public meetings were held during the week of June 20, 2022 to solicit feedback and encourage public engagement in NWI 2050+. All three meetings were held in an open house format, where attendees could arrive at any time between 4:00p.m. and 7:00 p.m. While information disseminated at the public meetings included several different elements of the update (public transit, bike/pedestrian, freight), the following focuses on feedback from members of the public on the public transit element. Attendees at all three meetings were asked to participate in an interactive exercise to help identify gaps in existing transit service in Northwest Indiana and areas that they were interested in accessing with a future expansion of transit service.

Meeting #1 – Michigan City 6/21/22

The first public meeting for NWI 2050+ was held at the Michigan City Public Library on Tuesday, June 21st. Approximately 20 members of the public attended the meeting. An existing transit service map was provided and attendees were instructed to mark the city they live in and where they would like to go using public transit. As the first meeting was held in Michigan City, all but one participant in the exercise reported living in Michigan City. The greatest area of desired transit was connection with Valparaiso. Several attendees also provided comments verbally that they had previously used Michigan City's "Transit Triangle" service, which provided connections between Michigan City, the Purdue NW Campus in Westville, and La Porte, enjoyed the service, and were disappointed that the service was recently suspended during the pandemic. Several attendees also provided positive feedback on the ongoing South Shore Line Double Tracking project

and the construction of a new South Shore Line 11th Street Station in Michigan City.

Meeting #2 – Chesterton 6/22/22

The second public meeting was held at the Chesterton Town Hall on Wednesday, June 22nd. One attendee stated he lived in a rural area north of Valparaiso and he wanted to go to the Indiana Dunes using transit.

Meeting #3 – Merrillville 6/23/22

The final public meeting was held at the Dean and Barbara White Community Center in Merrillville on Thursday, June 23rd. An estimated fifteen members of the public attended the meeting and five participated in the interactive exercise. Attendees reported living in East Chicago, Highland, Gary, Merrillville, and Crown Point. Desired transit connections expressed during the interactive exercise included the beach at the Indiana Dunes, Michigan City, Downtown Crown Point, and locations in the Hammond and Munster area. Several attendees at the meeting also provided comments verbally indicating a desire for greater economic development/transit-oriented development at South Shore Line train stations in the area, especially the Downtown Gary and East Chicago stations.

Summary

While feedback from the attendees at each of the meetings was primarily focused on improving transit connections near to where they live, several themes that can be applied to the entire region emerged from comments received at the public meetings:

- A desire for enhanced regional transit connectivity – having the ability to use transit to conveniently access destinations throughout Northwest Indiana, not just within their municipality
- Greater economic development around existing transit hubs, especially existing South Shore Line stations
- Better integration and coordination, including schedules and fares, between different transit providers to make transfers more efficient
- Better amenities at transit stops such as bus shelters

Public Survey

A public survey was available on the NIRPC website during the months of July and August 2022 to allow for feedback to formulate the vision for *NWI 2050+*. The following input specific to transit has been received as of this report:

- A bus line to connect with the V-Line from Crown Point, Winfield, and Valparaiso
- MCT schedules don't match the South Shore Line schedules; bus service does not start early enough or late enough to connect with the South Shore Line. There needs to be more integration with transit operators
- It is not easy to get to the South Shore Line from Porter or Chesterton; a shuttle service or bus line would help
- A bus route from Porter/Chesterton to Michigan City and/or Valparaiso could

alleviate some congestion on Routes 49 and 20 and provide connections to entertainment options

- Willow Creek Boulevard is a good candidate for Bus Rapid Transit with limited stops connecting the Ogden Dunes Station with Portage and Downtown Hobart
- Central Avenue is a good candidate for Bus Rapid Transit with limited stops linking Gary, New Chicago, Lake Station, and Portage
- Consider potential for light rail transit along Broadway linking Downtown Gary with the Indiana University NW campus, a distance of about 3 miles; could help revitalize the corridor
- US 30 should have bus rapid transit with limited stops linking Joliet, IL with Valparaiso,

IN with stops in Dyer, Merrillville, and Hobart

- Ridge Road is a great candidate for Bus Rapid Transit with limited stops linking Lansing, IL with Munster, Highland, Griffith, Gary, Hobart, and Portage (and the West Lake Corridor)
- Indianapolis Boulevard is a great candidate for Bus Rapid Transit with limited stops linking Whiting/East Chicago, Hammond, Munster, and Dyer
- There is a need for high-speed rail linking Chicago to Detroit with stops in Gary and Michigan City
- There is need for high-speed rail linking Chicago to Indianapolis with a stop in Gary or Hammond
- Light rail connecting Whiting, Hammond, Highland, and Merrillville is desired



Creating Purpose

The Creating Purpose Report is the second phase of the Transit Plan Chapter. The report takes into consideration the analysis in the Finding Meaning Report in order to develop potential future service ideas that are regionally based.

Need for Regional Connections

Public transportation services in Northwest Indiana include commuter rail services provided by the Northwest Indiana Commuter Transportation District (NICTD)-South Shore Line; fixed route bus services operated by four operators Gary Public Transportation Corporation (GPTC), Valpo Transit, Michigan City Transit (MCT), and East Chicago Transit (ECT)); and various demand response services.

The objective of the Transit Plan Element is to focus on a regional public transportation system which would allow better connections to major employers, the South Shore commuter rail system (including the planned West Lake corridor), regional shopping centers, and other key destinations, meeting the goals of *NWI 2050*. One of the goals of the *NWI 2050+* Transit Chapter is to have a robust transit network which remains essential to region residents and businesses. This initiative should be designed toward increasing the quality of Northwest Indiana's transit network and, in turn, improve travel choices and access to jobs, medical services, and educational and recreational opportunities."

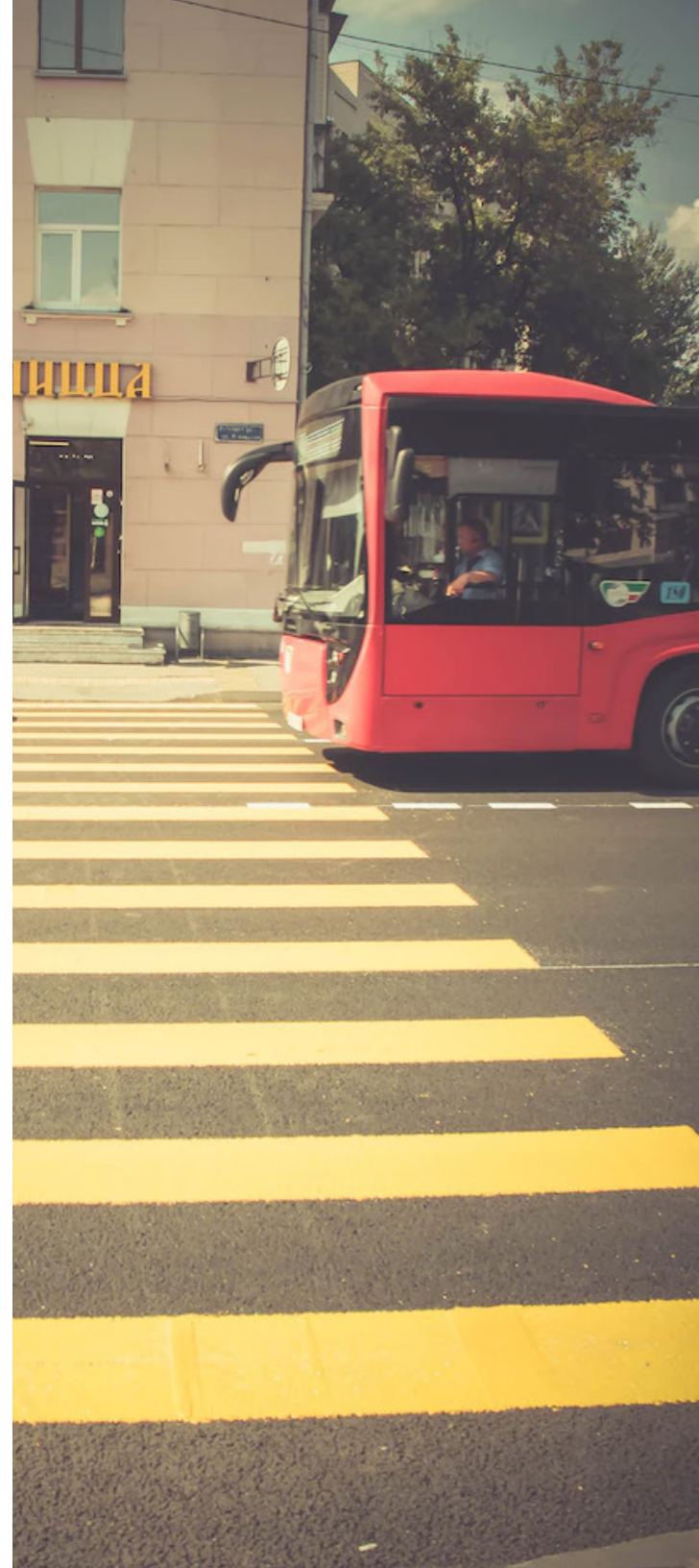
There is a need to improve regional connections throughout the region. While there are several routes that connect communities and could be

considered "regional" only the following two bus routes were considered to be regional routes for the purposes of this study:

- The Broadway Metro Express (BMX), operated by GPTC between the cities of Gary and Crown Point
- The South Shore Connect, operated by Valpo Transit between downtown Valparaiso and the Dune Park South Shore Train Station

The NICTD-South Shore Line also provides regional transportation, operating between South Bend, IN and downtown Chicago. NICTD continues to enhance their regional system with the double track of the current South Shore Line between the cities of Gary and Michigan City, and the West Lake Corridor, an eight mile north-south branch between the cities of Dyer and Hammond. Both projects are expected to dramatically improve intra-region access and links to Chicago.

A true regional public transportation system is needed to address the disparities in certain parts of the region that lack adequate public transportation as well as allow riders to travel across county or municipal boundaries. This is difficult to do with the current public transportation network. These problems are increasingly felt when new land development continues to take place outside of the urban core and into unincorporated areas or on the fringes of main centers (e.g., only 6 out of 18 hospitals in the region are served by public transportation due to their locations outside urban areas). Such development patterns increase the cost of running and managing transit to new housing, hospitals, retail destinations, and amenities due to low density of development and routing inefficiencies.



The Finding Meaning Report identified major gaps and needs in the region based on areas that currently lack public transportation as well as areas where there are higher numbers of transit dependent populations. Based on these gaps and needs, a regional system of connected bus routes has been created and presented in this report. Gaps and needs identified include a lack of public transportation in higher transit dependent areas in the cities of Whiting, Highland, the east side of

Crown Point, and in a certain area of Merrillville. In addition, although the cities of Portage and LaPorte are served by demand response services, often those services are not as easy to use as fixed route bus services due to the advanced reservations and sometimes restrictive trip purposes allowed. Finally, out of 41 incorporated municipalities, only 15 are served by transit. Most of that transit service is in the larger urbanized areas.

Figure 7-15 indicates high and very high transit demand areas that are and are not served by fixed route bus service.

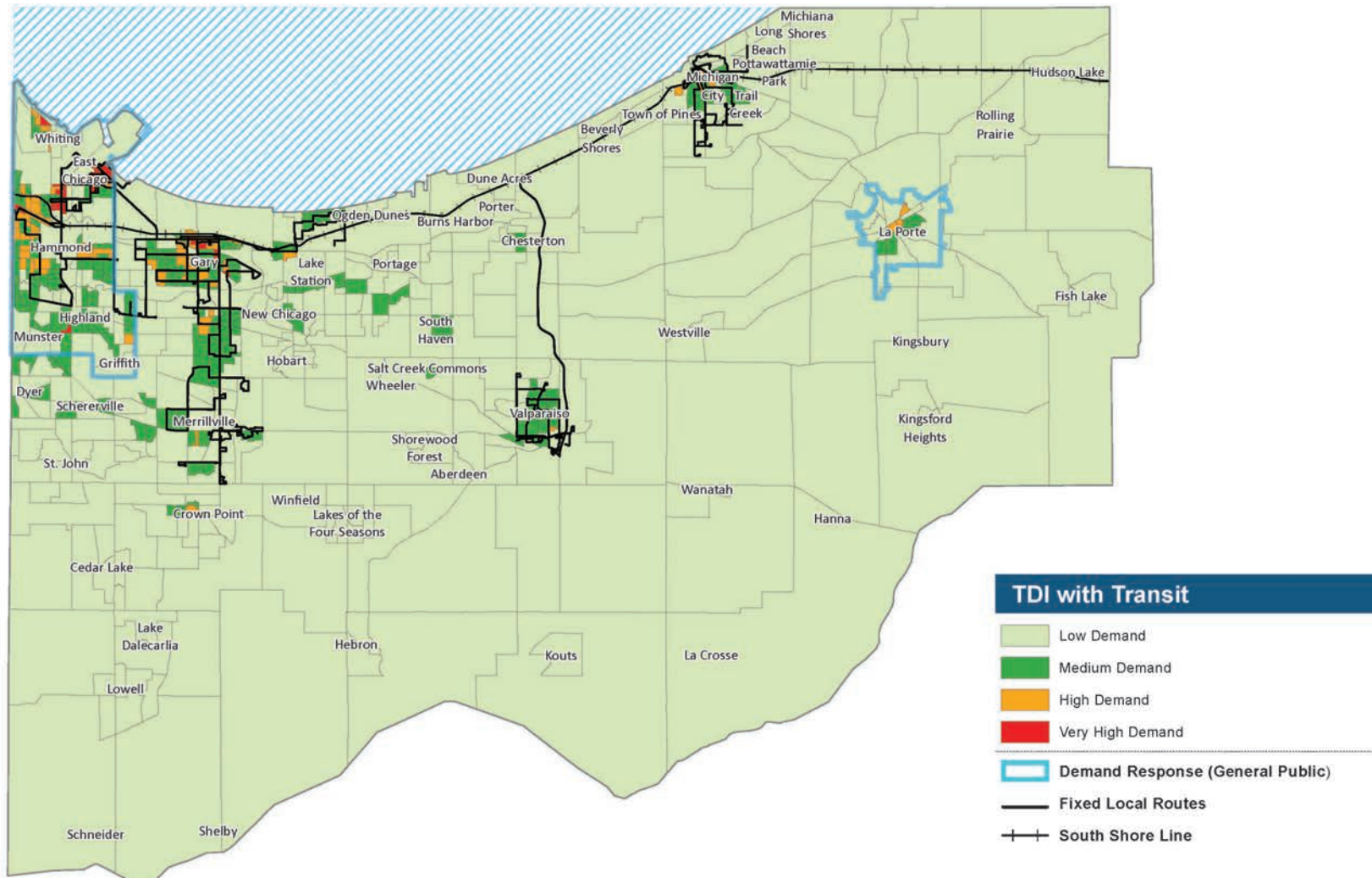


Figure 7-15: Transit Demand Areas with Transit Services Overlaid

Vision and Guiding Principles

The recommendations of the Transit Plan Element were developed to meet the Vision and Guiding Principles in *NWI 2050*. These focus on the themes of building communities through transportation that is connected, renewed, united, and vibrant. The Transit Element has created the following Vision and Guiding Principles based off these four themes.

Vision

Linking rural and urban residents in Northwestern Indiana with a more efficient and connected public transportation system will move the region into a more sustainable, economically stable, environmentally friendly, and equitable future.

Guiding Principles

Connected: Reduce jurisdictional barriers to connect residents through improved regional public transportation

Renewed: Encourage better land use planning and implementation that supports higher quality transit

United: Seek to provide equitable access to public transportation options to meet the needs of all community members

Vibrant: Enhance public transportation to support economic development opportunities in Northwest Indiana

Regional Fixed Route Bus System Alternatives

With the goal of identifying regional transit connections, two transit system design alternatives were envisioned for the proposed regional fixed route bus network in Northwest Indiana. Both were developed in detail to be compared to each other. Only one system can be selected to move forward.

The proposed regional route alternatives are intended to be express routes and to support local bus services. The regional routes will only stop at selected stops in urbanized areas, at stops approximately ½ mile apart. In rural areas, the buses will stop only at likely ridership generators. A sample list of places the buses may stop includes industries employing greater than 500 people at the location, big box retail, grocery stores, hospitals, places of higher education, high schools, and other possible transfer locations.

The transit system design alternatives each have spans of service generally 6:00 AM to 9:00 PM on weekdays, and 8:00 AM to 8:00PM on Saturdays (roughly matching the current BMX service span) and 8:00 AM to 5:00 PM on Sundays. Each system includes the two existing regional routes (the BMX route operated by GPTC and South Shore Connect operated by Valpo Transit) in a slightly revised form: BMX is extended to Crown Point and South Shore Connect adds additional stops in Chesterton and extends to the Indiana Dunes National Park.

The two systems designed are described as “hub” and “grid”. The differences between the two systems are explained below.

Hub System

The Hub System is designed to have riders transfer for longer trips at several hubs or mobility transfer centers in the region.

Of the original list of routes considered, nine initial routes are included in the overall Hub System. Additional routes were considered but due to their location in rural areas or because they partially parallel other proposed routes or commuter rail lines, the routes did not move forward. These routes warrant further study or await greater urbanization in the east edge of the study area.

The nine new regional hub routes are shown in Figure 7-16 (right). On this map are also the existing South Shore commuter rail service, and the recommended rerouting of the BMX and South Shore Connect services described above.

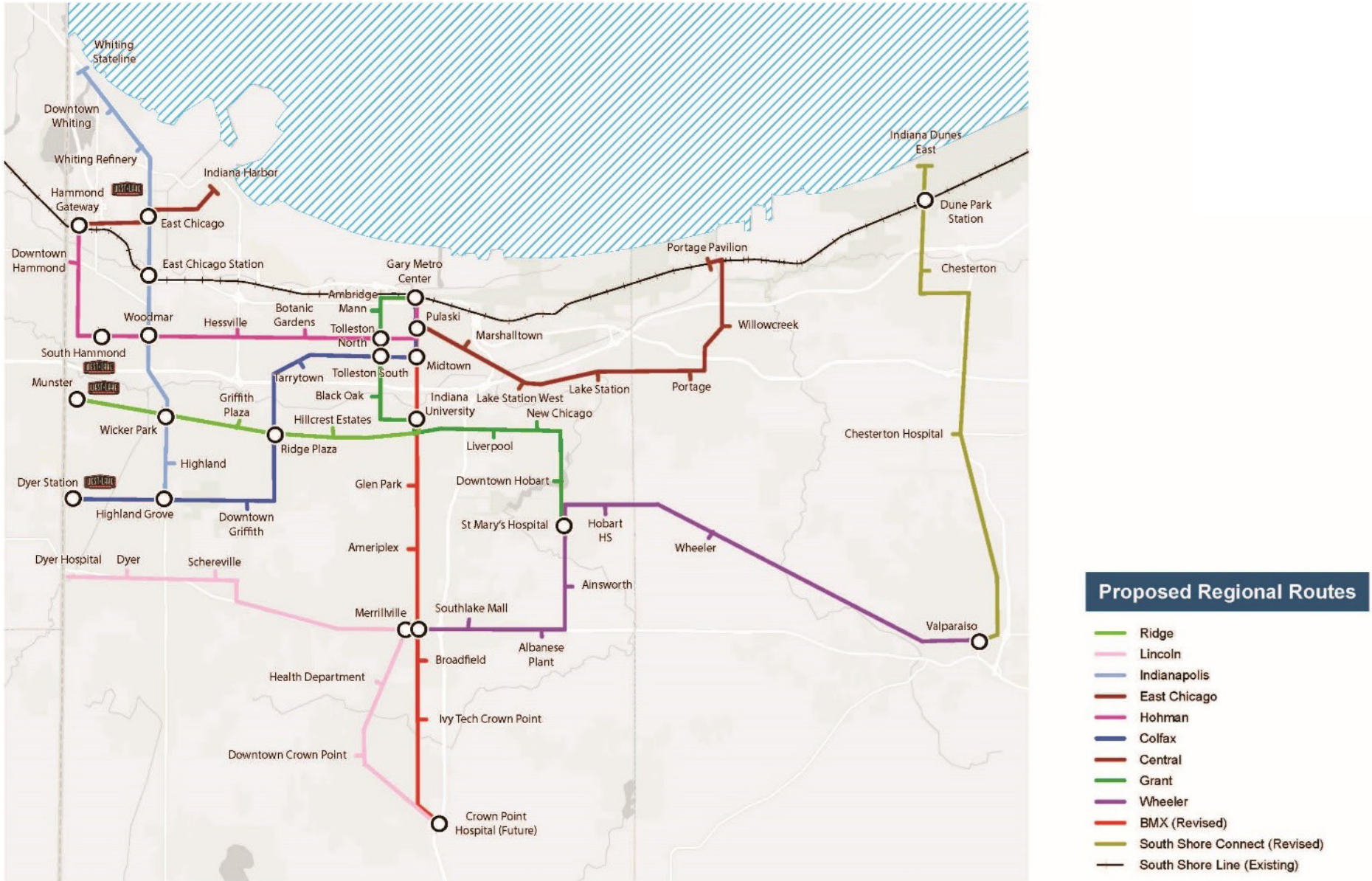


Figure 7-16: Proposed Hub System Routes

Transfers at these hubs would be timed, meaning the schedules of the connecting existing local and regional routes would be adjusted to ensure short wait times to transfer. Three transit centers, as well as on street and off-street transfer locations are part of the hub system. The proposed regional routes would meet local routes at these locations at specific times, allowing for “timed” transfers with little or no waiting. The transit centers would all have passenger amenities and allow a passenger to wait for the bus in a comfortable environment.

Transit Centers

- Gary Metro Center
- Hammond Gateway (once built, part of NICTD West Lake Corridor plan)
- Indiana Harbor (East Chicago—proposed)

On Street Transfer Locations

- Valparaiso University

Off Street Transfer Locations (location to be determined but most likely in the parking lot of each facility listed)

- Indiana University (Gary)
- Meijer (Merrillville)
- Highland Grove Shopping Center
- St Mary’s Hospital (Hobart)

Additional service characteristics of the hub system routes are shown in Table 7-7 below.

Route	Weekday Peak Frequency	Weekday Off-Peak Frequency	Saturday Frequency	Sunday Frequency
Wheeler	60	60	<i>Does not Operate</i>	
Colfax	30	45	60	<i>Does not Operate</i>
Hohman	30	45	60	60
East Chicago	30	45	60	60
Grant	30	45	45	45
Indianapolis	60	60	<i>Does not Operate</i>	
Lincoln	30	45	45	<i>Does not Operate</i>
Central	45	45	<i>Does not Operate</i>	
Ridge	30	45	45	<i>Does not Operate</i>
SS Connect	60	60	60	60
BMX	30	45	45	45

Table 7-7: Proposed Hub System Service Characteristics



Grid System

The grid system is designed to have riders transfer for longer trips at street intersections. Transfers at these places would not be timed, meaning the schedules of the connecting existing local and regional routes would need to run frequently to allow connections. Headways on the routes would need to be no longer than

30 minutes. Fourteen (14) new routes were initially proposed; these were reduced to 10 new routes including the revised BMX and South Shore Connect routes. The four other routes either warrant further study or await greater urbanization in the east edge of the study area.

Figure 7-17 shows the routes proposed for the grid system.

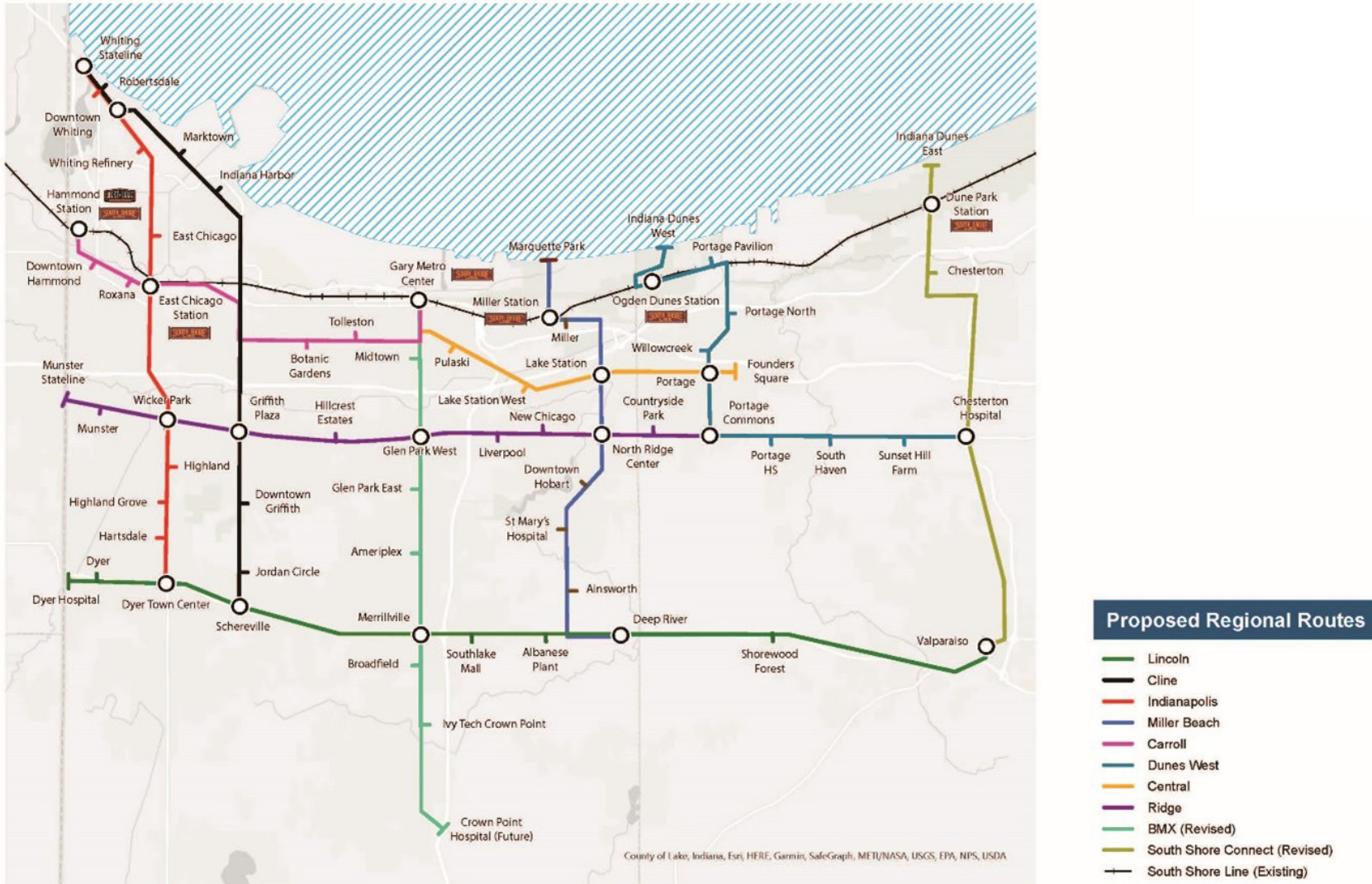
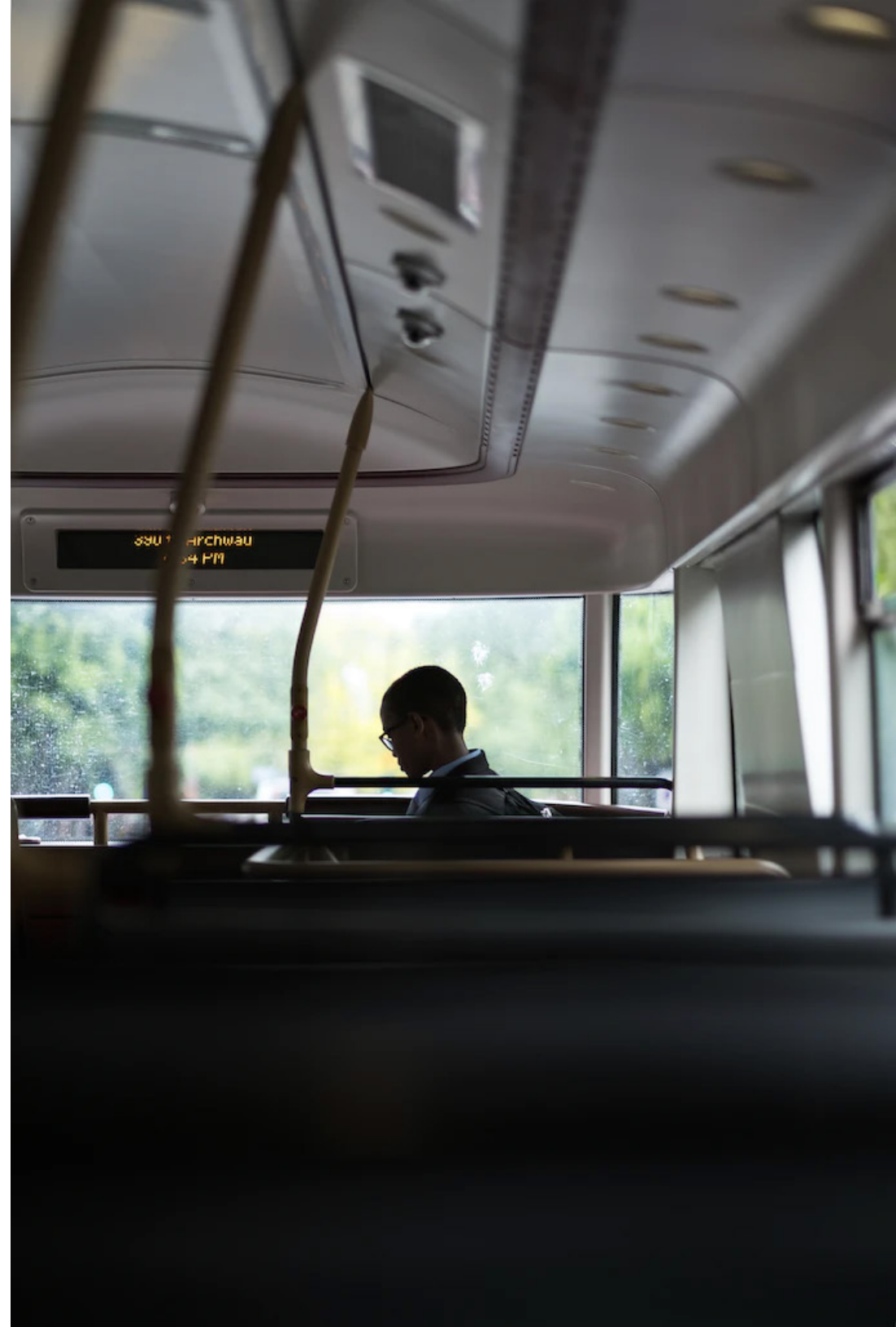


Figure 7-17: Proposed Grid System Routes

Additional service characteristics of the grid system routes are shown in Table 7-8 below.

	Weekday Peak Frequency	Weekday Off-Peak Frequency	Saturday Frequency	Sunday Frequency
West Dunes	20	30	30	<i>Does not Operate</i>
Carroll	30	30	<i>Does not Operate</i>	
Miller Beach	30	30	30	30
Cline	20	30	<i>Does not Operate</i>	
Indianapolis	20	20	30	30
Lincoln	20	20	30	30
Central	20	20	30	<i>Does not Operate</i>
Ridge	20	20	30	<i>Does not Operate</i>
SS Connect	60	60	60	60
BMX	30	30	30	30

Table 7-8: Proposed Grid System Service Characteristics



Coordinated Demand Response System

There are three demand response services in the region that are open to the general public: TransPorte (LaPorte), North Township Dial-a Ride, and Lake County Community Services (LCCS). There are others including Porter County Aging and Community Services (PCACS) and Opportunities Enterprises that serve specific populations (e.g., seniors and those with disabilities) and provide only certain types of trips (e.g., medical trips, grocery shopping, etc.). These demand response services are limited by geographic boundaries and will only serve origins and destinations within those geographic boundaries. Hours of service are typically limited to weekdays, with no evening or weekend services. In addition, a reservation is required to ride the service, sometimes as long as 72 hours in advance. This limitation in services, including boundary restrictions, restricts access to transit in the region.

A coordinated demand response system could help provide a more regionally based demand response system. NIRPC could embark on a study to identify which demand response systems could be coordinated to reduce the barriers being faced. An example of a coordinated demand response service is in McHenry County, IL. All demand response services now fall under the auspicious of the county to coordinate and provide all services. Another “model” of a coordinated system would be if certain municipalities, townships, or non-profit organizations pooled their resources (funding and vehicles) to provide a higher level of service to a larger service area.

Rail System

In the initial Finding Meaning phase of the Transit Element of *NWI 2050+*, the desirability of new rail service connecting the southeast corner of the three county NIRPC region to the northwest corner via a new somewhat diagonal routing of a rail system was raised. This additional rail service would be a supplement to the well-established South Shore Line service along the northern tier of communities and the West Lake Corridor.

This idea is centered on restoring service on the historic Pennsylvania Railroad mainline.(note an exhibit will be included here) This route crossed the Illinois State Line just east of the drawbridge over the Calumet River and exited the region just southeast of Valparaiso. Historically, this line carried multiple passenger trains operating through to Philadelphia, New York City, and Washington DC with most of them stopping at a station at Fifth and Chase in Gary and some of them also stopping in Valparaiso. There were also two commuter trains which operated on weekdays between Chicago and Valparaiso which made several additional stops including Whiting, Indiana Harbor, Broadway in Gary, and Hobart. When Amtrak took over operation of most intercity passenger rail service in this country in 1971 one train via the Pennsylvania to the East Coast and one commuter train to Valparaiso were retained. The commuter train was discontinued in 1991 and the train to the East Coast on this routing was discontinued in 2005.

Ownership of the tracks themselves transitioned in:

- 1968 – From the Pennsylvania Railroad to the Penn Central with the merger with New York Central
- 1976 – To Conrail (owned by the Federal Government) in 1976 after the Penn Central bankruptcy
- 1998 – To Norfolk Southern as part of the breakup of Conrail, returning the line to private ownership
- 2004 – To Chicago, Fort Wayne, and Eastern Railroad (CFE), a regional railroad, which acquired the portion of the route between Tolleston(on the west side of Gary, just north of a bridge under the South Shore Line) and Ohio
- 2012 – To Genesee & Wyoming, a company which owns numerous short line and regional railroad across North America, and the world, which acquired control of the CFE (it continues to operate it as the CFE).

There have been a couple of studies of the concept of restoring passenger service on the portion of the line through Valparaiso and on to Ft. Wayne, with possible extensions to Lima, OH (with service continuing to Columbus via other existing tracks) or to Toledo (with service continuing to Detroit or Cleveland via other tracks). The most comprehensive, and most recent, was a feasibility study of service with several daily trains on a Chicago-Valparaiso-Ft. Wayne-Lima-Columbus routing. The Federal Railroad Administration's (FRA) Midwest Regional Rail Plan identified the Chicago-Ft. Wayne-Columbus route as having the potential for supporting operation of frequent, high-speed trains at a profit. Considerable interest has developed for implementation of such service through the FRA Corridor Identification Program. A key portion of the routing that the Pennsylvania Railroad used to connect from its mainline through Valparaiso and Gary has been abandoned. However, a connecting track between the CFE and the South Shore could be fairly-readily constructed at Tolleston.

The former Pennsylvania Railroad mainline across Northern Indiana is virtually straight, making it particularly suitable for upgrading to high-speed rail standards, minimizing travel times and, thus, increasing ridership while reducing operating cost. No railroads can operate through at-grade crossings over 110 mph. The practical limit to operation of diesel-powered trains is about 125 mph. Electrically powered trains, with grade-separations and high-quality track are operated in a number of countries around the world at 220 mph. INDOT has recently initiated a study of potentially upgrading U.S. 30 to eliminate its at-grade intersections. Since the railroad and U.S. 30 are side-by-side for a significant distance the potential for grade-separating the adjacent

highway-rail crossings at the same time should be considered in that study.

Additionally, Amtrak has proposed shifting the routing of its five daily trains between Michigan and Chicago to avoid serious delays which its trains routinely encounter on the existing routing via Norfolk Southern by operating to Union Station via the South Shore (from a new connection from the point where the lines now cross at-grade in Michigan City) and Canadian National tracks via the lakefront line through Chicago's south side. This would establish a new, direct, connection to Union Station (eliminating the backup movement that trains from Downstate Illinois now need to use). Commuter trains, originating/terminating in Valparaiso, could be added to the proposed routing of the intercity passenger trains. There are many cases of commuter and intercity trains sharing track around the country. The commuter trains could make additional stops, such as in Hobart and at Broadway in Gary.

Other Ideas

Local Service Recommendations

In addition to the new regional service ideas identified above, other ways to improve transit services in Northwest Indiana have been discussed while working on the Transit Element of *NWI 2050+*. These improvements acknowledge issues that local transit agencies face including funding, staff shortages, bus and equipment shortages, and operating and capital cost increases. Recommendations for improvements to local services include:

- Better service information including up to date websites and bus stop signs
- Better coordinated schedules for interagency transfers
- More frequent service
- More direct routing rather than circular routes
- Integrated fares



Partnership with TNCs

Another idea to provide better access to transit is for local agencies to team with Transportation Network Companies (TNCs) to provide the first mile-last mile connection. Stakeholder interviews have suggested that the existing transit services do not always get the rider close enough to the destination; this is particularly true when the rider has a form of disability and demand-response service is not an option, forcing the rider to use the fixed route system. Often, walking to the transit stop is too difficult for a variety of reasons including a lack of sidewalk infrastructure, rider disability, inclement weather, etc. Teaming with a TNC (e.g., Uber, Lyft) with a type of fare integration is something to consider.

This first mile last mile connection could also be made through a scooter or bike share program for those riders able to utilize them. GPTC has implemented a scooter and bike share program at the Gary Metro Center.

Bus-on-Shoulder

Buses operating on highway shoulders is also a relatively new practice. Bus-on-shoulder programs have been implemented in 13 metropolitan areas in the United States including Chicago. This practice allows buses to move through congestion, promoting fast and efficient transportation. This is a relatively low cost strategy to allow buses to travel at or near free-flow speeds through congested arterial and freeway routes. Although this Plan does not recommend any specific corridors for bus-on-shoulder, further study of bus-on-shoulder routes should be examined.

Electronic Fare Payment Systems

A common concern heard about public transit in Northwest Indiana is the lack of coordination in fare payment systems and the ability to easily transfer between systems due to the need to pay an additional fare. Each agency has indicated that moving away from cash payments to an electronic fare payment system or switching the electronic fare payment system to one that is more “universal” would be difficult and cost prohibitive.

However, it is recommended that a universal fare payment app, that could be used across all systems, (i.e., similar to the Ventra app used for the Chicago Transit Authority (CTA)/Metra/Pace in the Chicago region) be studied. Introducing an electronic fare payment system that has more functionality and can be used on both bus and rail systems should be studied to understand the feasibility and costs in implementing the same system for all transit providers. This would reduce confusion in understanding each system’s payment structure and allow riders to easily transfer between systems with little or no transfer charge. Since a fare app requires smart phone technology, the study would also need to address how to provide some type of transit farecard for people who do not have a bank account, a credit card, or a smart phone.

Safety and Security

The Federal Transit Administration (FTA) requires that each transit agency develop Agency Safety Plans (ASP) that meet Public Transportation Agency Plan regulation requirements (49 CFR Part 673) in order to protect the safety and security of employees, contractors, passengers, and the public. Although NIRPC does not officially oversee the safety and security of each transit agency, staff can be a resource for agencies when it comes to safety and security by providing assistance in terms of funds or resources. As NIRPC conducts the long and short-range programming for the federal programs that support the region’s local public transit, they can confirm that each agency is committed to safety and security throughout all phases of project development and operations. NIRPC staff can also assist by providing research in terms of best practices and help identify grants and other funding resources that can be used to enhance the safety and security of all public transit agencies in the region.

Purpose Driven Planning

Introduction

The Purpose Driven Planning Report is the third and final phase of the Transit Chapter. The report takes into consideration the information presented in the Finding Meaning Report and the Creating Purpose Report in order to develop potential future service ideas that are regionally based.

Regional Fixed Route Bus System Alternatives Comparisons System Alternatives

As described in the Creating Purpose section, two system alternatives were developed and labeled as the “Hub System” and the “Grid System”. An explanation of each system is described in the Creating Purpose Report. Figures 7-18 and 7-20 provide maps of each system alternative.

Evaluation Criteria

In order to evaluate the two systems, the following evaluation criteria was used. The information identified in each metric assessed the potential performance of each system, allowing a comparison to each other. See Table 7-9.

Evaluation Criteria	Measurement
Route Mile Traversing Transit Demand Areas	Number of miles and percent of total miles that bus route is traversing medium/high/very high transit demand areas (as defined in the <i>Finding Meaning Report</i>)
Environmental Justice (EJ) Area	Number of miles and percent of miles that bus route is traversing high EJ area
Municipalities	Number of municipalities the bus route serves
Local Route Connections	Number of existing bus routes the new route connects to
Route Length	Length of the bus route (one way)
Hospitals/Medical Centers	Number of hospitals/medical centers served (over 25 beds) or county health departments
Higher Education Facilities	Number of higher education facilities (accredited community colleges and universities) served ^a
Commuter Rail/Intercity Rail Stations	Number of South Shore/Amtrak stations served (current and future planned)
Job Density	Job density within ½ mile of route
Population Density	Population density within ½ mile of route

Table 7-9: Evaluation Criteria and Measurement



Operating and capital costs were also developed to evaluate each system

Operating costs use the following assumptions:

- All dollar amounts are in 2023 dollars
- Cost per hour is derived from the cost per hour of the Gary Public Transportation Corporation (GPTC) (\$113.71) as a sample cost/hour

The operating costs shown is the annual cost to operate the new services.

Capital costs use the range of costs for the following vehicles, since it is unknown which type of vehicle will be used¹

- 30-foot hybrid or diesel vehicles (i.e., \$400,000/bus)
- 40-foot hybrid or diesel vehicles (i.e., \$725,000/bus)

Note that capital costs are estimated for the initial capital investment in new vehicles needed for the new services recommended. Eventually, these vehicles will need to be replaced and additional capital costs will be required. The cost for any other associated transit infrastructure (shelters, new transit centers, new signals, park and rides) is not included.

Phasing of Regional Routes

The new regional routes for both the Hub and the Grid Systems were divided into three groups based on their total rankings for prioritization of implementation. Implementation of the new and revised routes is recommended to be conducted in phases due to cost factors and due to

implementing new routes first which would have the greatest potential for riders.

Hub System Phasing

For Phase I of the Hub System, three new regional routes will be implemented and two existing routes will be adjusted. These are recommended to operate weekdays and weekends. The three new routes are Hohman, East Chicago, and Indianapolis (refer to Figure 7-18). The two existing routes where the routing, service frequency, and span are recommended for adjustment are the South Shore Connect and the BMX. The initial capital cost for implementing these new services is estimated between \$3.6 to \$6.5 million, with the amount varying due to the unknown type of vehicle that will be used. The annual operating cost is estimated at \$4.2 million per year. It is assumed that Phase 1 will be initiated within the next five to seven years.

Phase 2 of the Hub System adds in three more new regional routes but due to the assumptions made in terms of demand, would operate weekdays and Saturdays but not on Sundays. These three new routes are Grant, Colfax, and Ridge (refer to Figure 7-18). The initial capital cost shown for these new routes is between \$3.6 and \$6.5 million, with the amount varying due to the unknown type of vehicle that will be used. The additional operating cost per year is estimated at \$3.2 million per year. Phase 2 would be expected to be implemented after Phase I, mainly due to funding constraints and also to gauge the success of the previous phase.

¹ <https://wisconsindot.gov/Documents/doing-bus/local-gov/astnce-pgms/transit/procurement/hdb-price.xlsx>

Phase 3 of the Hub System adds in three more routes: Lincoln, Wheeler, and Central (refer to Figure 7-18) but due to the more limited assumed demand for these routes, services would be weekday-only. The initial capital costs vary between \$2.4 million and \$4 million with the amount varying due to the unknown type of vehicle that will be used. The additional operating cost per year would be \$2.0 million per year. Phase 3 would be expected to be implemented

after Phase 2, mainly due to funding constraints and also to gauge the success of the previous phases.

Note that as the regional routes gained in ridership, service characteristics could be adjusted.

Table 7-10 shows each of the routes recommended by phase and provides the

data results for each of the evaluation criteria. Explanation of the evaluation criteria was provided earlier in the report.

Route	Route Miles Traversing High Transit Demand Areas	Route Miles Traversing Medium Transit Demand Areas	Route Miles Traversing Both Types of Transit Demand Areas	Route Miles Traversing High EJ Areas	Job Density	Pop Density	Towns Served	Local Route Connections	Route Length	Percent of Route Traversing High and Medium Transit Demand Areas	Percent of Route Traversing High EJ Areas	Hospitals/ Health Clinics Served	Higher Education Served	Commuter Rail Connections (Future/Current)
Phase 1														
Hohman	1.01	7.94	8.94	5.62	1109.0	2328.5	2	9	15.65	25.4%	35.9%	1	1	3
East Chicago	3.46	2.53	5.99	2.35	1263.9	1378.7	2	4	6.22	20.4%	37.8%	0	1	1
Indianapolis	1.27	4.00	5.27	4.17	1180.6	1739.1	4	5	15.35	13.0%	27.2%	0	0	1
SS Connect (Rev)	0.13	3.62	3.75	0	586.0	715.6	3	3	18.27	9.9%	0%	1	1	1
BMX (Rev)	2.69	8.12	10.81	7.69	696.6	930.3	3	9	14.86	27.3%	51.7%	3	3	1
Phase 2														
Grant	2.77	3.05	5.82	0.99	810.5	1518.5	4	8	14.45	10.6%	6.8%	2	2	1
Collfax	0.49	3.92	4.42	4.20	819.7	1599.0	6	7	15.53	12.6%	27.0%	0	0	2
Ridge	0	0.89	0.89	0.53	1376.4	1894.5	4	7	11.14	4.0%	4.8%	0	2	1
Phase 3														
Lincoln	0	1.49	1.49	0	728.6	1265.1	4	2	19.06	3.9%	0%	1	0	0
Wheeler	0	0	0	0	591.6	451.7	3	5	25.55	0%	0%	1	1	0
Central	0.62	0.24	0.87	2.23	680.5	1015.5	3	7	9.52	1.3%	23.4%	0	0	1
Total	12.44	35.80	48.25	27.77	9843.3	14836.4	38	66	165.6	29.1%	16.8%	9	11	12

Table 7-10: Hub System Evaluation Statistics

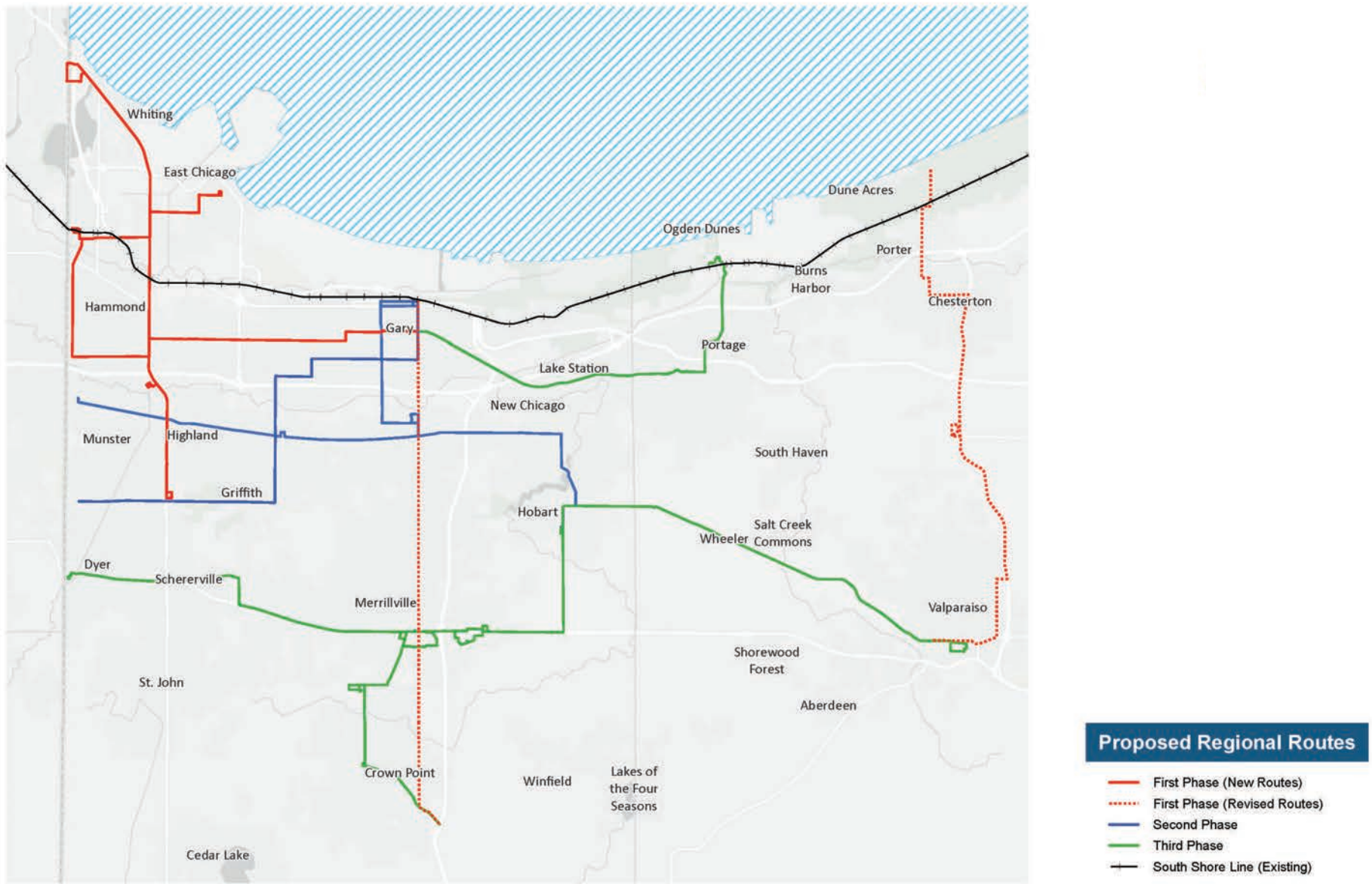


Figure 7-18: Hub System - Phased Implementation

Figure 7-19 shows the range of initial capital cost for each of the three phases. Table 7-11 shows the estimated annual operating cost.



Figure 7-19: Initial Capital Cost Range for Hub System for Each Phase*

*The cost varies as it is dependent on vehicle type, length, and fuel type of the vehicles ultimately chosen to operate this service.

Phase	Estimated Annual Operating Cost
1	\$4.2 million
2	\$3.2 million
3	\$2.0 million
TOTAL	\$9.4 million

Table 7-11: Estimated Hub Annual Operating Costs Range

Grid System Phasing Results

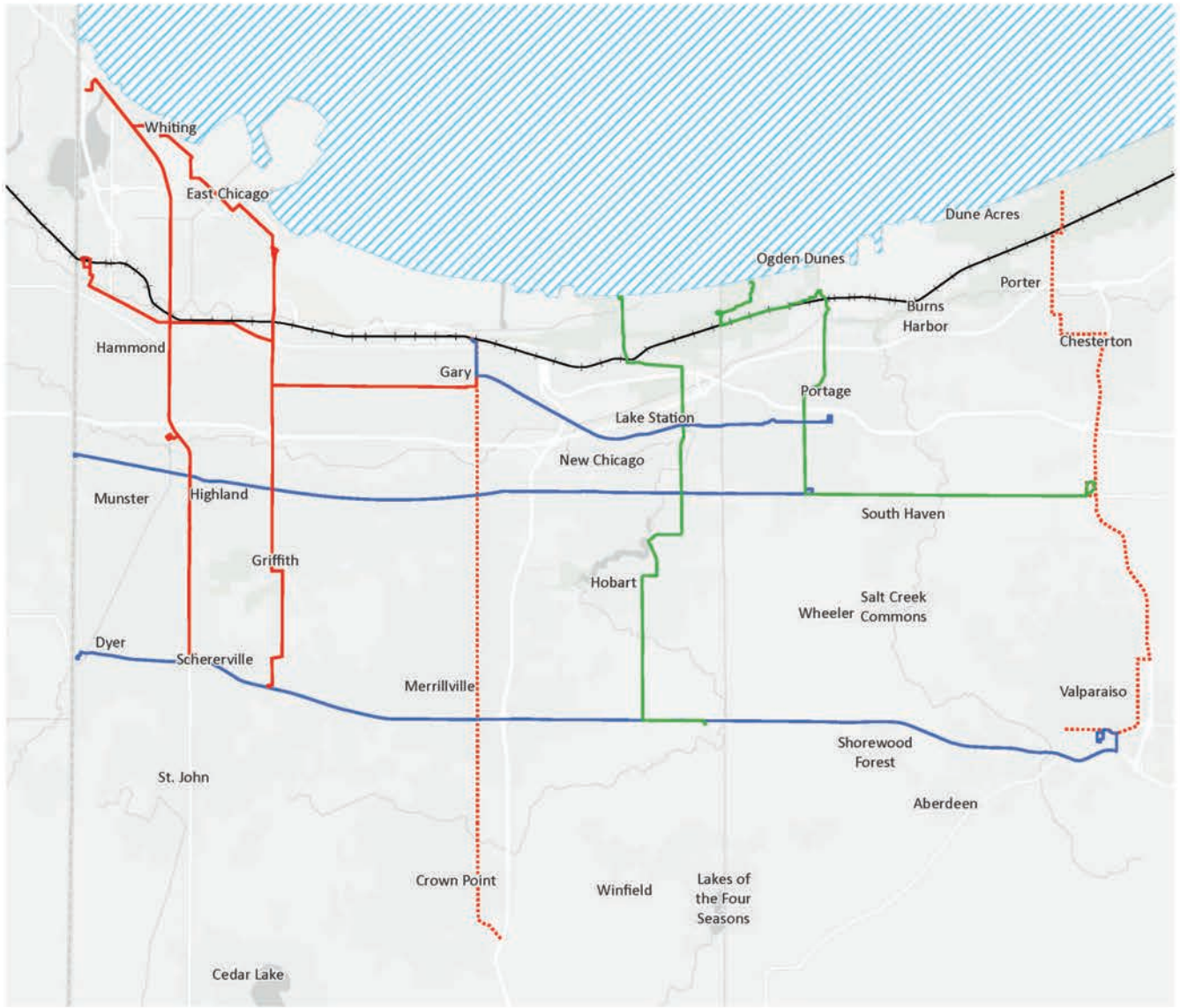
For Phase I of the Grid System, three new regional routes and two existing routes that will be adjusted are recommended for weekday and weekend services. The three new routes are Carroll, Cline, and Indianapolis (refer to Figure 7-20). The two existing routes where the routing is recommended for adjustment are the South Shore Connect and the BMX. The initial capital cost for implementing these new services is estimated between \$6.0 to \$10.9 million, with the amount varying due to the unknown cost and type of vehicles. The annual operating cost is estimated at \$10.1 million per year. It is assumed that Phase 1 will be initiated within the next five to seven years.

Phase 2 of the Grid System adds in three more new regional routes but due to the assumptions made in terms of demand, would operate weekdays and Saturdays but not on Sundays. These three new routes are: Central, Ridge, and Lincoln (refer to Figure 7-20). The initial capital cost show for these new routes is between \$6.0 to \$10.9 million, with the amount varying due to the unknown cost and type of vehicles. The additional operating cost per year is estimated at \$7.5 million per year. Phase 2 would be expected to be implemented after Phase I, mainly due to funding constraints.

Phase 3 of the Grid System adds in two more routes West Dunes and Miller Beach (refer to Figure 7-20), but due to assumed demand for these routes, services would be weekday-only service. The initial capital costs vary between \$3.6 million to \$6.5 million with the amount varying due to the unknown cost and type of vehicles. The additional operating cost per year would be \$3.4 million per year. Phase 3 would be implemented after Phase 2 mainly due to funding resources constraints.

Note that as the regional routes gained in ridership, service characteristics could be adjusted.





Proposed Regional Routes

- First Phase (New Routes)
- ⋯ First Phase (Revised Routes)
- Second Phase
- Third Phase
- South Shore Line (Existing)

Figure 7-20: Grid System - Proposed Route Implementation

Table 7-12 shows each of the routes recommended by Phase and provides the data results for each of the evaluation criteria. The

evaluation criteria were provided at the beginning of the report.

Route	Route Miles Traversing High Transit Demand Areas	Route Miles Traversing Medium Transit Demand Areas	Route Miles Traversing Both Types of Transit Demand Areas	Route Miles Traversing High EJ Areas	Job Density	Pop Density	Towns Served	Local Route Connections	Route Length	Percent of Route Traversing High and Medium Transit Demand Areas	Percent of Route Traversing High EJ Areas	Hospitals/ Clinics Served	Higher Education Served	Commuter Rail Connections (Future/Current)
Phase 1														
Carroll	1.36	6.35	7.708319	3.83278	1,014.8	1,636.4	3	8	13.71	23.2%	28.0%	0	0	2
Cline	3.33	2.90	6.236453	8.201	738.3	1,177.7	6	4	19.08	7.6%	43.0%	0	0	0
Indianapolis	2.66	2.53	5.189454	3.888232	1,206.3	1,806.0	5	5	16.21	7.8%	24.0%	0	0	1
SS Connect (Rev)	0.13	3.62	3.747575	0	586.0	715.6	3	3	18.27	9.9%	0.0%	1	1	1
BMX (Rev)	2.69	8.12	10.806914	7.686041	696.6	930.3	3	9	14.86	27.3%	51.7%	3	3	1
Phase 2														
Central	0.26	0.67	0.932679	2.231511	656.8	1,156.7	3	7	10.54	3.2%	21.2%	0	0	1
Ridge	0	0.89	0.885242	0.522911	822.1	1,887.4	8	4	18.6	2.4%	2.8%	1	0	1
Lincoln	0	0.16	0.160411	0	584.4	834.6	5	4	27.97	0.3%	0.0%	1	1	0
Phase 3														
West Dunes	0	0	0	0	327.6	745.3	3	0	18.1	0.0%	0.0%	1	0	1
Miller Beach	0	0	0	0	291.4	658.2	4	1	14.48	0.0%	0.0%	1	0	1
	10.43	25.24	35.67	26.36	6924.22	11548.35	43.00	45.00	171.82	0.82	1.71	8.00	5.00	9.00

Table 7-12: Grid System Evaluation Statistics

Figure 7-21 shows the range of initial capital cost for each of the three phases. Table 7-13 shows the estimated annual operating cost.

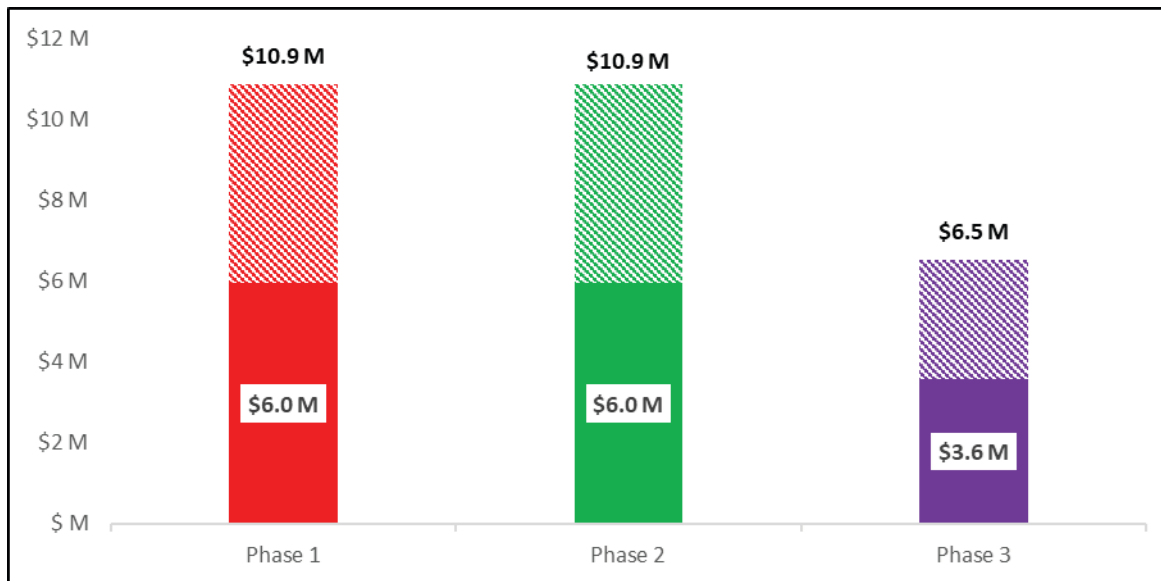


Figure 7-21: Capital Cost Range for Grid System for Each Phase*

*The cost varies as it is dependent on vehicle type, length, and fuel type of the vehicles ultimately chosen to operate this service

Phase	Estimated Annual Operating Cost
1	\$10.1 million
2	\$7.5 million
3	\$3.4 million
TOTAL	\$21.0 million

Table 7-13: Estimated Grid Annual Costs

Comparison Between the Hub and Grid Systems

Tables 7-14 and 7-15 evaluate each system using the criteria and cost information.

Evaluation Criteria Applied							
Route Miles							
System	Total	Traversing High Transit Demand Areas	Traversing Medium Transit Demand Areas	Traversing Both Types of Transit Demand Areas	% Traversing Both Types of Transit Demand Areas	Traversing High EJ Areas	% Traversing High EJ Areas
GRID	171.82	7.61	13.50	21.11	3.9%	18.68	10.9%
HUB	132.47	12.44	35.80	48.25	29.1%	27.77	16.8%
Destinations/Connections Served							
System	→	Cities, Towns, and Villages	Local Routes	Hospitals/ Health Clinics	Higher Education	Future/Current Commuter Rail	
GRID	→	43	45	8	5	9	
HUB	→	38	54	9	11	12	

Table 7-14: System Comparison Measurements

Operating Costs					
	Weekday Operating Cost	Saturday Operating Cost	Sunday Operating Cost	Total Operating	
GRID	\$ 18,382,813	\$ 1,803,441	\$ 857,373	\$ 21,043,627	
HUB	\$ 8,034,294	\$ 946,067	\$ 417,748	\$ 9,398,109	
Capital Costs (Vehicles)					
	Vehicles Needed	Diesel Cost (30ft)	Hybrid Cost (30ft)	Diesel Cost (40ft)	Hybrid Cost (40ft)
GRID	39	\$ 15,470,091	\$ 26,750,451	\$ 17,690,205	\$ 28,283,502
HUB	24	\$ 9,520,056	\$ 16,461,816	\$ 10,886,280	\$ 17,405,232

Table 7-15: System Comparison Cost Estimates



Conclusion

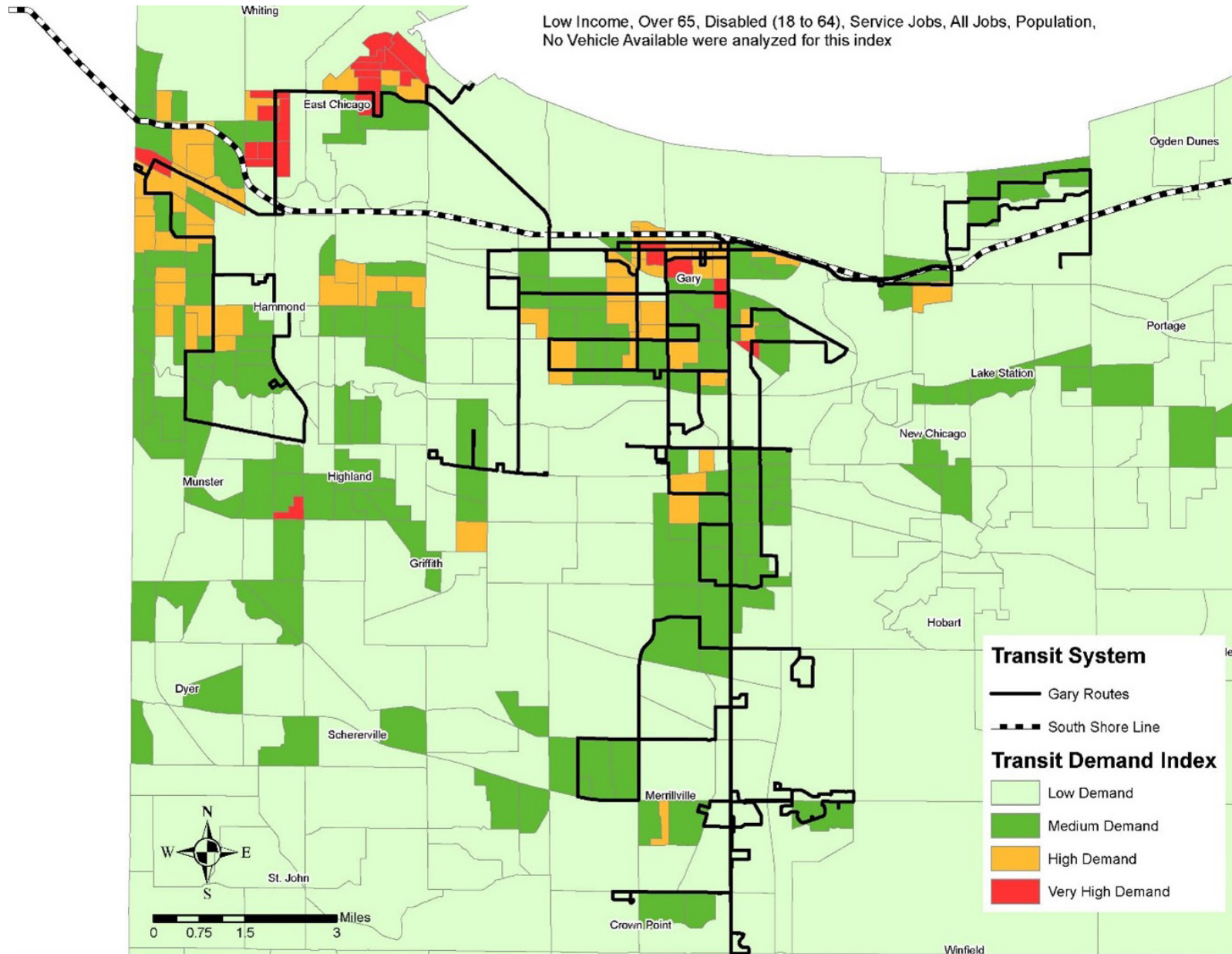
The analysis indicates the Hub System performs better on all measures except the number of municipalities served and total route miles. It also has lower operating and capital costs. However, the Hub System would possibly require more off-street transit infrastructure (a new transit center in East Chicago, for example) since transfers are designed to be off street rather than on-street. Transfer possibilities are also more limited, as riders would need to travel to a hub to make a transfer which could cause them to backtrack in their travel direction in some cases.

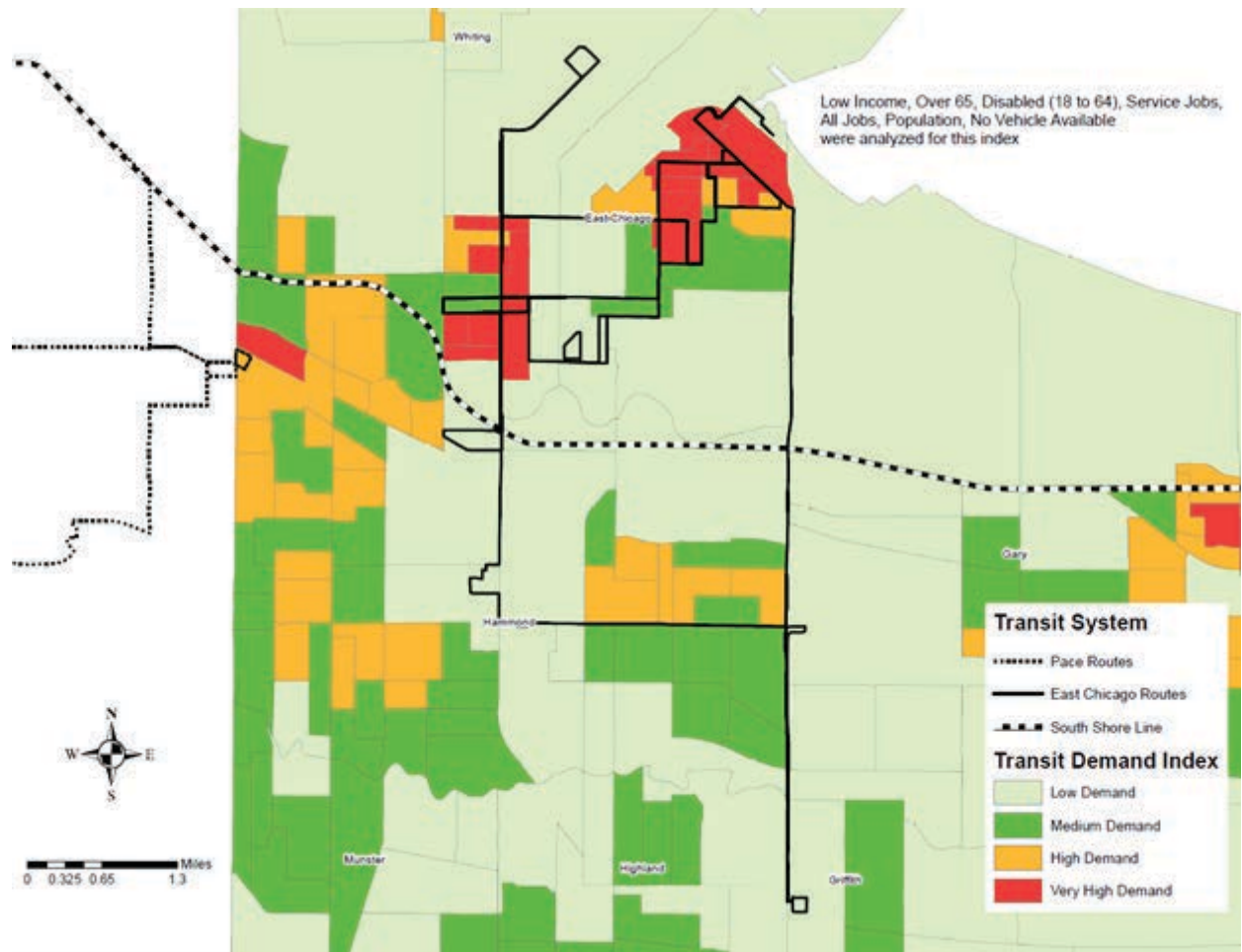
The Grid System would operate more frequently and cover a greater part of the study area, so therefore transfers would be easier to make since transfers could occur at regular intervals along the route rather than at just one location. The Grid routes also travel longer distances in general than the Hub routes, so a rider would not need to transfer as often to travel regionally within the study area. The Grid System, however, has higher operating and capital costs as compared to the Hub System and is not as targeted to those with the greatest need for transit.

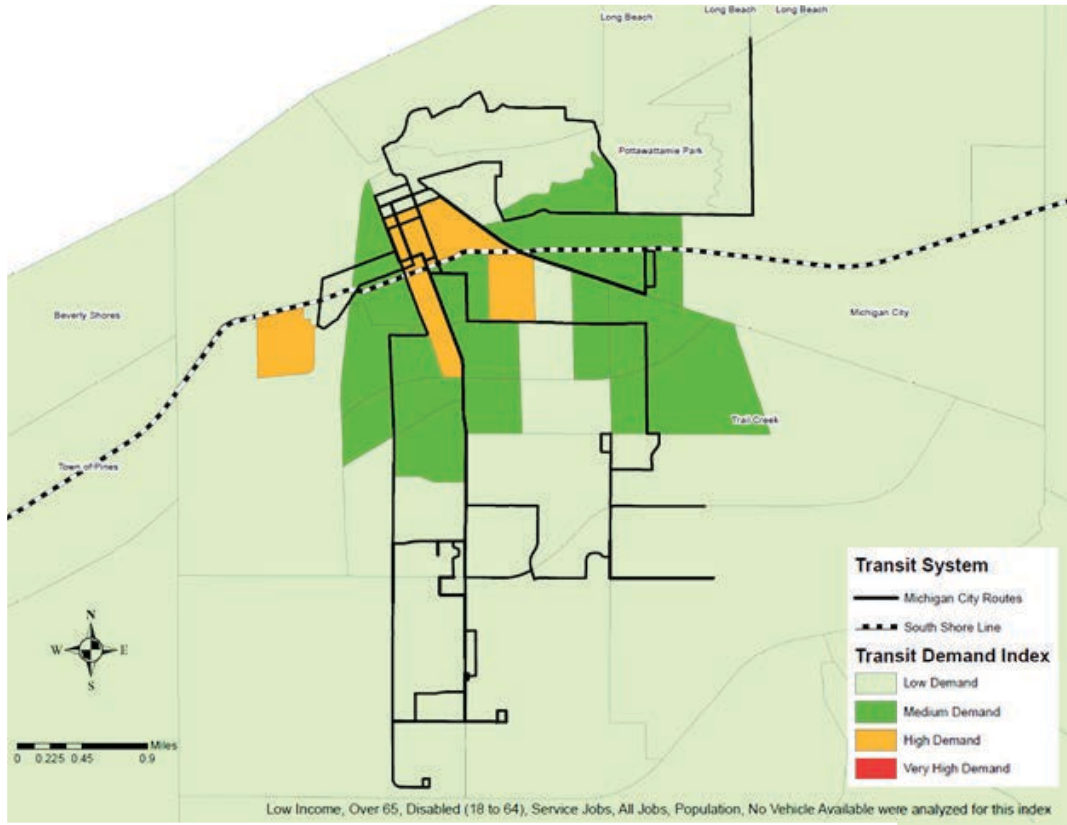
Both systems have positive and negative attributes. ***The Hub System, however, is recommended to be implemented for the following reasons:***

1. Because the Hub System is designed to reach the most likely riders in the study area, ridership would be higher than the Grid System
2. The Hub System can start out at lower service frequency thus saving initial start up costs; the Grid System would need to start out at a higher frequency, regardless whether demand warrants that level of service. This is because Hub transfers can be timed to any service frequency at a hub whereas Grid routes would need to operate at least every 20 minutes to reduce transfer wait times on street (since buses cannot sit on the street waiting for the connecting bus to appear).
3. Because of the operating characteristics described above, the Hub System is more flexible in adjusting service frequency as demand increases or decreases.
4. Because transit centers would be the most common locations for transfers, better amenities for passengers transferring would be available; conversely, the lack of pedestrian infrastructure in the study area could make on-street transfers uncomfortable for Grid System passengers.
5. The evaluation criteria for both systems are aligned with the visions and goals NIRPC has for this plan; since the Hub System does much better on these criteria than the Grid System, it aligns better with the goals and visions of this plan.
6. The Hub System better serves the densest, most urbanized areas of the study areas which are better suited for fixed route transit whereas the Grid routes are more likely to run in rural areas.
7. The Hub System will be more cost effective to operate than the Grid System, and the costs of initiating the first phase will be lower, making it more likely a regional transit system will gain political support to get off the ground.
8. The Hub Systems reaches significantly more locations identified by NIRPC and the public as needing service— especially hospitals and institutions of higher learning.

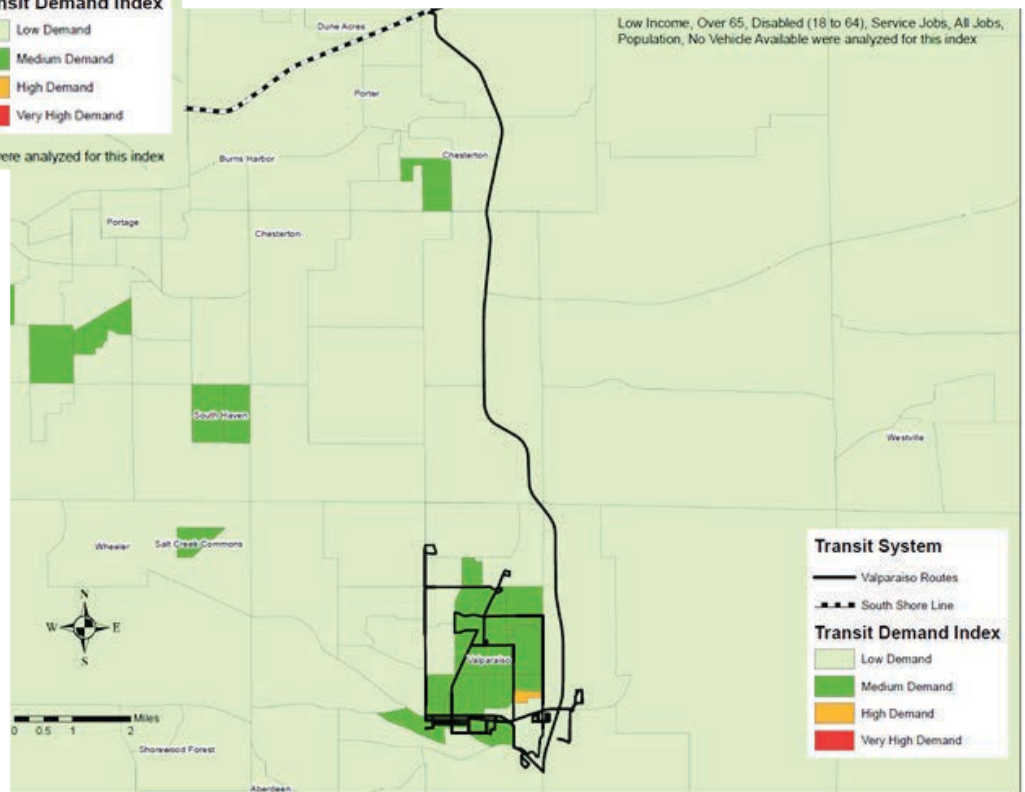
APPENDIX 7A: Closeup Transit Demand Index Maps





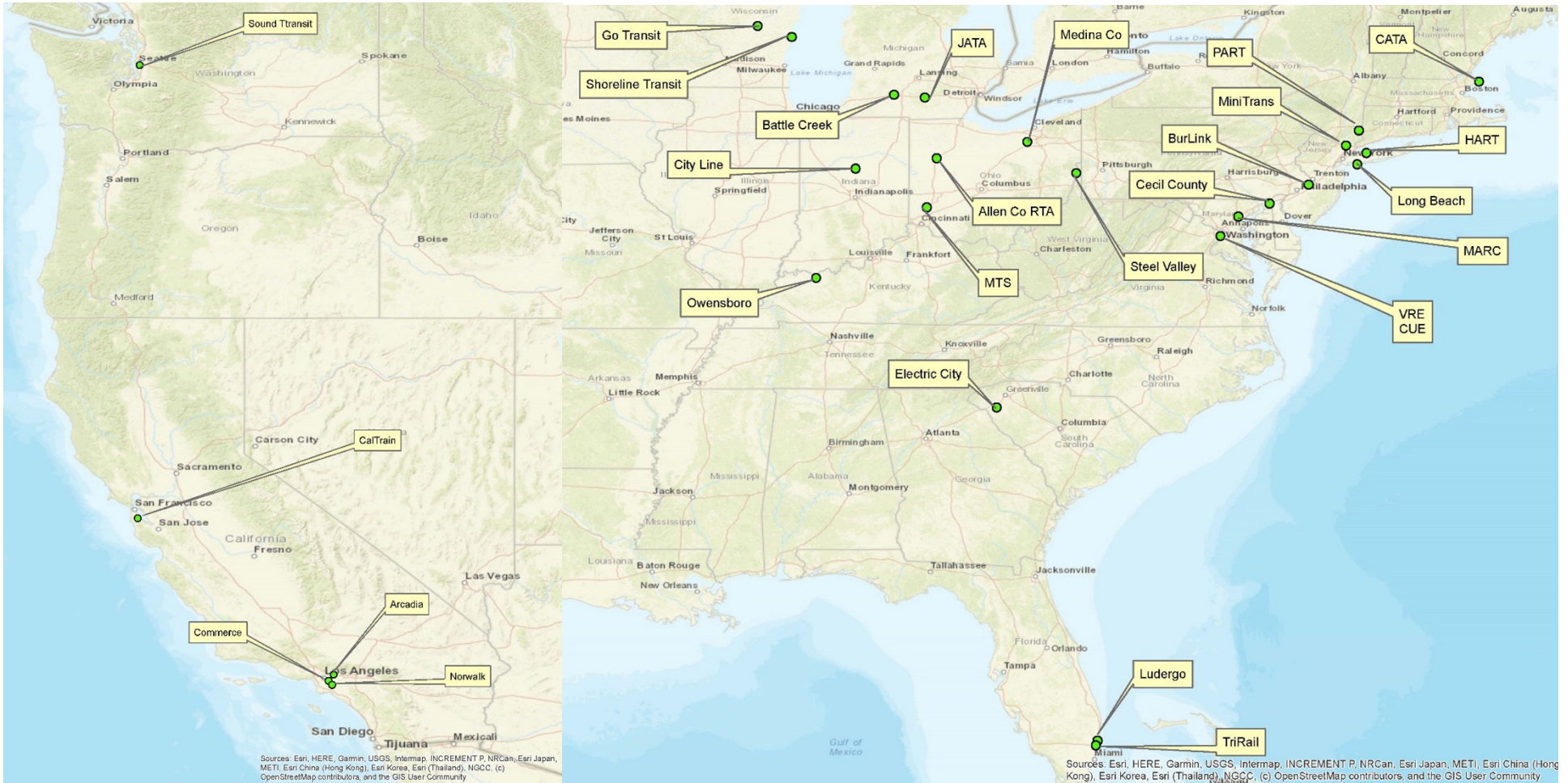


Low Income, Over 65, Disabled (18 to 64), Service Jobs, All Jobs, Population, No Vehicle Available were analyzed for this index



Low Income, Over 65, Disabled (18 to 64), Service Jobs, All Jobs, Population, No Vehicle Available were analyzed for this index

APPENDIX 7B: Peer Transit Agencies



APPENDIX 7C: Transit Steering Committee Members

East Chicago Transit	Frank Rosado
Gary Public Transportation Corporation	David Wright
City of Hammond	Tom Novak
City of Hobart	Ross Pietrzak
Lake County Community Services	Blossom Mabon
City of Merrillville	Steve King
Michigan City Transit	Robin Tillman
Northern Indiana Commuter Transit District	Kelly Wenger
North Township Dial-A-Ride	Dianna DeLeon
City of Portage	AJ Monroe
Porter County Aging and Community Services	Bruce Linder
Regional Transportation Authority	Peter Kersten
TransPorte	Beth West
Union Township	George Topoll
Valpo Transit	Donald Lorentzen

