livable broadway regional plan

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1 Introduction

Background

The Gary Public Transportation Corporation (GPTC) seeks to make Broadway a more livable corridor. The purpose of the Livable Broadway Regional Plan is to assess opportunities for promoting livability within the corridor by enhancing economic development, environment, and land uses that will lead to improved bus service within and between Gary, Merrillville, and Crown Point.

The L-shaped Broadway Corridor (Corridor) includes a 14-mile segment of Broadway, also known as Indiana Route 53 (IN 53), from Interstate 90 in Gary to US 231 in Crown Point, with an east-west segment that extends from Grant Street and 4th Avenue to Broadway. Property located within ½ mile on both sides of the road is included in the study corridor (**see Figure 1** Corridor Boundary).

Goals and Objectives

The goal of this effort is to create a more livable Corridor. To achieve this goal, the plan will address the following objectives:

- Assess the current state of transit on Broadway
- Improve connectivity
- Determine modal conflicts and accessibility issues
- Develop growth scenarios
- Assess opportunities for alternative modes and related infrastructure
- Recommend transit improvements
- Recommend infrastructure improvements that emphasize sustainability

The adjoining land use and population and employment of the Corridor determine who uses transit. Pedestrian systems or sidewalks need to safely connect buildings and recreational spaces to the transit system. The Current Conditions report describes existing conditions in the Corridor with respect to socio-economic characteristics, transportation, walkability and development plans from the perspective of land use. The current conditions analysis provides a foundation for best practices and action strategies that will be proposed for achieving the goals and objectives of this planning process.

Planning Process Participants

Five government agencies are primarily involved in regulating land use and transportation in the Corridor. GPTC is responsible for bus service. The Indiana Department of Transportation (INDOT) is responsible for the roadway and right-of-way which comprise Broadway; and the City of Gary, Town of Merrillville, and the City of Crown Point are responsible for land use controls within their respective boundaries. **Table 1** Mode Share to Work - shows how residents in each of these municipalities get to work. Transit use is relatively low, with Gary being slightly more transit focused than the other two municipalities. Nevertheless, transit service in the Broadway Corridor is the most heavily used in Northwest Indiana.

Gary
The City of Gary is the northernmost municipality in the Corridor. The Corridor is responsible for the majority of the GPTC ridership.

Merrillville
The Town of Merrillville is located in the middle of the Corridor.

Crown Point
The City of Crown Point is the southernmost municipality in the Corridor. It is also the County seat with a very attractive and viable commercial district surrounding the 19th century courthouse, located a short distance west of the Corridor.

Table 1
Mode Share to Work

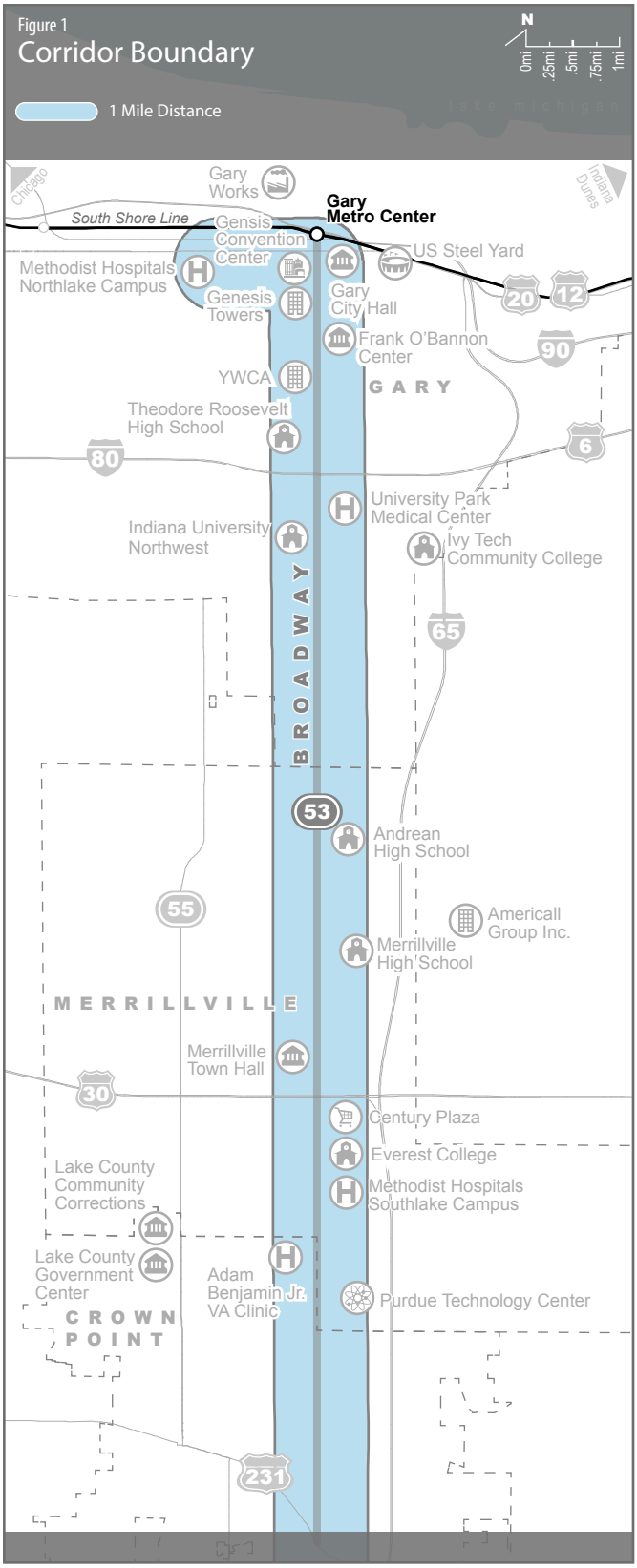
	Gary		Merrillville		Crown Point	
	Total (#)	Total (%)	Total (#)	Total (%)	Total (#)	Total (%)
Auto	21,903	88%	14,651	95%	11,979	94%
Drove Alone	19,684	79%	13,453	87%	11,118	87%
Carpool	2,219	9%	1,198	8%	861	7%
Transit	1,305	5%	264	2%	164	1%
Walk	897	4%	172	1%	163	1%
Taxi / Motorcycle Bicycle / Other	293	1%	188	1%	68	1%
Worked at Home	426	2%	208	1%	366	3%
Total Population	**81,153**	-	**35,201**	-	**27,477**	-
Employed Population	**24,824**	**31%**	**15,483**	**44%**	**12,740**	**46%**

Source: U.S. Census 2008-2012 American Community Survey 5-Year Estimates

Numerous other agencies and non-profits have an interest in transit in the Corridor and are participating in the planning process. These agencies include:

- Ameriplex
- Chambers of Commerce
- Everybody Counts
- Indiana Landmarks
- Indiana University Northwest
- Ivy Tech
- Methodist Hospitals
- Northern Indiana Commuter Transportation District (NICTD)
- Northwest Indiana Regional Development Authority
- Northwestern Indiana Regional Planning Commission (NIRPC)
- Sierra Club
- The Strong Cities, Strong Communities

Part 4 of this report describes the community engagement activities conducted.



2 Socioeconomic Assessment

As noted, the Broadway Corridor Study Area runs through the communities of Gary, Merrillville, and Crown Point. Gary is the largest city, with a population of 80,294 in 2010. However, its current population is estimated to be less than 78,000. Gary is a 19th-century city that was built around the steel mills that lined Lake Michigan. It was laid out as a walking city and thus has a very urban character.

Portions of Merrillville and Crown Point, in contrast, are mid- to late-20th-century communities that are automobile-oriented and built at low densities. Both communities have land available for continued development.

Household size in the three communities was comparable in 2010, with households being slightly smaller in Crown Point. However, almost one in every three households (32.8 percent) in Gary is occupied by a single person, compared to 29.7 percent of the households in Merrillville and 27.5 percent in Crown Point. For comparison, 26.9 percent of all households in Indiana have only one person living in them.

Table 2
Demographic Characteristics of Corridor Communities 2010

Demographic	Gary	Merrillville	Crown Point	Indiana
Population	80,294	35,246	27,317	6,483,802
Households	31,380	13,696	10,976	2,502,154
Median age	36.7	38.6	42.9	37.0
Age 19 and younger	30.9%	28.3%	23.4%	27.9%
Age 65 and over	14.5%	13.7%	16.1%	13.0%
Housing Occupancy	79.4%	92.3%	94.7%	89.5%
Owner occupied	52.7%	66.4%	78.9%	69.9%
Avg. Household Size	2.54	2.54	2.45	2.52
Single-person HHs	32.8%	29.7%	27.5%	26.9%
Median HH income (2012 est.)	$26,956	$52,174	$64,876	$48,374
Population per square mile	1,610	1,061	1,542	182

Source: U.S. Census 2010; American Community Survey, 2012 5-year average; Applied Real Estate Analysis, Inc.

In Crown Point, only 23.4 percent of the population is under the age of 19. Of the three communities, Crown Point has the smallest percentage of its population aged 19 and younger and the largest percentage of the population aged 65 and older. The community also has the largest percentage of its population in the main wage-earning age group of 25 to 64. In Gary, less than half the population is in the 25-to-64 age group.

Crown Point is also the most affluent of the three communities, with a median household income of almost $65,000. The median household income in Gary is approximately $27,000, or about 41 percent of the median in Crown Point. A higher percentage of low income households is an important transit use indicator.

In spite of their suburban development patterns, Merrillville and Crown Point have population densities that are very similar to the density in Gary. This is primarily because Gary has been steadily losing population over the past 50 years, while the populations of Merrillville and Crown Point continue to grow. **Table 3** shows the population trends from 2000 to 2010, a period during which Gary lost approximately 22 percent of its 2000 population, and that was already considerably below the city's peak population of 178,320, in 1960. The trends in all three communities have continued over the past four years, with Gary losing an estimated 2,000 to 3,000 persons, while each of the other communities added about the same number. Although the growth in the other two communities was insufficient to offset the population loss in Gary during the first decade of the century, it appears that the decline in Gary's population has slowed to the point that it is being more than offset by growth in Merrillville and Crown Point.

Table 3
Population Trends 2000-2010

Population	Gary	Merrillville	Crown Point	Total
2000	102,749	30,560	20,199	**155,508**
2010	80,294	35,246	27,317	**144,867**
Change (#)	**–22,455**	**4,686**	**7,118**	**–10,651**
Change (%)	**–21.9%**	**15.3%**	**35.2%**	**-6.8%**

Source: U.S. Census 2010; Applied Real Estate Analysis, Inc.

In addition to losing population, Gary's population s aging. In Gary, the percentage of persons aged 65 and older grew, while that percentage declined in Merrillville and Crown Point. Because a larger percentage of Gary's population is aged 50 to 64, this trend is likely to continue through 2030. During the 2000–2010 decade, the percentage of persons aged 19 and under declined in Gary and Crown Point, while the percentage of the population in this age group increased in Merrillville.

Figure 2
Population Aged 65 and Over

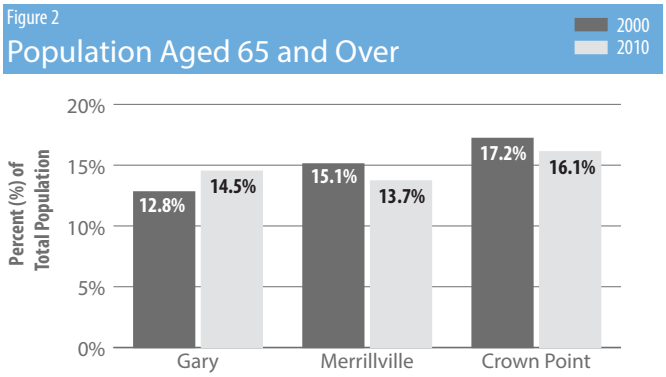
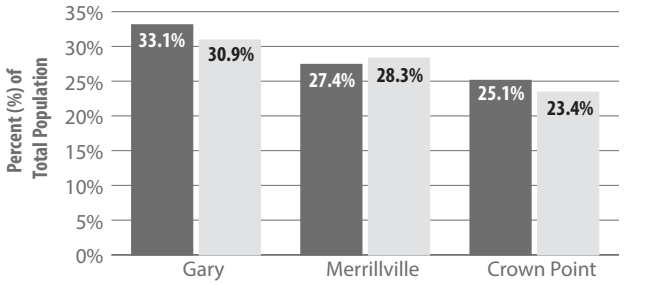


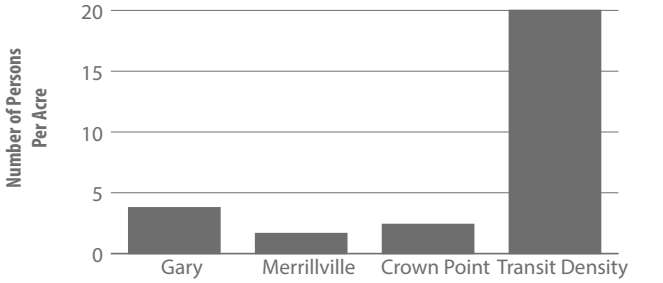
Figure 3
Population Aged 19 and Younger



Generally, transit usage is higher among lower income households. Within the corridor median household incomes range from less than $20,000 in some block groups north of Interstate 80 to more than $70,000 in sections of Crown Point. Block groups in the Merrillville portion of the corridor typically have median household incomes of $40,000 to $55,000. Generally, incomes increase from north to south in the corridor.

Population density is a key factor to consider when planning transit services. To develop a comparison, the population density per acre was calculated for each community, using the acres of actual land less areas covered by water. This amounted to approximately 4,627 acres in Gary, 25 acres in Merrillville, and 13 acres in Crown Point. In addition, the amount of land occupied by steel mills and railroad lines along Gary's lakefront was estimated and subtracted from the total land area that could be developed for residential and other purposes. Thus, Gary's effective population density is about 2,400 per square mile, compared to 1,600 within the corporate limits as a whole without the adjustment. Gary's effective population density is about four persons per acre, which is twice the density of the other two communities.

Figure 4
Population Per Acre



However, these are overall densities for each municipality, and the densities vary geographically throughout the area. The real issue is the population density within the mile-wide corridor along Broadway. Estimates of the corridor population were obtained from Esri, and combining these numbers with census data, it is estimated that there are about 32,500 persons living within the 14-mile Corridor. **Table 4** shows population density within the Corridor and this is illustrated in **Figure 5.**

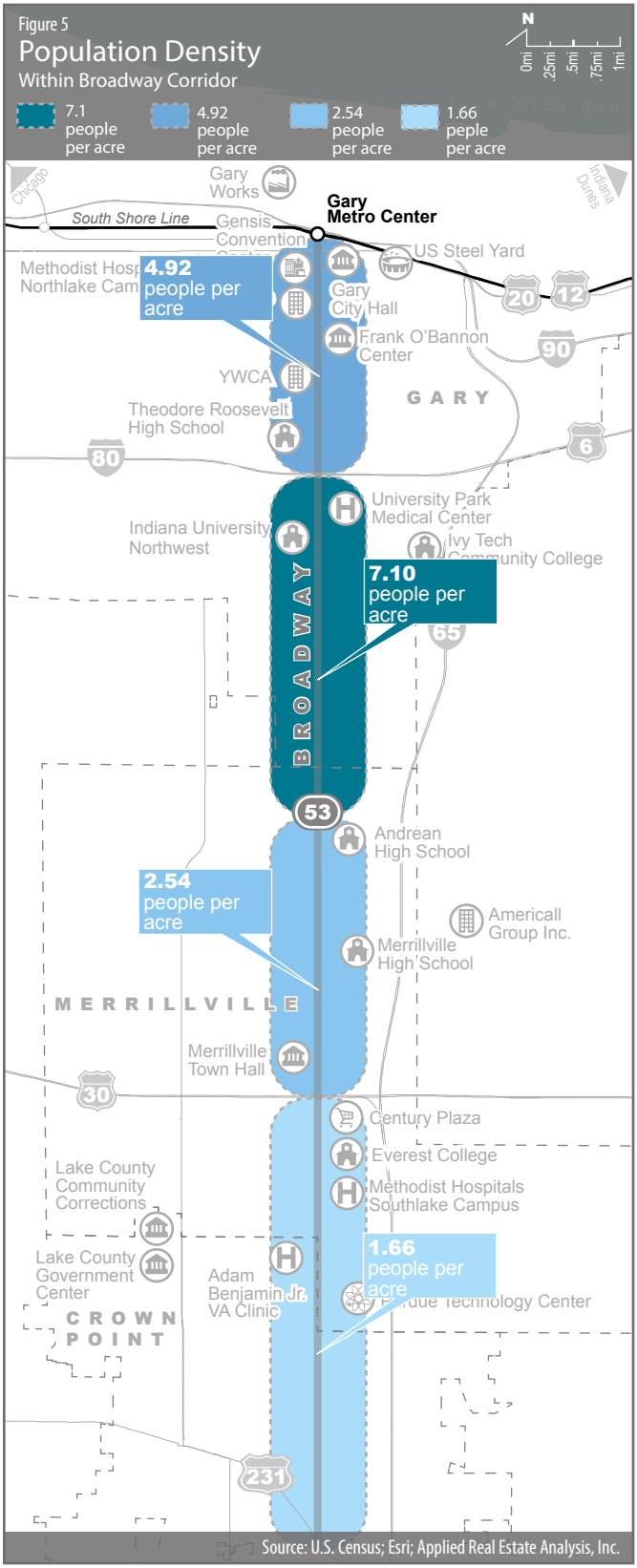
The population density is greatest at seven persons per acre in Gary from I-80 to 57th Avenue. North of I-80 the density is almost five persons per acre, with the density being slightly greater in the stretch south of 11th Avenue and slightly less north of 11th Avenue. The greater amount of commercial and institutional development south of 57th Avenue causes population densities to decline significantly. A density of about 2.5 persons per acre exists in the area from 57th Avenue to U.S. 30, and south of U.S. 30, the population density within the corridor drops to less than 2 persons per acre, most of it concentrated south of Summit Avenue. Population density may fluctuate in some areas depending on educational enrollment patterns.

Table 4

Population Density within Broadway Corridor

Broadway Corridor Segment	Population	Miles	Acres	Population per Acre
4th to I-80	7,868	2.5	1,600	4.92
I-80 to 57th	13,625	3.0	1,920	7.10
57th to U.S. 30	5,689	3.5	2,240	2.54
U.S. 30 to State 230	5,318	5.0	3,200	1.66
Corridor totals	**32,500**	**14**	**8,960**	**3.63**

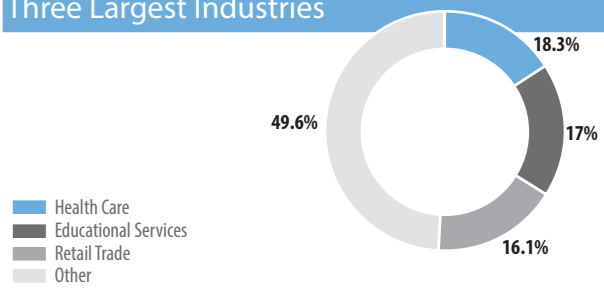
Source: U.S. Census; Esri; Applied Real Estate Analysis, Inc.



South of Route 30 the commercial and institutional development draws both employees and visitors who are potential transit riders. The Methodist Hospitals, in particular, would have the potential to generate transit ridership if it were drawing its visitors from a densely populated area with transit service. There were approximately 17,200 persons working in the corridor in 2011, with jobs heavily concentrated in three sectors: health care, educational services, and retail trade. Together, these three industries account for over 51 percent of corridor employment.

Health care, educational services and retail trade are the three largest employment sectors in the portion of the two southern segments of the corridor. However, in Gary north of I-80, about one-third of the jobs are in public administration, with another 25 percent in educational services. Retail trade accounts for less than 5 percent of the jobs in this section of the Corridor.

Figure 6
Share of Total Employment for Three Largest Industries

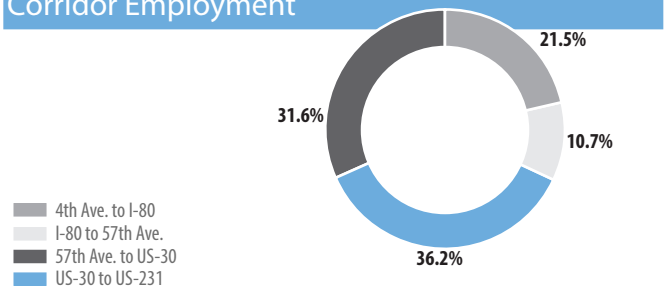


Source: U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics; Applied Real Estate Analysis, Inc.

Employment, like population, is unevenly distributed throughout the corridor as shown **in Figure 7,** Distribution of Corridor Employment. The segment south of 57th Avenue has the smallest population density, but accounts for two-thirds of corridor employment. The area with the densest population, from I-80 to 57th Avenue, has the fewest number of jobs.

Between 2010 and 2040 growth in Lake and Porter Counties is projected to average about one percent per year, with employment projected to grow at a faster rate. In Gary, Merrillville and Crown Point, the population is forecasted to reach 198,000, representing about a 38% increase over 2010 levels. Concentrating a significant portion of that growth potential in the Broadway corridor would increase the transit potential as well as enhancing the overall livability of the Corridor.

Figure 7
Distribution of Corridor Employment



Source: U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics; Applied Real Estate Analysis, Inc.

Market Dynamics and Growth Potential

There is a substantial amount of vacant land throughout the corridor that provides opportunity for development and redevelopment. In Gary, the vacant land is all land that was once developed. When combined with other parcels that may still have vacant of underutilized structures on them, the vacant land in Gary provides substantial redevelopment potential. In Crown Point the land is largely farm land that has never been improved. Merrillville has a combination of types of land available for redevelopment and development. While all three communities have development potential within the corridor, the current market conditions are stronger in Merrillville and Crown Point than in Gary for development activity. The comparative potential is demonstrated by reviewing the number of building permits for housing issued in the three communities over the past four and one-half years.

Gary has issued permits for 12 single-family houses. Crown Point has issued permits for 780 housing units, all but 20 of which were in single-unit structures. In Merrillville, the market has been almost as strong as in Crown Point, but different in character. Seventy-six percent of the units permitted in Merrillville during this period were in structures with five or more units while only 12.6 percent were in single unit structures. In 2010, two structures accounted for 181 units, or more than 80 percent of the units permitted in Merrillville that year. This trend towards multi-unit housing is positive for developing transit-supportive densities.

The relative markets in the three communities for other land uses are similar to those for residential development. The market for retail development may be temporarily saturated and the potential for office development is still limited. However, as the region's overall economy continues to strengthen the short-term potential for new development will be strongest in the south half of the corridor.

Table 5
Housing Permits Issued in Corridor Communities

Year	Gary	Merrillville	Crown Point
2010	0	223	132
2011	1	109	134
2012	3	112	197
2013	4	165	190
2014*	4	24	127
Totals	**12**	**633**	**780**

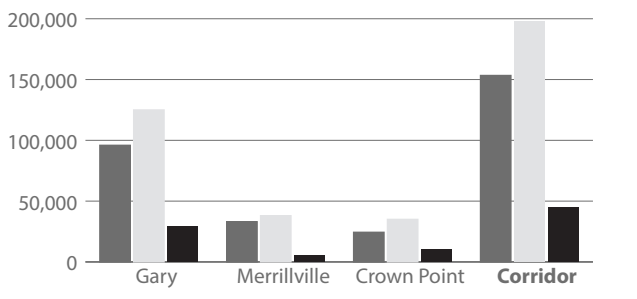
*Through August
Source: U. S. Census Bureau; Applied Real Estate Analysis, Inc

The Northwestern Indiana Regional Planning Commission is projecting that between 2010 and 2040, growth in the population of Lake, Porter and LaPorte counties will increase by almost 23%. Projections for employment growth are much more aggressive, with the number of jobs increasing from about 195,000 in 2010 to 350,000 by 2040. This projection assumes a continued revitalization of the national economy but also assumes that Northwestern Indiana will capture a larger percentage of the jobs within the Chicago-Naperville, Illinois-Indiana-Wisconsin Combined Statistical Area.

The combined population of Gary, Merrillville and Crown Point currently represents about 19% of the population in the three counties. Capturing 20% of the projected regional growth by 2040 would add almost 35,000 persons to the three city total. However, the goals and strategies articulated 2040 Comprehensive Regional Plan place emphasis on rebuilding the region's urban core and linking transportation and development. If these policies were to be successfully implemented, NIRPC projects that the growth of these three communities would be closer to 45,000 persons.

The 2040 plan's projections envision the development implementation of policies to link transportation and development. Policies designed to channel population growth into the Broadway corridor would enhance transit performance and create a more walkable, sustainable environment that is attractive to younger households and compatible with the 2040 Comprehensive Regional Plan.

Figure 8
Projected Population Growth 2010-2040



Source: Northwestern Indiana Regional Planning Commission (NIRPC)

Methodist Hospitals Northlake Campus Corridor Segment

Included in the study is the one mile corridor segment between Broadway and the Methodist Hospitals Northlake Campus along 4th and 5th Avenue. The hospital is a significant employment and visitor attractor and can influence both transit ridership and economic development. The first half-mile segment of the corridor that extends west to Methodist Hospitals Northlake Campus at 6th Avenue and Grant Street is already included in the discussion of the main Broadway corridor. This section therefore includes some demographic information that overlaps with the main Broadway Corridor analysis. The Methodist Hospitals Northlake Campus corridor includes the majority of census tract numbers 120-5 and 128.

Demographic Characteristics

As indicated in **Table 6,** just over 3,000 persons in 1,334 households reside in the corridor. About 45 percent of the residents are either age 19 and younger or 65 and older. Both of these age groups are more likely than the general population to be transit dependent. Incomes in the corridor are very low, especially in the eastern segment of the corridor. The median household income for the segment is estimated to be about $17,650 but for some block groups in the eastern portion of the corridor, the median is below $15,000. This compares to block groups near the western edge of the corridor with median incomes of more than $22,000.

Table 6
Demographics for Methodist Hospitals Northlake Campus Corridor Segment (2014 estimates)

Population	3,088
Households	1,334
Age 19 and under	934 (31.5%)
Age 65 and over	417 (13.5%)
Median Household Income	$17,650
Density (Persons per acre)	6.72

Source: U. S. Census, American Community Survey; Applied Real Estate Analysis, Inc

Overall population density in the area is estimated at 6.72 persons per acre but due to the large tracts of vacant land in the eastern half of the segment, the density is actually lower there. In the western segment the population density is closer to 10 persons per acre.

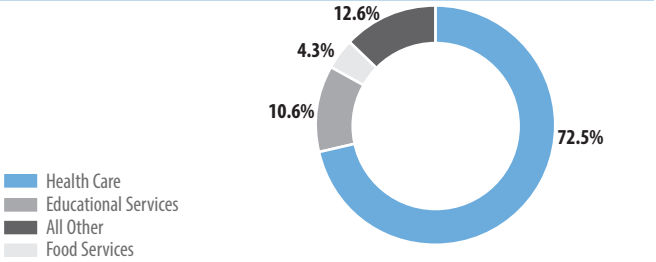
As happened throughout Gary, the population in the corridor segment decreased between 2000 and 2010. The older housing stock and aging population in the area indicate that the population will likely continue to decline over the next several years. New housing is needed to reverse the trend.

Employment

There are approximately 3,500 jobs located in the corridor segment. Of these, more than 2,500, or 72.5 percent, are in healthcare. Another 10.6 percent are in educational services. These two categories account for more than 83 percent of the corridor jobs. There are an estimated 150 jobs in food services and another 440 jobs in all other categories. The Methodist Hospitals Northlake Campus is a major generator of traffic through the corridor segment.

Figure 9

Distribution of Methodist Hospitals Northlake Campus Corridor Segment Employment



Source:U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics; Applied Real Estate Analysis, Inc.

Development Prospects

The large tracts of vacant land along West 5th Avenue provide opportunities for development. However, the lack of income in the area will make it more difficult to attract retail and other commercial activity to the corridor. Additional residential development in the corridor will be needed to generate demand for commercial activity.

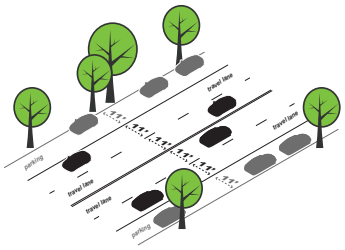
3 Transportation Assessment

Roadway

Broadway (IN 53) comprises the backbone of the Corridor. It's width and number of lanes vary from an urban, four-lane cross section in the north to a rural, two-lane cross section in the south. Broadway is comprised of five main roadway typologies as presented below. **Figure 10** Roadway Characteristics - shows where these typical cross sections are located.

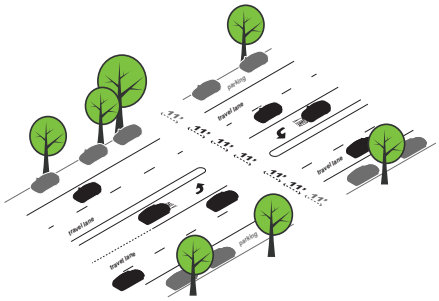
4 Lanes

- Segments:
  - Between 3rd Ave. and 33rd Ave.
  - 35th Ave. and 45th Ave.
  - 109th Ave. and 113th Ave.
- Roadway Width: 66'
- Posted Speed: 45mph
- Parking Available: Yes



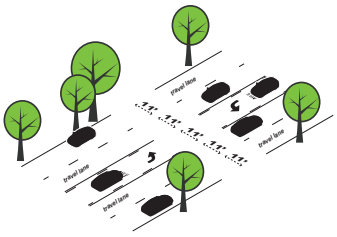
4 Lanes with Median and Center Turn Lanes

- Segments:
  - Between 33rd Ave. and 35th Ave.
  - 45th Ave. and 58th Ave.
  - 79th Ave. and 93rd Ave.
- Roadway Width: 88'
- Posted Speed: 35mph
- Parking Available: Yes



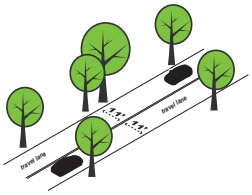
4 Lanes with Center Turn Lanes

- Segments: Between 58th Ave. and 79th Ave.
- Roadway Width: 64'
- Posted Speed: 35mph
- Parking Available: No



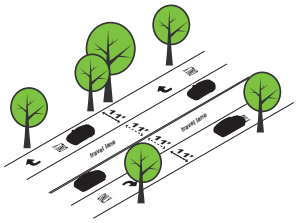
2 Lanes

- Segments:
  - Between 93rd Ave. and 101st Ave.
  - Greenwood Dr. and US-231.
- Roadway Width: 32'
- Posted Speed: 45mph
- Parking Available: No



2 Lanes with Right Turn Lanes

- Segments:
  - Between 101st Ave. and 109th Ave.
  - 113th Ave. and Greenwood Dr.
- Roadway Width: 57'
- Posted Speed: 45mph posted speed
- Parking Available: No



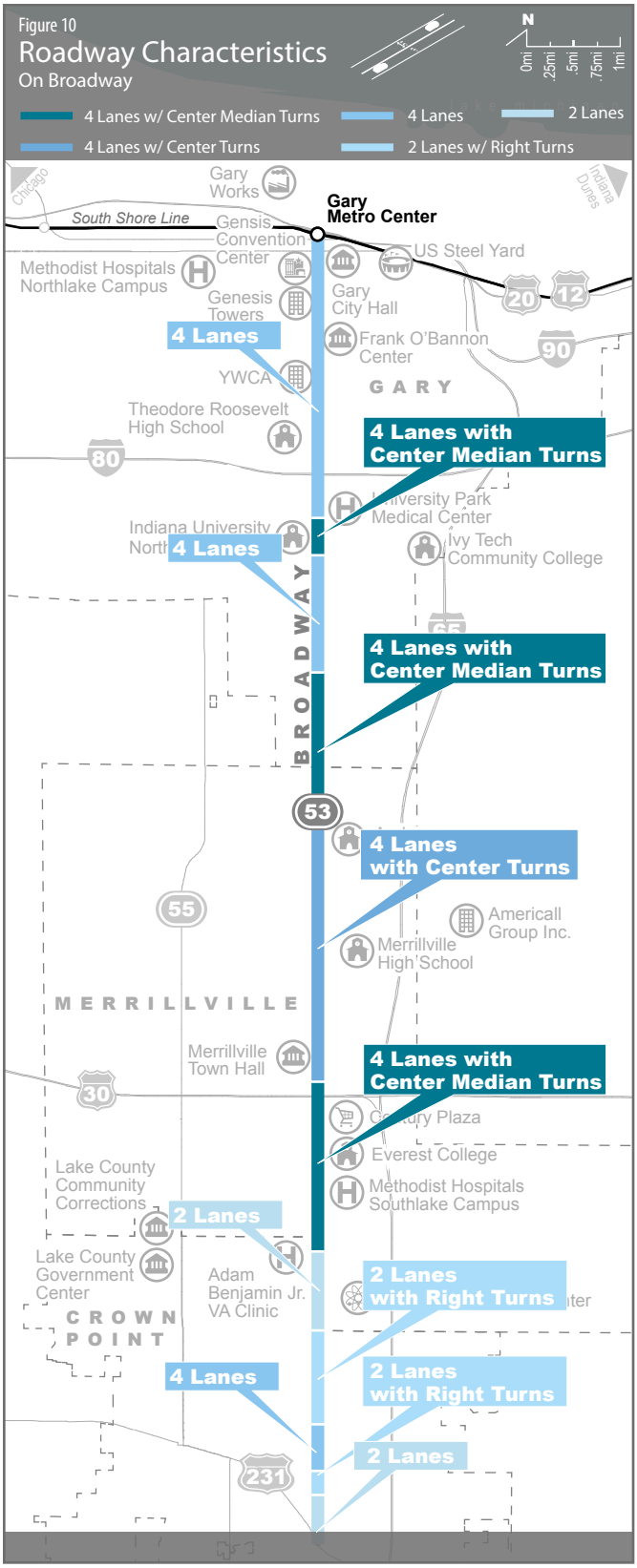

4 lanes on Broadway and 7th Avenue in Gary


4 lanes with center median turns on Broadway and 58th Avenue in Merrillville


4 lane roadway with center turns on Broadway and 63rd Place in Merrillville


2 lanes on Broadway and 96th Place in Crown Point


2 lanes with right turns on Broadway and 101st Avenue in Crown Point



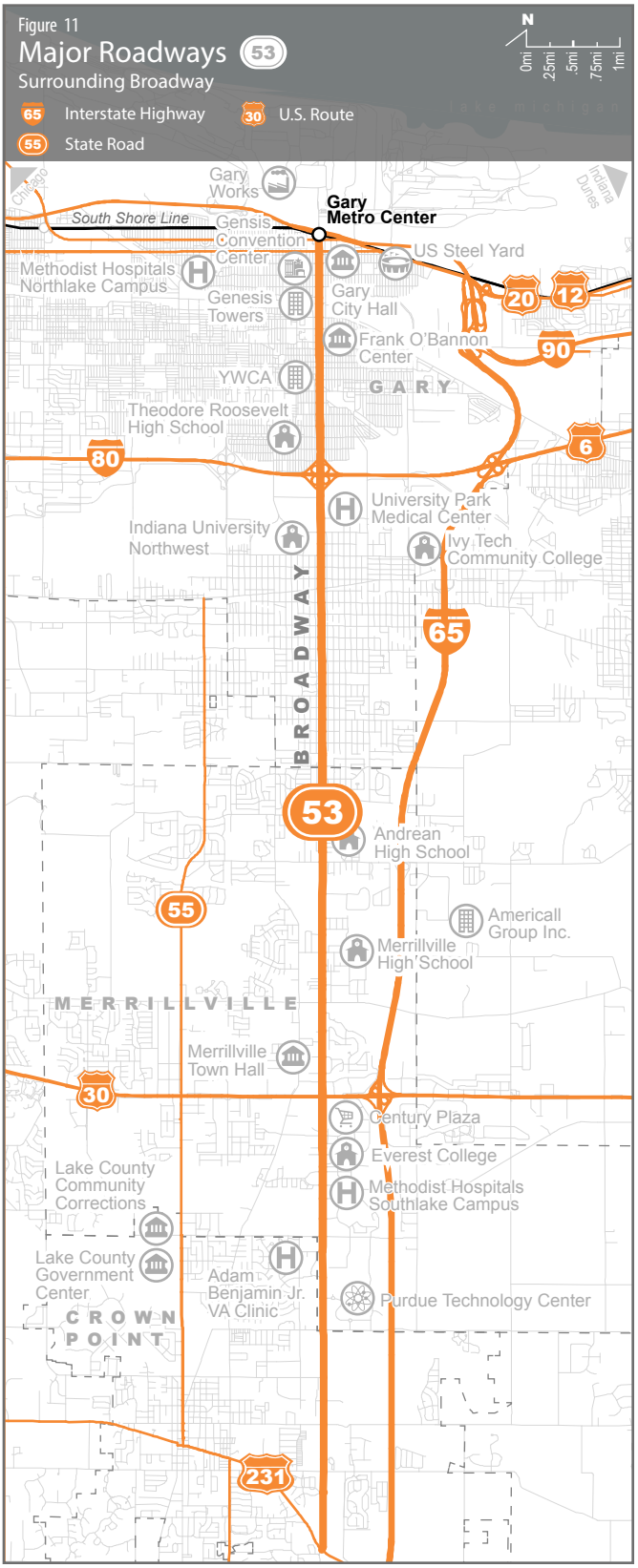
Land use is influenced by the surrounding transportation system (see **Figure 11** Major Roadways). Broadway travels parallel to I-65 and Cleveland Street (IN 55) runs parallel to Broadway approximately 1.25 miles to the west.

The Corridor is traversed by several major roadways: I-90, I-80, U.S. 30, and U.S. 231. I-90 and U.S. 231 form and northern and southern limits of the Corridor, respectively. I-80 and U.S. 30 bisect the Corridor thus creating distinctive changes in land use.

Historically, Broadway was the main north south corridor through the area and provided a connection to U.S. 231, which was the primary roadway connection between Indianapolis and northwest Indiana until I-65 was constructed. Within Indiana, I-65 was fully completed when the stretch in downtown Indianapolis opened to traffic in 1976. The highway is known as the Casimir Pulaski Memorial Highway from the Kankakee River to its northern terminus at I-90. I-65 connects the South with the Midwest, beginning in Mobile, Alabama and ending in Gary; it connects the ports of the Gulf of Mexico to the ports of the Great Lakes.

Interstate I-65 near the US-30 exit
Source Flickr user Doug Kerr

Figure 11
Major Roadways 53
Surrounding Broadway



Average Daily Traffic (ADT) is shown in **Figure 12.** ADT on Broadway ranges from less than 7,000 in downtown Gary to almost 30,000 in the vicinity of I-80. Roadway capacity was calculated using ADT and number of lanes. The volume of traffic on Broadway is low compared to roadway capacity. Volume-to-capacity (V/C) ratios are shown in **Figure 13** Volume to Capacity Ratios. A V/C ratio is a measure that reflects mobility and quality of travel of a facility or a section of a facility. It compares roadway demand (vehicle volumes) with roadway supply (carrying capacity). A V/C of 1.00 indicates the roadway facility is operating at its capacity. It is a common performance measure for transportation planning studies. As can be seen in **Figure 13,** Broadway has a lot of capacity in relation to current traffic level and roadway widths. This is likely because I-65 is a much faster roadway and handles most of the north-south traffic. This figure also indicates that much of Broadway has extra capacity for buses and automobiles.

Figure 12

Average Daily Traffic (ADT)

On Broadway, I-65 and SR-55

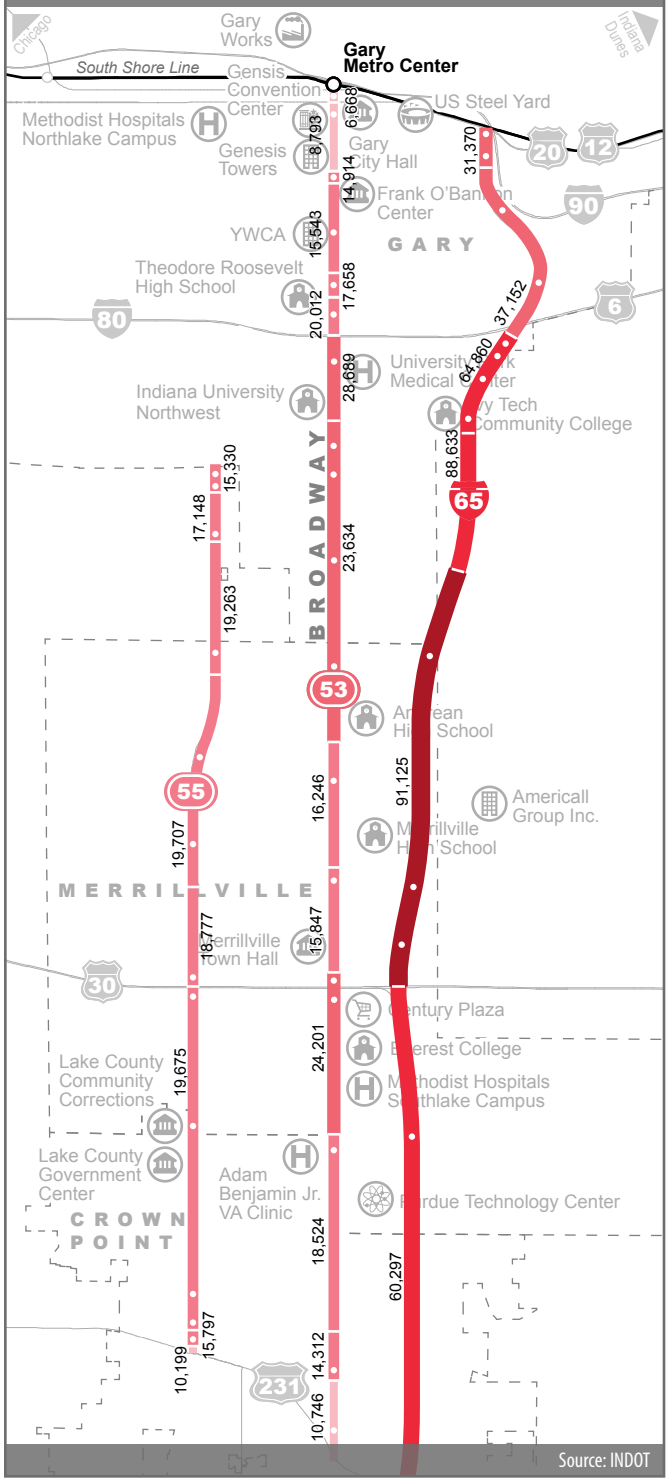


Figure 13

Volume to Capacity Ratios

On Broadway

Volume to Capacity Methodoloy Provided by the Highway Capacity Manual.

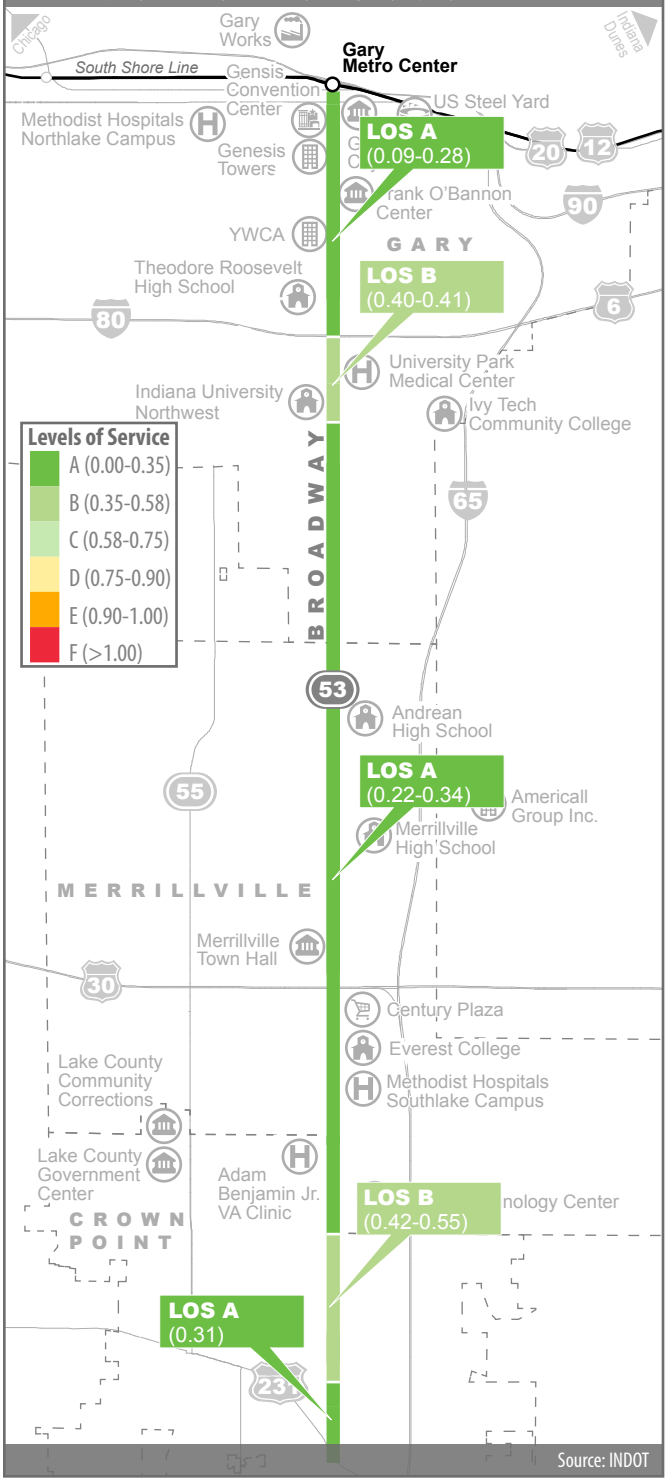
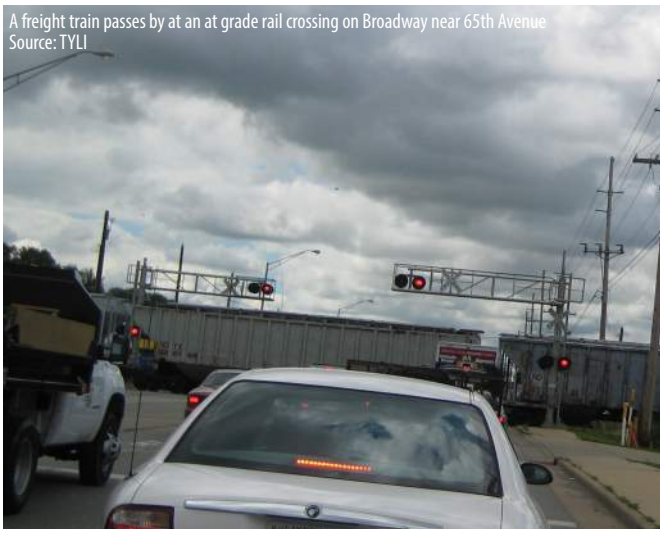
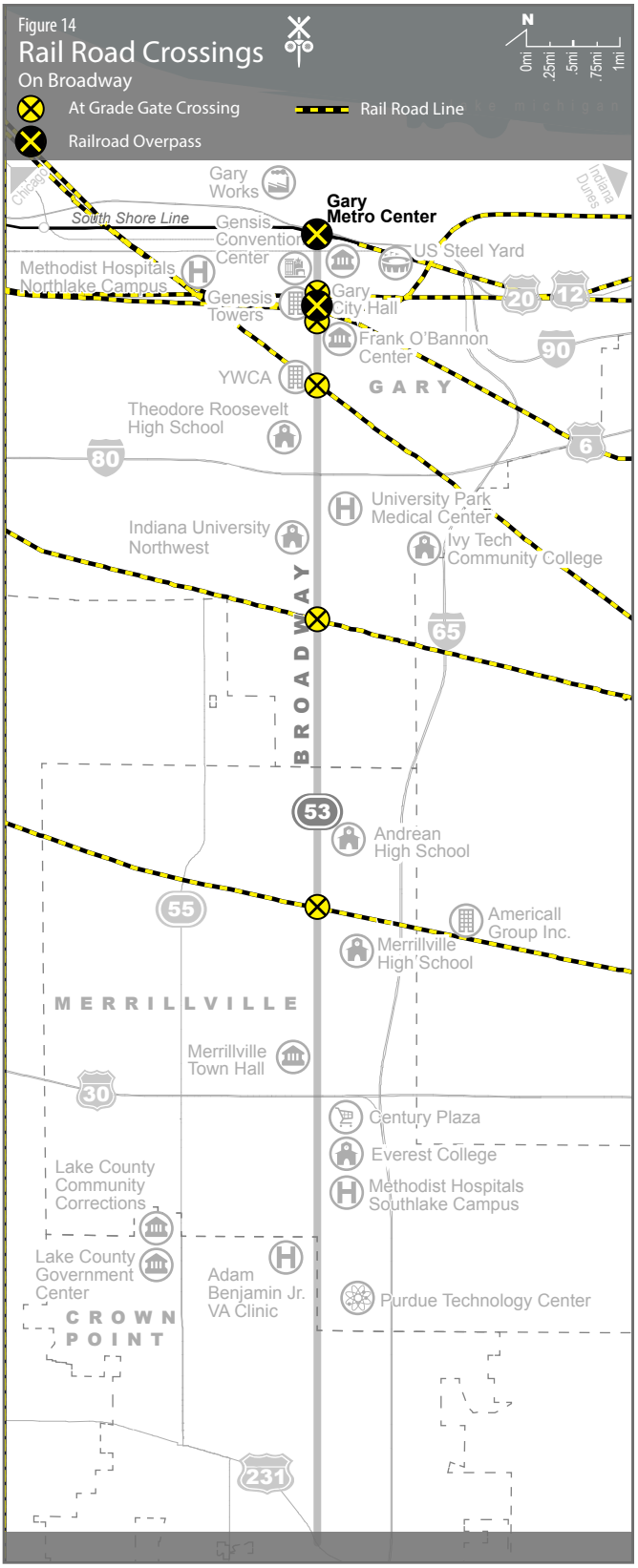


Figure 14 Rail-Road Crossings - shows the traffic control devices that regulate traffic along Broadway. There are five at-grade railroad crossings on Broadway and one overpass. Sidewalks are continuous across each of the at-grade crossings.



A freight train passes by at an at grade rail crossing on Broadway near 65th Avenue
Source: TYLI

Railroad overpass on Broadway and 9th Avenue in Gary

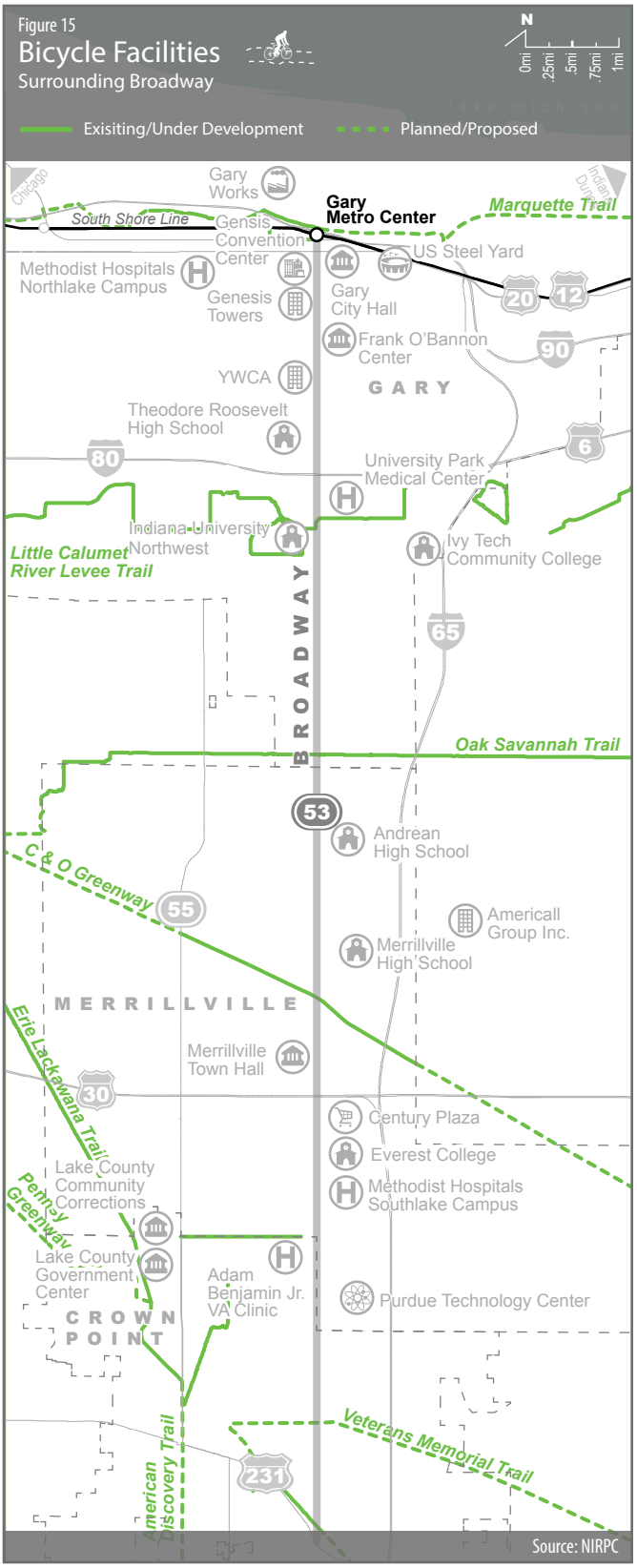


Existing and planned bicycle facilities in the corridor are shown in **Figure 15** Bicycle Facilities. This includes the Little Calumet Trail, the Oak Savannah Trail, and the Chesapeake Ohio Trail, all of which provide a bicycle connection between Broadway and a regional trail network in Northwest Indiana. There are no on-street bicycle facilities within the Corridor. All of the bicycle crossings provide potential intermodal connections to the transit system.

The Oak Savannah bicycle trail connects with the Broadway Corridor near 52nd Avenue in Gary. Source: Google.com

The Chesapeake and Ohio Greenway bicycle connects with the Broadway Corridor near 73rd Avenue in Merrillville

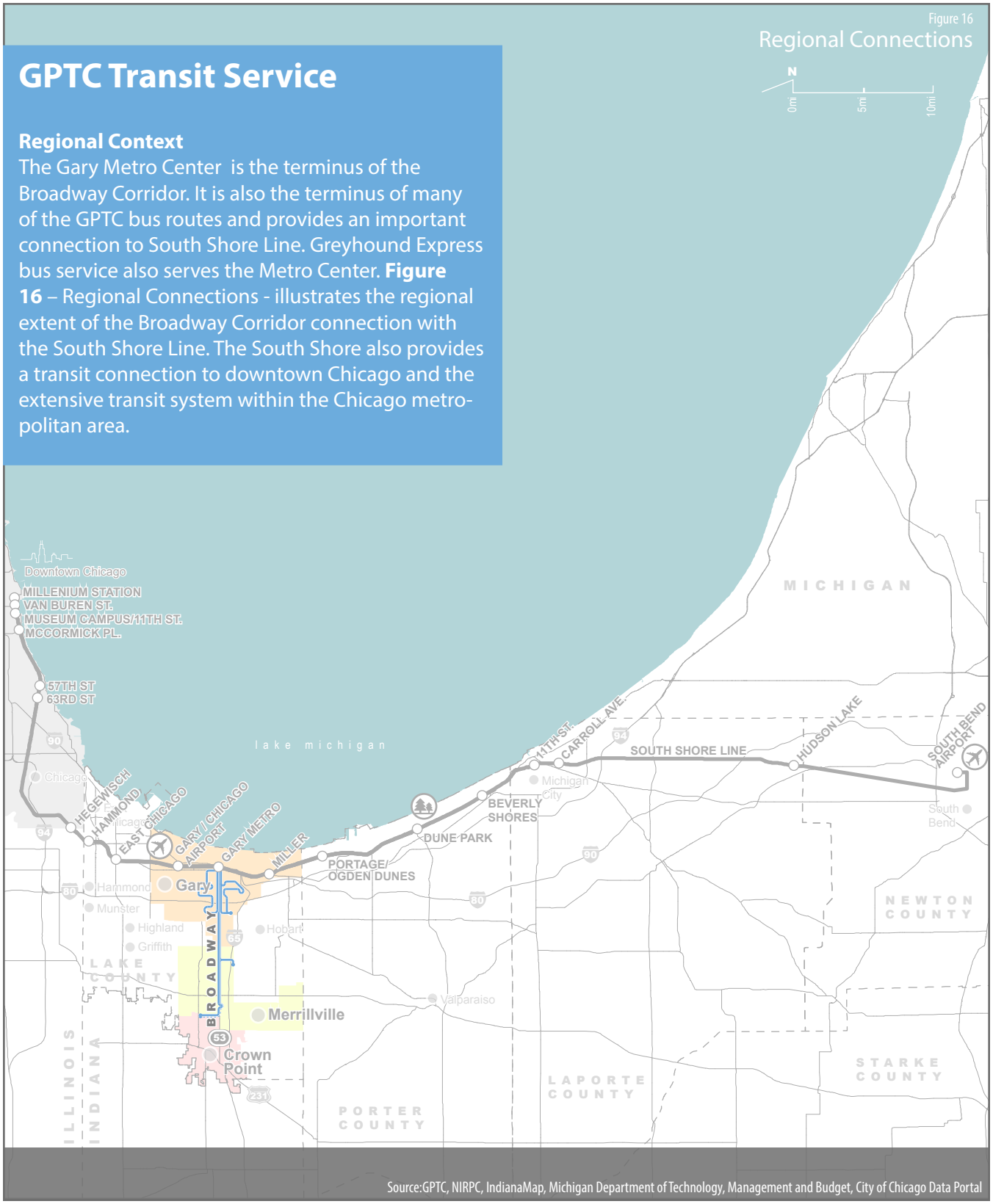
Figure 15
Bicycle Facilities
Surrounding Broadway



GPTC Transit Service

Regional Context

The Gary Metro Center is the terminus of the Broadway Corridor. It is also the terminus of many of the GPTC bus routes and provides an important connection to South Shore Line. Greyhound Express bus service also serves the Metro Center. **Figure 16** – Regional Connections - illustrates the regional extent of the Broadway Corridor connection with the South Shore Line. The South Shore also provides a transit connection to downtown Chicago and the extensive transit system within the Chicago metropolitan area.



Network

GPTC transit service consists of 4 local, 4 regional and 3 shuttle bus routes. Bus routes are shown in **Figure 17** GPTC Transit Network. GPTC also offers complementary Paratransit Service. The local service operates solely within the City of Gary. Shuttle service connects outlying areas to service along Broadway and other routes.

The regional service operates within Gary, Calumet Township, Crown Point, East Chicago, Griffith, Hammond, Hobart, Highland, Munster and Merrillville. The four regional bus routes provide connections to other bus services including Pace Suburban Bus Service (Pace), East Chicago Transit and the Chicago Transit Authority).

Broadway serves as the backbone of the GPTC transit network with 8 of the 11 bus routes operating along the roadway. **Figure 18** GPTC Service Operations - illustrates the north-south limits of operation on Broadway. Transit service along Broadway helps connect riders between the communities of Gary, Merrillville and Crown Point, and to the greater northwest Indiana and northeast Illinois regions.

Bus service operates on Broadway between the Metro Center and 93rd Avenue but there is no service between 93rd Avenue and U.S. 231. The following four routes operate on Broadway:

- #6 E. 35th Ave. /Marshalltown
- #17 Broadway Express to 93rd Ave.
- #18 Broadway/61st Ave. to Methodist Hospital
- #19 W. 6th Ave. Tollestion

View of a streetcar operating on Broadway and 5th Avenue in Gary c.1913
Source: Flickr user Steve Shook

Figure 17
GPTC Transit Network

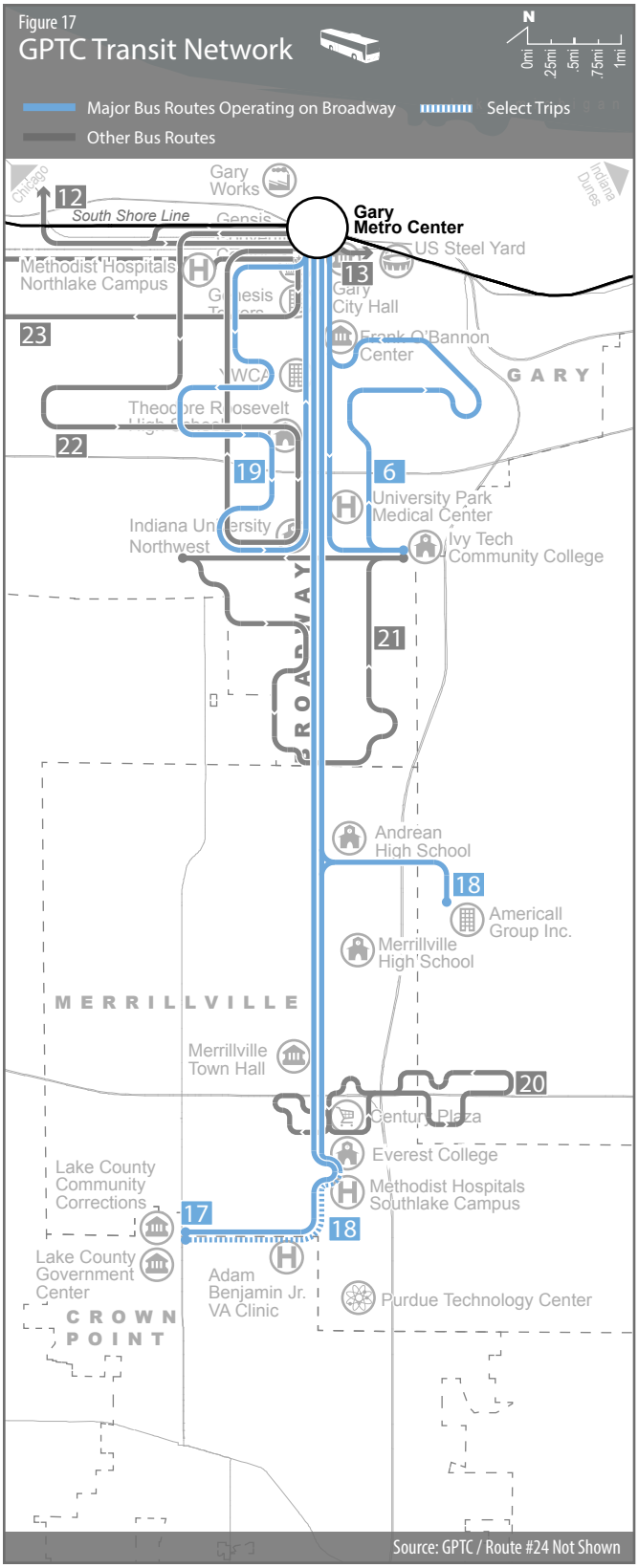


Figure 18
GPTC Service Operations
On Broadway

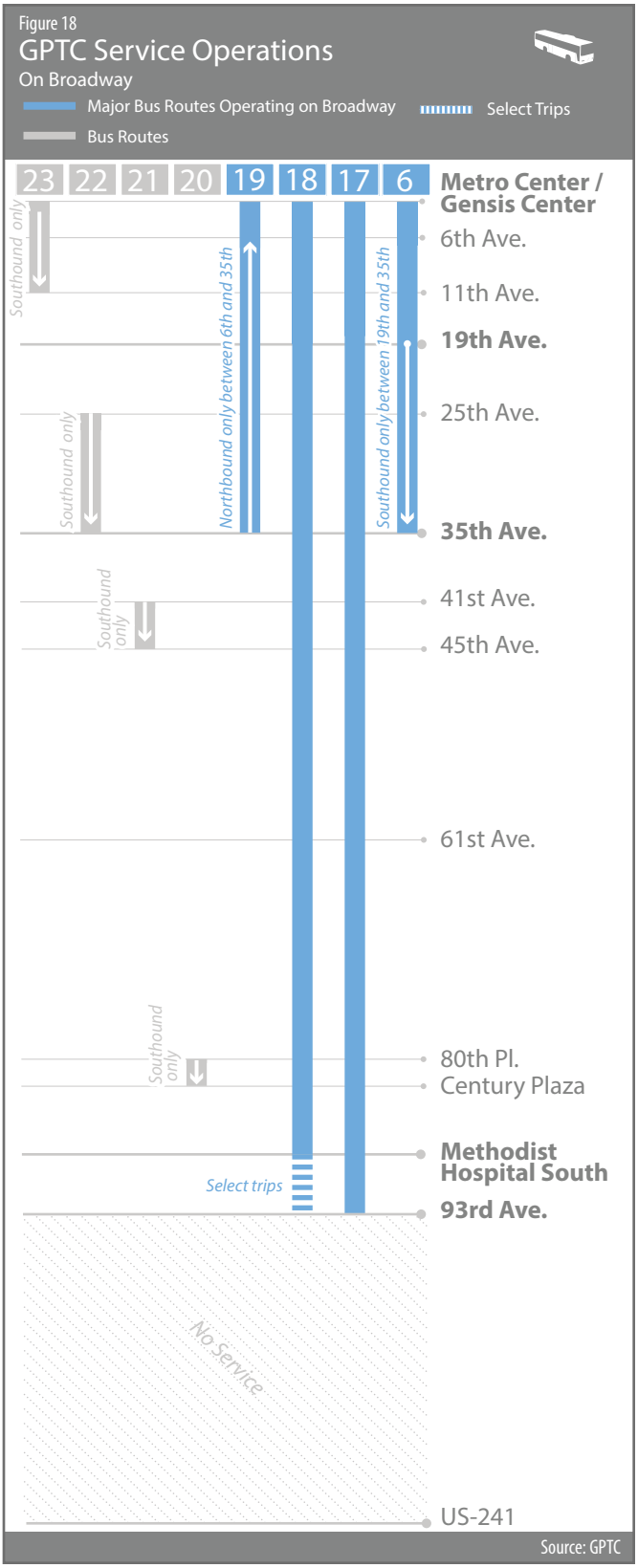


Table 7
GPTC Transit Network Service Overview

		Hours of Service [1]		Frequency	Daily Trips	Service Type	Revenue Miles	Annual Ridership
		Weekday (WK)	Saturdays (SA)	WK/SA	WK/SA	L/R/S	0.0	00,000
#6	**E. 35th Ave/Marshalltown**							
	Metro Center to 35th/Georgia	6:15a-6:15p	10:15a-5:15p	60min	13/8	Local	6.5	53,641
	35th/Georgia to Metro Center	6:37a-6:37p	10:37a-5:37p	60min	13/8			
#12	**Lakeshore Connection**							
	Metro Center to Sibley/Morton	6:04a-6:04p	8:04a-4:04p	120min	7/5	Regional	15.6	72,530
	Sibley/Morton to Metro Center	7:00a-7:00p	9:00a-5:00p	120min	7/5			
#13	**Oak and County Line Road via AETNA**							
	Metro Center to Pottawotami/County Line	6:00a-7:00p	10:00a-5:00p	60min	14/8	Local	8.2	72,858
	Pottawotami/County Line to Metro Center	6:26a-7:26p	10:26a-5:26p	60min	14/8			
#17	**Broadway Express to 93rd Ave**							
	Metro Center to Govt. Center	7:00a-4:00p	8:00a-4:00p	60/120min	10/5	Regional	15.1	154,840
	Govt. Center to Metro Center	8:00a-5:00p	9:00a-5:00p	60/120min	10/5			
#18	**Broadway/61st Ave to Meth. Hospital**							
	Metro Center to Methodist Hospital	5:15a-6:30p	9:00a-3:00p	60/120min	14/4	Regional	13.1	89,618
	Methodist Hospital to Metro Center	6:25a-7:40p	10:00a-4:00p	60/120min	14/4			
#19	**W. 6th Ave Tollestion**							
	Metro Center to Village Center	5:45a-7:30p	9:45a-5:45p	60/60min	15/9	Local	6.3	57,616
	Village Center to Metro Center	6:20a-8:05p	10:20a-6:20p	60/60min	14/9			
#20	**U.S. 30 Shuttle**							
	Meijers to Sams Club	6:00a-8:00p	10:00a-4:30p	60-90min	14/7	Shuttle	4.4	36,863
	Sams Club to Meijers	6:30a-7:30p	10:30a-5:00p	60-90min	13/7			
#21	**University Park**							
	ARC Bridges to 49th/Tennessee	6:02a-7:05p	10:05a-6:00p	60/55-120min	14/8	Shuttle	5.5	31,153
	49th/Tennessee to ARC Bridges	6:32a-7:32p	10:32a-6:27p	60/55-120min	14/8			
	**On Weekdays, select trips begin at Village, **On Saturdays, service operates to/from Village*							
#22	**Horace Mann/Village via Taft Street**							
	Metro Center to 35th/Broadway	5:30a-6:30p	10:30a-5:30p	60-120/60min	13/8	Local	7.8	50,052
	35th/Broadway to Metro Center	5:55a-6:55p	10:55a-5:55p	60-120/60min	13/8			
#23	**Burr Street and Lake Ridge**							
	Metro Center to K Mart	6:00a-7:00p	10:00a-5:00p	60min	14/8	Regional	13	85,643
	K Mart to Metro Center	6:00a-8:00p	10:00a-6:00p	60min	15/9			
#24	**Lakeshore South**							
	Sibley/Morton to Indy/Ridge	7:00a-7:00p	11:00a-6:00p	60-120min	12/7	Shuttle	n/a	n/a
	Indy/Ridge to Sibley/Morton	6:30a-6:30p	10:30a-5:30p	60-120min	12/8			

[1] Represents first/last full lengh trip / **Blue = Major Bus Routes Operating on Broadway**
Source: GPTC

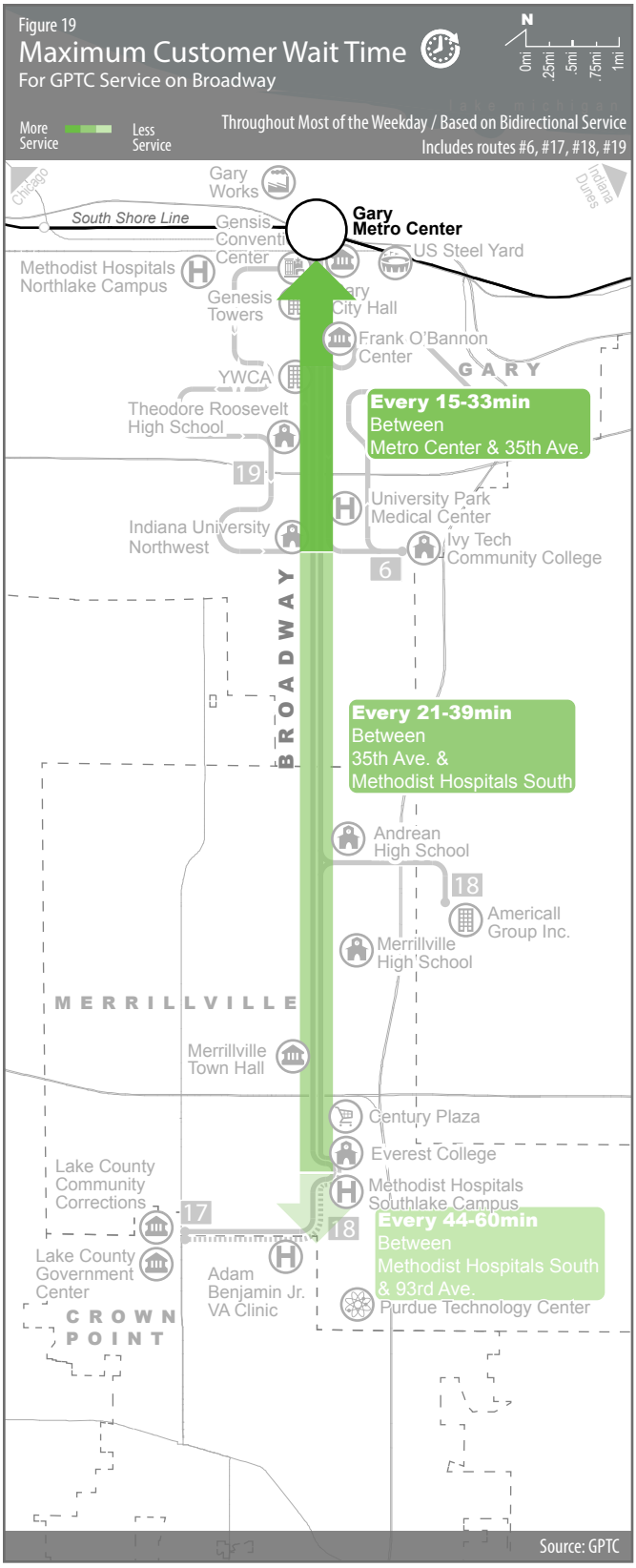
Service Frequency

On most GPTC routes, during both the weekday and on Saturday, bus service is typically offered once per hour throughout most of the day. Frequency of service does not change between peak and off-peak time periods. There are 279 total bus trips on an average Weekday in the GPTC transit network and 156 on Saturdays.

Broadway has a higher service frequency with four of the major routes operating simultaneously along the corridor. There are 103 total bus trips serving Broadway on an average Weekday and 52 trips Saturdays.

Service is most frequent at the northern end of Broadway between Metro Center and 35th Avenue. It is less frequent at the southern end of Broadway as only 2 routes operate simultaneously. **Figure 19** Maximum Customer Wait Time - illustrates the frequency of buses traveling along Broadway. Throughout most of the Weekday, depending on direction of travel, the maximum customer wait time is:

- 15-33 minutes in the northern part of the Broadway Corridor
- 21-39 minutes between 35th Ave. and Methodist Hospitals Southlake Campus.
- 44-60 minutes between Methodist Hospitals Southlake Campus and 93rd Avenue.



Hours of Service

GPTC operates service on Broadway during the Weekday and on Saturdays. During the Weekday, between Metro Center and 93rd Ave. service begins at 5:15am and ends at 7:34pm. On Saturdays, service begins at 8:00am and ends at 5:03pm.

GPTC operates service during the Weekday and on Saturday. Service is not available on Sunday. Weekday service begins at 5:15am and ends at 8:05pm. Saturday service begins at 8:00am and ends at 6:27pm.

Table 8
Hours of Operation on Broadway

	Hours of Service [1]	
	Weekday (WK)	Saturdays (SA)
Metro Center to 93rd	5:15a-6:30p	8:00a-4:00p
93rd to Metro Center	6:19a-7:34p	9:03a-5:03p

[1] Represents first/last full length trip / Includes routes #6, #17, #18, #19

Source: GPTC

Bus Speed

Buses travel quite quickly in the Broadway Corridor. This is likely a result of the low volume/capacity ratio of the roadway, as previously discussed. Average scheduled bus operating speed along Broadway during peak periods is 13 mph. During an average weekday peak period, driving a car along Broadway is 46% faster than riding the bus. Standard vehicle speed is 24 miles per hour (mph). Posted speed along the corridor ranges between 35-45 mph.

Table 9
Bus Speed on Broadway

	Miles	Travel Time	
		Bus [1]	Car [2]
Between Metro Center and 19th Ave.	1.4	9min	4min
Between Metro Center and 35th Ave.	3.4	16min	9min
Between Metro Center and Methodist Hospital South	10.3	43min	25min
Between Metro Center and 93rd Ave.	10.7	49min	26min
Average Speed		**13mph**	**24mph**

[1] Based on #17 Scheduled Weekday Peak Period Service
[2] Google Maps Live Weekday Peak Period Traffic

Source: GPTC

Ridership

2013 fixed-route ridership for the GPTC network totaled 704,815 riders with an average monthly ridership of 58,735. The 4 major routes operating on Broadway account for 51% of annual GPTC ridership.

With major service restructuring occurring in 2011, overall ridership has grown at an average annual rate of 4.3%. Ridership is expected to continue growing at an average annual rate of 3-5% due to expanded use of Job Access/Reverse Commute (JARC) and Congestion Mitigation/Air Quality (CMAQ) funding, anticipated replacement of discontinued The Northwest Indiana Regional Bus Authority (RBS) bus service, and potential transit improvements along Broadway.

A transit survey was conducted to obtain customer feedback. The survey also provided an opportunity to collect ridership data and identify clusters of activity. Based upon sample observations, the peak travel direction on Broadway is southbound during the Weekday AM peak period. According to ridership counts conducted on bus routes #17 and #18, over 81% of riders travel from Metro Center south along Broadway. The Metro Center had the highest ridership during the Weekday AM peak period. Other key boarding/alighting locations include Broadway/53rd Ave., Century Plaza, Lake County Community Corrections and Americall Group.

Table 10
Annual Ridership Growth 2011-2013

Year	Annual Ridership	Change	Change (%)
2011	647,788	-	-
2012	678,245	30,457	4.7%
2013	704,814	26,569	3.9%
	2011-2013 Total Growth	**57,026**	**8.8%**
	Average Annual Growth	**28,513**	**4.3%**

Source: GPTC

Fare Structure and Fare Cards

Base fares for adults are $1.60 for local service and $2.25 for regional service. Discounted fares are available for students, seniors/disabled and medicare. Children under 4 years of age ride for free.

Table 11
GPTC Fare Structure

Fare Type/Card	Local ($)	Regional ($)
Adults	$1.60	$2.25
30-Day Pass	$50	
15-Day Pass	$27	
Students	$1.25	$1.75
30-Day Pass	$35	
Senior/Disabled, Medicare	$0.80	$1.00
ADA 20-Ride Local	$50	-
ADA 15-Ride Regional	-	$48
Transfers	FREE	FREE
Children under 4	FREE	FREE

Source: GPTC

Transit Infrastructure

There is minimal GPTC service information provided to customers along Broadway. Route identification, destinations, directionality of service, hours of service, service frequency, transfer information or network information is absent. Some bus stop poles have placeholders for schedule information; however no inserted schedules were observed.

Providing route information at a bus stop helps inform customers of the types of services provided along the roadway. Increasing the amount of service information provided to customers helps reduce transit complexity and makes service easier and more convenient to use.

Useful customer information may include route identification, destinations, hours of service, service frequency, transfer information, next bus arrival information, network information, and nearby areas of interest.

GPTC operates a flag stop policy where riders are allowed to get on or off a bus at their desired location. Due to the nature of the stop policy, bus waiting environments can range from an absence of any type of infrastructure to a large bus shelter. Bus shelters not only provide customers a place to wait for a bus but also help identify and market transit service along the roadway which can contribute towards ridership growth. Properly designed bus waiting environments can also become catalysts for placemaking efforts, improving the pedestrian environment and economic vitality of a corridor.

Transit infrastructure along Broadway and along 4th and 5th Avenue between Metro Center and Grant Street was inventoried during the week of September 15th 2014. **Figure 20** GPTC Transit Infrastructure - shows locations of the 54 bus stops (22 southbound and 32 northbound) on Broadway and the 4 bus stops on 5th Avenue. Also identified were the types of ame-

Standard GPTC bus stop sign and pole at Broadway and 82nd Avenue

Standard bus stop sign and pole with a placeholder for schedule information

Alternative bus stop sign at Broadway and 44th Avenue

Alternative bus stop sign at Broadway and 48th Avenue

A bench provides seating for a waiting customer near Broadway and 39th Avenue

A wayfinding kiosks and bench at Broadway and 16th Avenue

3 panel bus shelter outside Andrean High School near Broadway and 59th Avenue

A customer waits in a 3 panel ornamental bus shelter in the Century Plaza Shopping Center

Extra wide bus shelter at Broadway and 21st Avenue

5 panel ornamental bus shelter outside of Indiana University Northwest

nities at the stops:

- Bus stop sign
- Bench
- Bus shelter with bench
- Bus stop sign + bench
- Bus stop sign + shelter

Only 52% of all bus stops existing along Broadway have posted signage. Only 1 bus stop outside of Gary has signage. Three types of bus stop signs were observed:

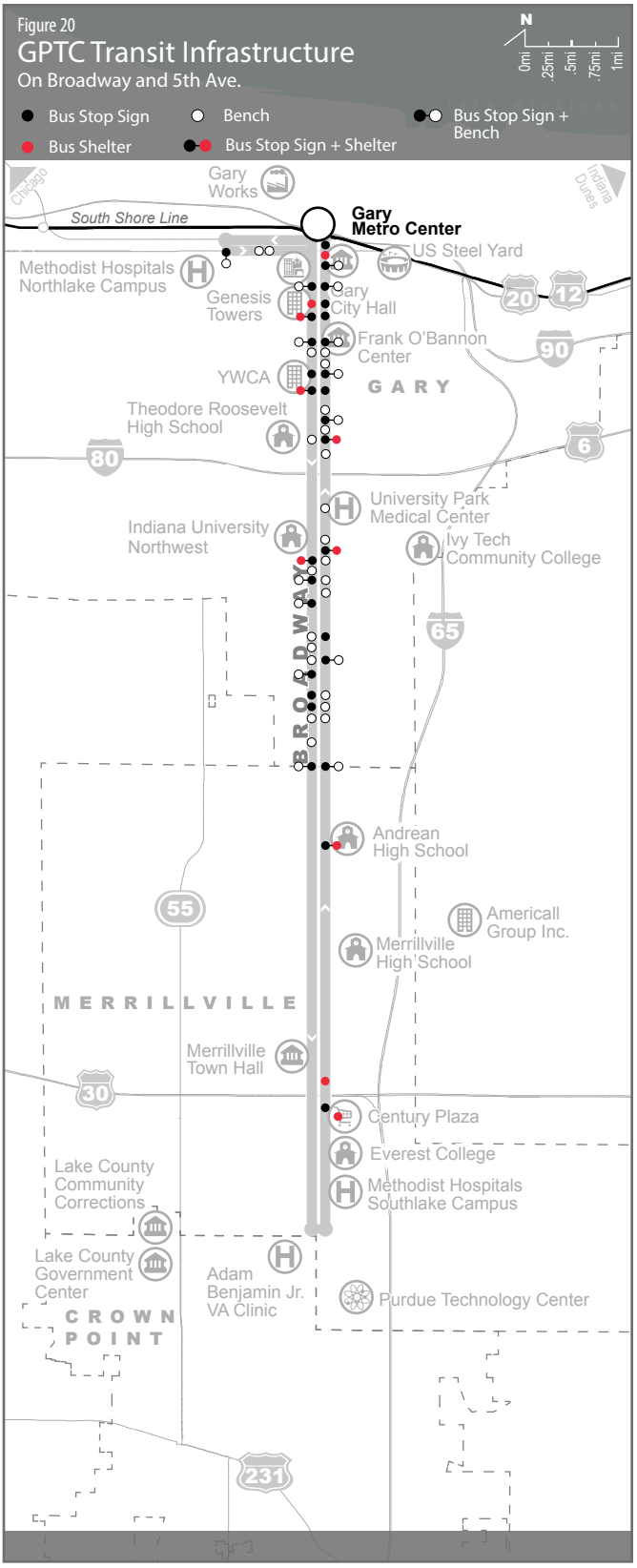
1. a red and white no parking bus stop sign,
2. a no parking bus stop sign with a bus icon and
3. a blue, white and red bus stop sign highlighting the GPTC brand, customer service phone number and no parking indication.

Several stops have placeholders for schedule information; however no inserted schedules were observed. Some stops have missing signage.

Three types of bus shelters were observed along Broadway:

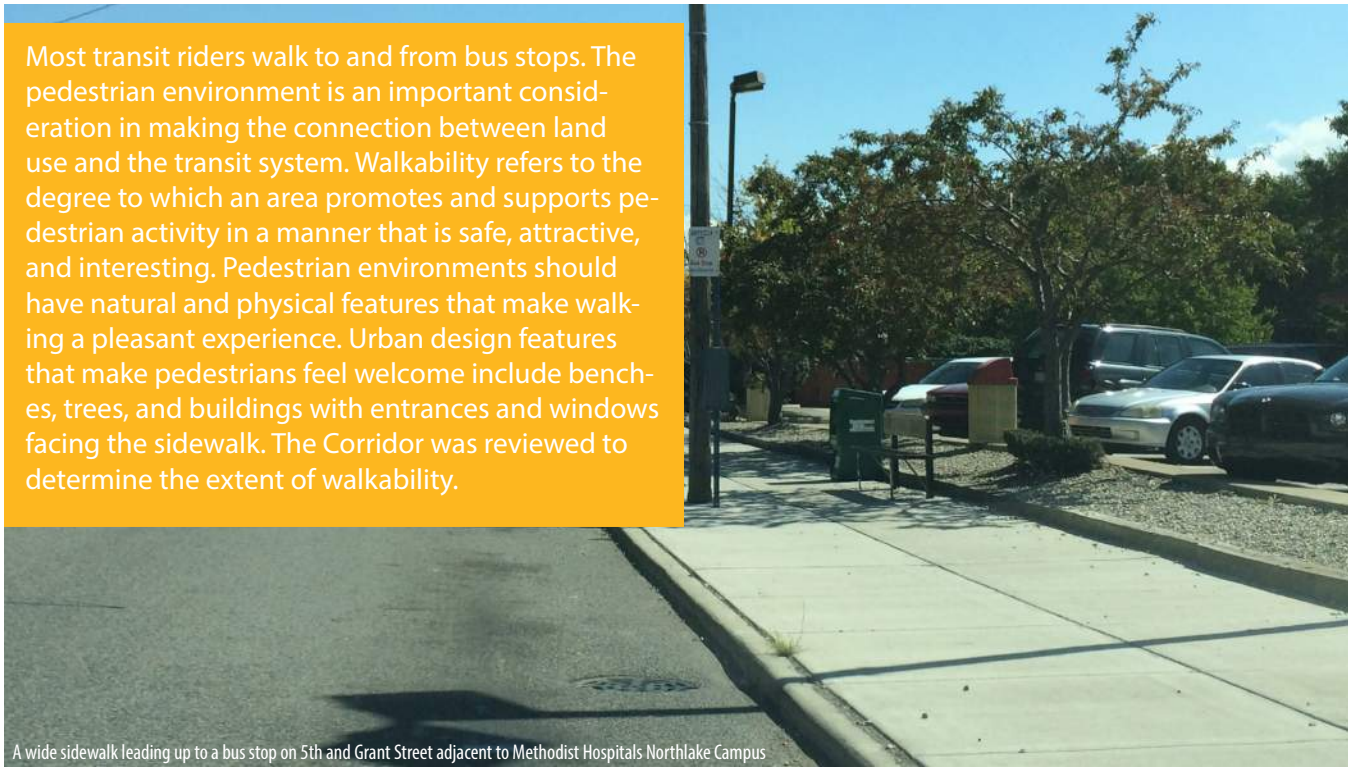
1. 3-panel black shelters with benches,
2. 3-panel black and red shelters with benches and
3. large 5-panel octagonal shelters with benches.

Several shelters are in deteriorating condition with missing and/or broken panels. There are several wayfinding kiosks with attached benches along Broadway. However, the kiosks do not include transit schedule information.



4 Walkability Assessment

Most transit riders walk to and from bus stops. The pedestrian environment is an important consideration in making the connection between land use and the transit system. Walkability refers to the degree to which an area promotes and supports pedestrian activity in a manner that is safe, attractive, and interesting. Pedestrian environments should have natural and physical features that make walking a pleasant experience. Urban design features that make pedestrians feel welcome include benches, trees, and buildings with entrances and windows facing the sidewalk. The Corridor was reviewed to determine the extent of walkability.



A wide sidewalk leading up to a bus stop on 5th and Grant Street adjacent to Methodist Hospitals Northlake Campus

Accessible bus stop at Broadway and 59th Avenue

A bus shelter with a side sidewalk at Broadway and 25th Avenue

Example of a wide sidewalk on Broadway and 5th Avenue

A wide sidewalk leading to the bus stop at Broadway and 53rd Avenue

Inaccessible bus stop at Broadway and 53rd Avenue

Bus shelter blocks the sidewalk outside of Indiana University Northwest

Lack of a sidewalk forces pedestrian to walk in the roadway near Broadway and 56th Avenue

Sidewalk abruptly ends on Broadway near 84th Avenue

Sidewalk Inventory

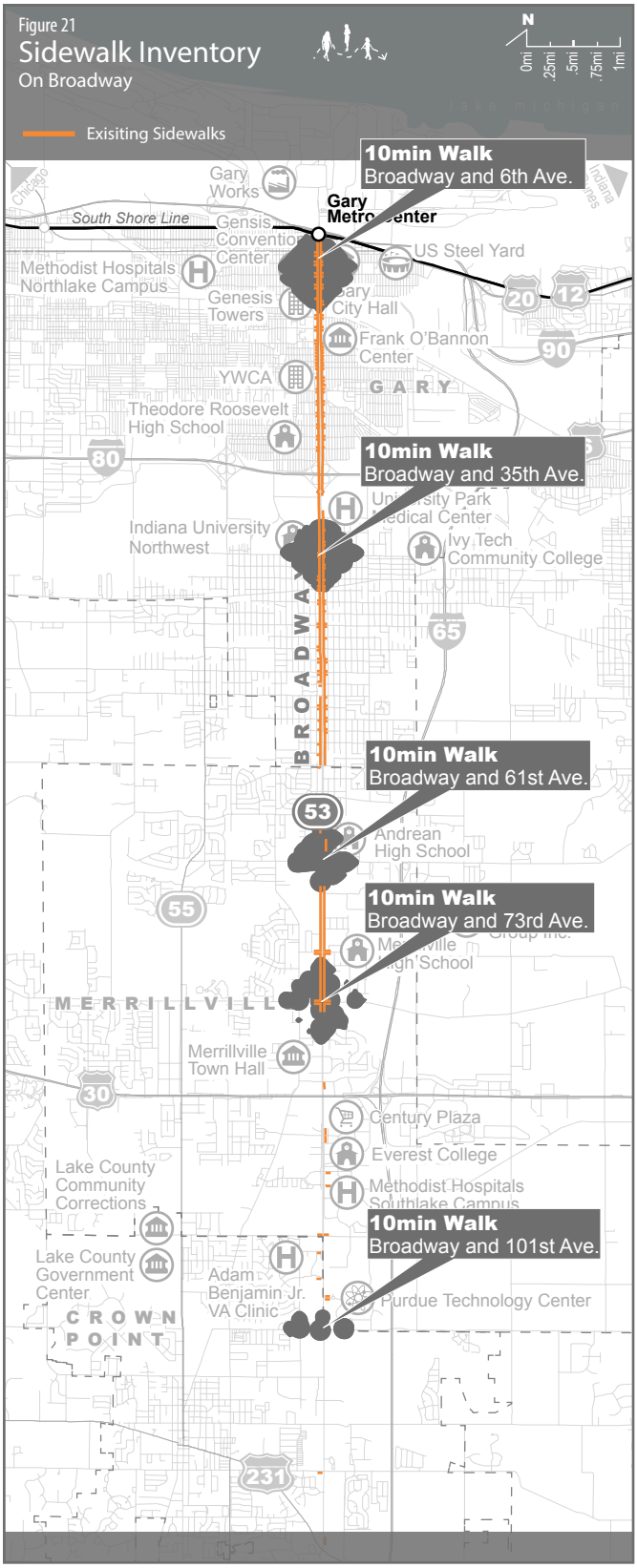
Sidewalks in the Corridor were inventoried. The majority of Broadway has sidewalks, as shown in **Figure 21** Sidewalk Inventory. The figure also shows east-west sidewalks that connect to sidewalks along Broadway. The largest areas without sidewalks are located in Merrillville and Crown Point.

The presence of sidewalks and density of the transportation grid affect the total area that a pedestrian can access in a short amount of time. Denser transportation grids with sidewalks enable pedestrians to reach more destinations quickly, supporting the likelihood that one would choose to walk. **Figure 21** also provides images of the 10 Minute Walk Area at certain locations. The traditional grid street network in Gary shows how more area can be covered by a pedestrian compared to southern Corridor locations that have more modern curvilinear patterns.

General observations about existing sidewalks in relation to objectives of the Americans with Disability Act (ADA) are:

- At signalized intersections where sidewalks do exist, curb ramps with detectable warning tiles exist in most places.
- There are curb ramps and tiles at the north-south crossings at non-signalized intersections with side streets, as well.

Creating bus stop waiting environments that are properly designed and meet ADA standards is critical to ensuring customers have the ability to access bus service. Barrier free access includes placing stops along sidewalks and pedestrian paths and installing concrete in grass zones for boarding/alighting customers. Bus stops should be oriented towards the roadway. Proper waiting environments that provide both access and safety include avoiding areas difficult to access and those in remote car-oriented zones cut off from pedestrian activity. Other elements of safe, attractive bus stop design include lighted waiting areas, and marked pedestrian crossings to the stop, elaborated below.



Land Use/Walkability Zones

Land use and building orientation have a significant influence on walkability. In the last half of the twentieth century, urban growth was primarily in the suburbs. Much of this growth was largely due to the increased use of the automobile as the predominant form of transportation. The automobile is expected to continue as the predominant form of transportation; however, recent data show that, nationally, people are driving less. While a number of factors may be influencing this trend, many communities are placing an emphasis on improving walkability and transit. **Figure 22** Land Use Zones - identifies the general characteristics of the Corridor with respect to walkability.

Pedestrian Oriented

The areas between 3rd and 9th, 15th and 26th and 35th and 53rd Avenues are highly walkable with a ready-made pedestrian environment already intact. A grid street network, wide sidewalks, high density development patterns and buildings oriented towards the roadway and developed to the edge of the sidewalk help create an urban walkable environment.

Automobile Oriented with Sidewalks

The areas between 9th and 15th, 26th and 35th and 63rd and 73rd Avenues are automobile oriented but have the potential to become highly walkable environments. Medium density development patterns with buildings, often with small parking lots in front, slightly setback from Broadway, remain oriented towards the roadway and pedestrians. Sidewalks are typically present within this area.

Automobile Oriented without Sidewalks

The areas between 53rd and 63rd and 73rd and 89th Avenues are highly developed stretches of Broadway that are automobile oriented. Lack of sidewalks and parking lots along Broadway with large buildings setback far from the roadway contribute to an unfriendly pedestrian environment. Typically development patterns in this area force pedestrians to walk long circuitous distances to avoid walking through parking lots.

Still Developing

The area stretching roughly between 89th Ave. and US-231 is a developing zone with numerous potentially developable sites. Existing small and large scale developments within this area are setback far from the roadway and are oriented away from the street, creating an unfriendly pedestrian environment along Broadway. Sidewalks are typically absent along this stretch of Broadway.


Pedestrian Oriented Zone at Broadway and 7th Avenue

Automobile Oriented Zone with Sidewalks at Broadway and 71st Avenue


Automobile Oriented Zone without Sidewalks at Broadway and 81st Avenue (Lincoln Highway)

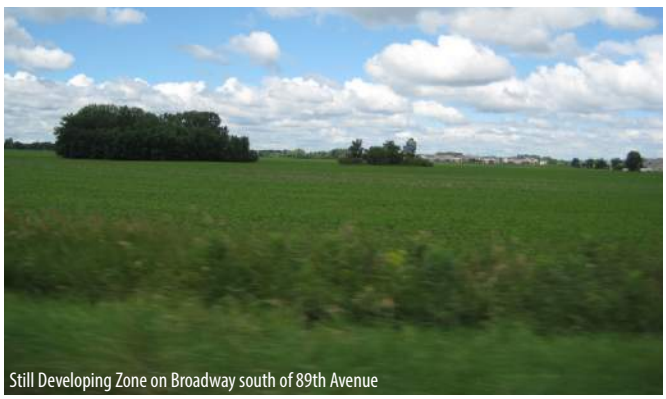
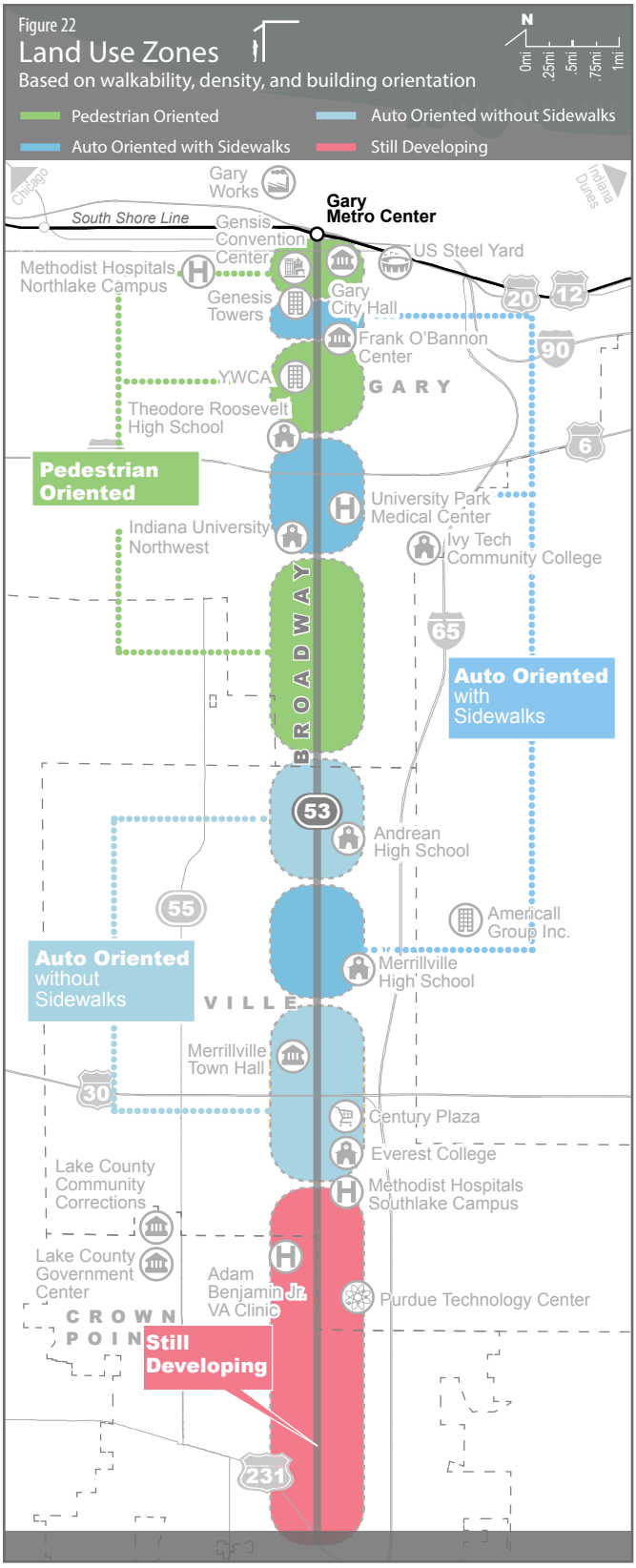

Still Developing Zone on Broadway south of 89th Avenue

Figure 22

Land Use Zones

Based on walkability, density, and building orientation



Signalized Pedestrian Crossings

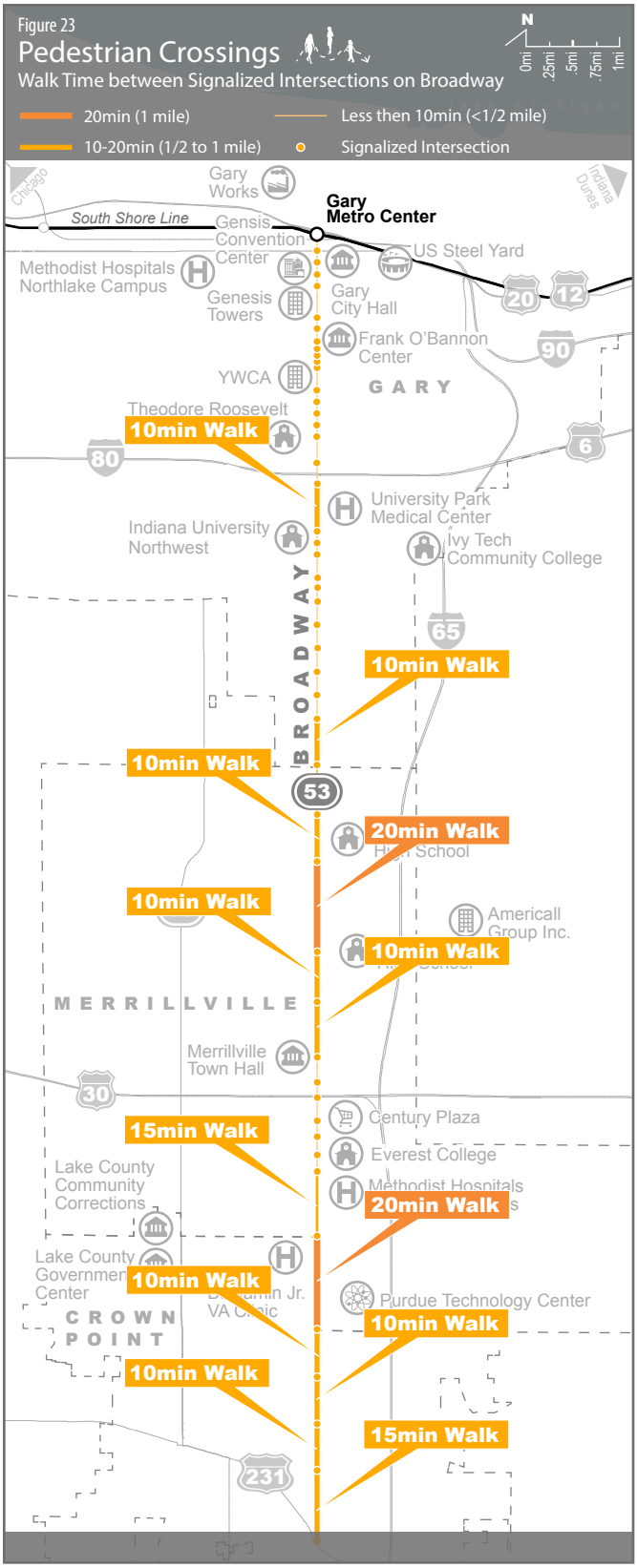
The distance between pedestrian crossings along Broadway can impact walkability and pedestrian accessibility. For every bus stop, a transit user may have to cross the road. Bus stops should be located at signalized intersections to allow pedestrians to safely cross Broadway. **Figure 23** Pedestrian Crossings - shows the distance between signalized crossings on Broadway. Greater distances between signalized intersections can increase the total length of a walking trip to a bus stop. This is particularly important for bus transit riders, as a round trip by bus almost always involves having to cross the street at the beginning or end of a trip. In some locations in the Corridor, the distance between pedestrian crossings can be as much a mile. The area between these crossings would not be transit supportive.

Students from Indiana University Northwest cross Broadway at 34th Avenue

ADA accessible crossing at Broadway and 5th Avenue

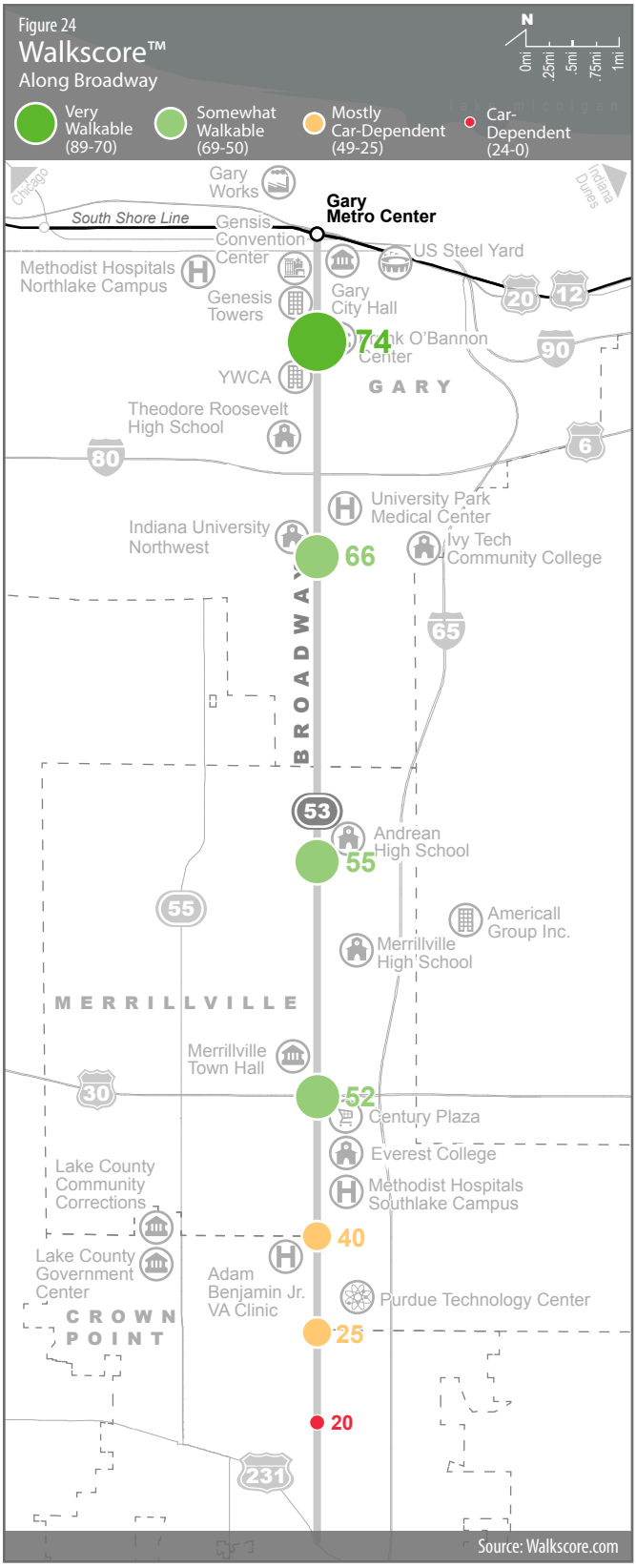
Lack of pedestrian crossing infrastructure at Broadway and 101st Avenue

Figure 23



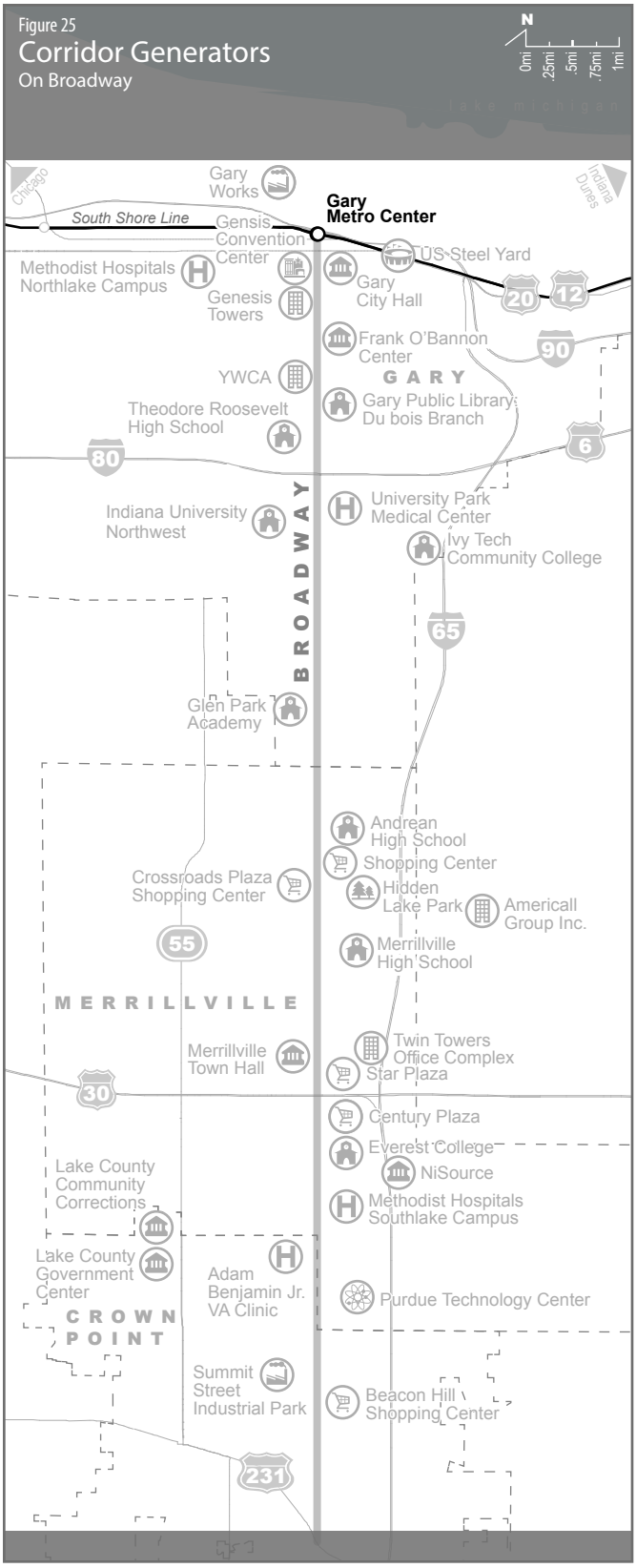
Walkscore™

Walkscore™ is an online assessment tool that ranks an area's walkability based on the mean total distance to a series of land uses such as grocery stores, parks, libraries, and other destinations that are commonly walked to. The shorter the distance to walk-oriented land use, the higher the Walkscore. **Figure 24** Walkscore - shows a heat map that ranges in color from greens that indicate highly walkable areas to reds, which indicate highly auto-dependent areas. Most of the Corridor has low walk scores. The most walkable segment of the Corridor is in Gary.



5 Land Use Plans and Opportunities

The promotion of transit and walkability is highly dependent upon land use. In this section the current land use, comprehensive plans, other plans and special studies, and the zoning codes for the three communities are reviewed to provide information about the future direction of development in the Corridor. The analysis is based on planning documents, a reconnaissance survey, map review, and conversations with the municipalities. Land uses and institutions that are important activity centers, generating significant amounts of traffic and usage, are illustrated in **Figure 25** Corridor Generators - and noted below in bold.



Land Use Conditions

The following summarizes the overall land use conditions for each community as gathered from the enumerated sources.

Broadway and 6th Avenue in Gary c.1923
Source: "Gary: A Pictorial History" by James B. Lane and Ronald D. Cohen

Former Hotel Gary c.1940
Source: "Gary: A Pictorial History" by James B. Lane and Ronald D. Cohen

Gary

The northern end of the Corridor begins in Gary at the Indiana Toll Road, stretching approximately 5.7 miles south to 53rd Avenue. Much of the Corridor's early development was centered on the Downtown area at 5th Avenue. Broadway and 5th Avenue are the two major axes in the City. Many of the City's largest and most prominent structures are located in the far northern section between 4th Avenue and 11th Avenue. Today, most of these buildings show signs of age, with many vacant or in dilapidated condition.

Over time, as the City grew, development expanded southward. Historically, middle income households gravitated to the neighborhoods south of Downtown. Thus, developments in the neighborhoods along the Corridor were much more modest, catering to the needs of their residents. In the Midtown neighborhood (south of Downtown between 11th Street and I-80/94), there is a mix of single family and multifamily developments. Many of the single family blocks are in fair to poor condition, while multi-family blocks tend to be in a better condition. Several new developments have occurred in this area in recent years.

In the middle of Corridor, Indiana University-Northwest (IUN) and the Little Calumet River basin, with a host of parks and open spaces, dominate the land uses. The neighborhoods in this area, University Park East and West, exhibit mixed conditions. While the University continues to have significant positive influence on these neighborhoods, the eastern section continues to show significant declining influences with an abundance of vacant land and dilapidated residential structures. The area is partially within the Little Calumet River floodplain. This condition has reduced development potential for the area, despite its being fully accessible from the Borman Expressway (I-80/94).

The southernmost section of the Corridor within Gary's city limits has a mix of commercial, retail, and residential uses. With the exception of several residential parcels, most of the Corridor consists of two or three story commercial land uses with varying levels of declining and marginal uses. Newer developments have adopted a primarily suburban style with parking lots in front. Adjoining land uses next to the Corridor primarily consist of residential uses, and some of those are in excellent condition, particularly on the west half of the Corridor.

The land use character in the Corridor and adjoining neighborhoods has responded negatively to economic conditions. As the steel industry began its decline, many businesses declined, leaving much of today's Broadway with vacant, dilapidated, or underutilized buildings. The northern half (4th Avenue to I-80/94) in particular, represents the most distressed part of the Corridor.

Despite the decline of Gary's Downtown, some of the major generators and attractions are still active in the area. US Steel, on the northern end of the Corridor, remains a major facility attracting more than seven thousand employees through its gates on a daily basis. Three of the most recent developments are the **Genesis Convention Center, US Steelyard, and Indiana Department of Family and Social Services building**. All of these developments attract many to Downtown on a daily basis. The **Adam Benjamin Transportation Center/Gary Metro Station** remains as a major transportation hub, connecting the South Shore rail service to the GPTC bus service. **Lake County Superior Court** and **Gary City Hall** remain active as major civic and governmental facilities in the City and region. Further south, the **Dubois Branch of the Gary Public Library** is the largest such facility in the City. At 34th Avenue, the **Indiana University-Northwest** campus serves as a major educational anchor in the region with close to 6,000 students enrolled.

Close to IUN is the Little Calumet River, which connects several communities in Indiana and Illinois and creates a green pedestrian link extending from Illinois on the west to the Indiana Dunes National Lakeshore on the east. A trail crossing in this section is the Oak-Savannah Trail, running east-west from Griffith to Hobart, crossing Broadway at 52nd Avenue. Although the trail mainline runs in a tunnel under Broadway, pedestrian access to the trail is available via sidewalk.

Merrillville

Merrillville's section of the Corridor encompasses approximately 6 miles, covering the stretch from 53rd Avenue to 93rd Avenue, as well as the eastern side of Broadway from 93rd Avenue to 101st Avenue. Merrillville's portion of the Corridor exhibits two distinct characters. The portion north of US 30 is mostly developed with a traditional suburban mix of big box, retail, and office uses. These uses typically have large setbacks with parking lots dominating the view from the street. In the section north of 73rd Avenue, many of the former retailers have moved out, leaving either vacant buildings or marginal uses. These areas offer opportunities for redevelopment, particularly adaptive reuse and higher density development.

The Corridor immediately north and south of US 30 is highly developed with varied uses and substantial vibrancy. Land uses in this stretch and along the US 30 corridor, are dominated by professional offices, hospitality, medical facilities, and low-density retail establishments. With the exception of the former Century Plaza shopping center site, which offers redevelopment opportunities, there is limited vacant land available close to the Broadway corridor. Available vacant land in this stretch will likely be developed for uses similar to those already in place such as smaller offices, medical establishments, and supportive services.

South of 93rd Avenue, the Corridor is more rural in character, with a handful of major uses surrounded by large areas of greenfields and assorted suburban office developments. The Merrillville portion of this section, east of Broadway, is dominated by the Purdue Research and Technology Center (Ameriplex at Crossroads). This 400-acre development contains a mix of educational, office, business, and research complexes. The Center is still in its development phase. Once completed, it is expected to generate a significant level of activity, including employment opportunities that will require transit service.

Several major retail centers are located just outside of the corridor, particularly to the east. These include:

- Southlake Mall, one of many large retail developments along US 30
- The area around the intersection of US 30 and Mississippi Street, with several large retail developments

As noted earlier, one feature of this segment of the Corridor is that most of the Broadway frontage lacks sidewalks and much of the space is occupied by parking lots. The first phase of the C&O Greenway, completed in 2009, offers an opportunity to create pedestrian connection.

Most of Merrillville's major generators are clustered in two areas. The section between 53rd Avenue and 69th Avenue includes **Andrean High School, Merrillville High School, Hidden Lake Park**, and two major **shopping facilities**. In the section near US 30 one will find the **Star Plaza**, a major theater/performance venue, and the **Twin Towers**, a large multi-story office development. South of US 30, **Century Plaza** remains as a major retail node. Devry University, IIT, and **Everest College** all have campuses in this area, serving as commuter colleges. The Southlake branch of the **Methodist Hospital** serves as a regional medical facility. On the eastern edge of the Corridor, the **NiSource Headquarters** is a major regional employer. Finally, on the south end of the town is **Purdue Research and Technology Center,** as noted, a major research and technology facility which also serves as a satellite campus for local academic institutions.

Crown Point

Crown Point's section of the Corridor covers the western side of Broadway from 93rd Avenue to 101st Avenue, then continuing south to US 231, a stretch of approximately 3.4 miles. Broadway is located outside of Crown Point's Downtown and older neighborhoods. As such, only within the last decade has development taken place along the Corridor in Crown Point. This consists primarily of smaller office developments and retail centers on Broadway frontage, while residential subdivisions are developed immediately within walking distance of the Corridor. The largest of these developments are close to 109th Avenue, where a new interchange was recently opened. Another cluster of office and retail uses has developed near 113th Avenue. Nonetheless, undeveloped or agricultural uses continue to dominate, particularly on the eastern portion of the Corridor. To the south, and outside the study area, Franciscan Medical System has a large campus which is still in its development stage. It his healthcare facility draws eployees from communities to the north then it will be a candidate for transit service. The layout of the campus should incorporate principals that we have outlined to facilitate transit connections and viability.

Most of the new developments have a typical suburban character, but some aim to reduce the visual impact of parking lots from the frontage view by placing buildings closer to the front lot line. These developments, however, are not accessible from the street, as there are no sidewalks, curbs, or other infrastructure. Also, there are drainage ditches to accommodate run-off, which can present barriers to providing sidewalks. Another notable point is that some of the new residential developments are denser and consist of both townhomes and multifamily units. Summit Street and North Avenue, west of Broadway, both have significant amounts of old industrial and new business park uses.

The Crown Point segment of the Corridor, despite being sparsely developed, still has several significant generators scattered throughout. At the northwest corner of Crown Point's section of Broadway is the **Adam Benjamin VA Clinic**, a recently expanded medical facility. The recent opening of an I-65 interchange at 109th Street has led to the development of a modern **commercial center** at the northeast corner of 109th Street and Broadway. This area is expected to grow with additional retail and other developments in the near future.

Zoning and Regulatory Review

Livable communities are often defined as those promote healthy living, support access to several modes of transportation, and foster vibrant walkable commercial corridors. The following review summarizes zoning classifications for the three municipalities.

The review includes a general discussion of requirements for developments and opportunities that the current zoning classifications offer for developing a livable corridor. Conversely, potential barriers to implementing a livable community program are also identified. Zoning regulations that promote the walkable communities would allow mixed land uses on a site. Further, they would allow higher density, floor area ratios (FAR) and building heights than other areas. The regulations would encourage building orientation toward the sidewalk with parking to the rear. Provisions to allow shared parking between land uses and properties would be helpful in promoting livable communities.

Gary

The City of Gary is divided into 16 zoning districts, each of which regulates the use and intensity of land in its respective jurisdiction. **Figure 26** City of Gary Zoning Map - shows the location of these districts.

Residential

1. One Family (R1)
2. One Family (R2)
3. One Family (R3)
4. Two Family (R4)
5. Multiple Family (R5)
6. Multiple Family (R6)
7. Multiple Family (R7)

Business:

8. Limited Retail (B1)
9. General Retail (B2)
10. Limited Service (B3)
11. General Service (B4)
12. Wholesale and Motor Vehicle (B5)

Manufacturing

13. Limited Manufacturing (M1)
14. General Manufacturing (M2)
15. Heavy Industrial (M3)

Other

16. Flood Plain District (F1)

A review of these zoning districts along Broadway shows how Gary's zoning districts are applied to the Corridor:

- With the exception of City Hall and County building, the downtown Broadway frontage is zoned as General Business District (B-2). Permitted uses in this district include retail and service businesses, as well as lodging and dwelling units. The blocks adjoining Broadway have a mix of Wholesale and Motor Vehicle (B-5) and Multiple Family (R6) zoning. B-5 permits a variety of wholesale and motor vehicle uses, while R-6 allows higher density residential developments.

- In the Midtown area, Broadway frontage continues to have primarily a General Business (B-2) classification, with a B-5 designation in some blocks. The adjoining blocks in this section have primarily residential zoning ranging from Single Family to Multiple Family (R3, R4, and R5).

- South of the Borman Expressway, the Corridor continues to have a Business zoning classification, mostly Limited Service District (B-3) with a B-1 or B-5 classification in some blocks. A larger portion of this area is zoned Flood Plain as part of the Little Calumet River watershed. Residential zoning applies to Indiana University-Northwest (IUN), and to an area immediately to the west along 35th Avenue. Interior blocks in this section have primarily Single family (R-3) zoning classification.

- The Corridor south of Ridge Road continues to have a Business zoning classification on the frontage, with interior blocks having primarily single family zoning (R-1 and R-2 and R-3).

The following observations illustrate how the regulations may influence the future development of livable communities:

- The City's Zoning Ordinance is relatively flexible and could meet today's sustainable development requirements.

- Mixed uses are generally permitted in most zoning districts along the Corridor.

- Residential use above the first floor is permitted in most zoning districts

- The maximum Floor Area Ratio (FAR) is typically higher than other communities, easily permitting multiple story developments.

- Setback provisions may not be required in some business districts.

- Parking requirements are waved in certain zoning district to reduce congestion.

- Landscaping and provisions for street trees are generally not required.

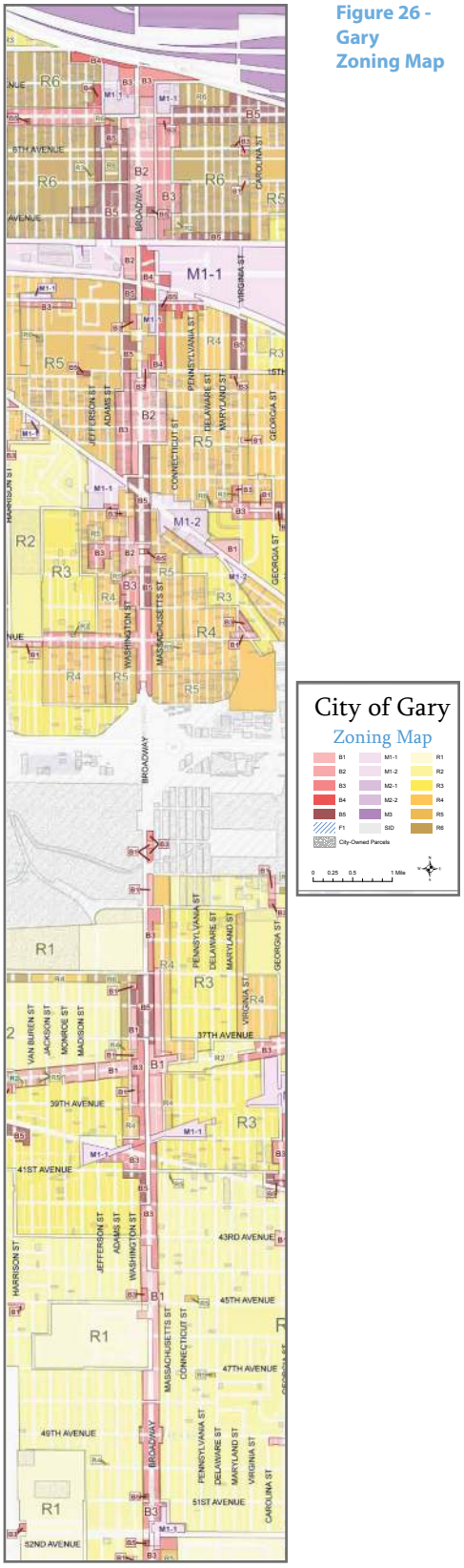


Figure 26 - Gary Zoning Map

Merrillville

The Town of Merrillville is divided into seventeen (17) zoning districts that regulate the use and intensity of land. **Figure 27** Merrillville Zoning Map - shows the location of these districts.

Other:

1. Floodplain (F-1)
2. Agricultural (A-1)

Residential:

3. Single-family (R-1)
4. Single-family (R-2)
5. Two-family (R-3)
6. Low density multiple-family (maximum seven (7) units per acre) (R-4)
7. Medium density multiple-family (maximum eleven (11) units per acre) (R-5)

Commercial and Office:

8. Neighborhood commercial (C-1)
9. Community commercial (C-2)
10. Highway commercial (C-3)
11. Commercial entertainment (C-4E)
12. Office and research (C-5)

Industrial:

13. Limited industrial (M-1)
14. Limited industrial corridor overlay (M-2)
15. Planned unit development (PUD)
16. Greenbelt (GB)
17. Commercial/industrial (C/IS)

A review of these zoning districts along Broadway shows how Merrillville's zoning districts are applied to the Corridor:

- On the northern end, between 53rd and 61st Avenues, the frontage land on Broadway is zoned Community Commercial (C-2), while residential use is permitted in immediately adjacent parcels. Permitted uses in Community Commercial districts consist of retail and other commercial uses. The largest parcel with C-2 classification is on southwest corner of Broadway and 61st Avenue. Residential uses immediately adjacent to this district are primarily single family residential, with a few parcels zoned for either multifamily to two-family residential.
- The area south of 61st Avenue and 73rd Avenue has a mix of zoning ranging from Highway Commercial (C-3) to Community Commercial (C-2) and Single family uses. Permitted uses for Highway Commercial (C-3) zoning include larger developments with auto-oriented characteristics.
- The area immediately north and south of US 30 has primarily a Highway Commercial (C-3) zoning. Further south on Broadway, the zoning classification includes parcels with residential classifications (to the west) and Office/Research (C-5) to the east.
- The area south of 93rd Avenue is covered primarily by the Purdue Research and Technology Center. With the exception a small parcel that has Agricultural (A-1) zoning, most of the area is zoned as a Commercial/Industrial Special District (C/IS)

The following observations focus on how the regulations may impact development of livable communities:

- The Town has some flexible zoning provisions that can foster active living and walkability.
- The commercial districts do not promote walkability or the creation of pedestrian linkages.
- The commercial zoning districts require a significant front set back.
- Higher density is permitted in most commercial districts, subject to other performance provisions, but the FAR remains relatively low.
- Height restrictions in different commercial zoning districts (50-120') do not appear to be a barrier for new developments.
- Planned Unit Development (PUD) zoning and subdivision regulations for residential uses require sidewalks and connections to other pedestrian facilities.
- Dwelling units are not permitted below the second story in a commercial zoning district.
- Mixed uses are permitted in C/I Special Districts, however, the minimum area for new development in this zoning classification is 100 acres.
- Off-site parking is permitted, but such facilities must be within 300 feet of the business served.
- Off-street parking facilities for separate uses may be

provided collectively if the total number of spaces so provided is not less than the sum of the separate requirements of each such use.

- There are minimal design guidelines for new developments.
- The Town is in the process of designating Old Lincoln Highway, 73rd Avenue, as a historic district. If approved, the historic district will establish design guidelines beyond what is required by the zoning code.

Figure 27 - Merrillville Zoning Map

Crown Point

The City of Crown Point is divided into 11 zoning districts that regulate the use and intensity of land. **Figure 28** Crown Point Zoning Map - shows the location of these districts.

1. Agricultural (A-1)
2. Conservation (C-1)
3. Residential (R-1, R-2 and R-3)
4. Business (B-1, B-2 and B-3)
5. Highway Service (HS-1)
6. Industrial (I-1)
7. Office Service (OS-1)

A review of these districts along Broadway shows the following characteristics:

- On the northern end between 93rd and 101st Avenues, the land is zoned as Limited Business District (B-1), Office Service (OS-1), and Residential (R-1). Permitted uses in the Business District include business (primarily retail and shopping), public facilities, and certain residential uses. Permitted in Office Service District are institutional uses such as banks and personal services, which can serve as transitional uses buffering residential districts. Several large parcels in this section have a single family residential classification.

- In the area from 101st Avenue to 109th Avenue, the Broadway frontage is zoned primarily as Business District (B-3). Permitted uses in this district include retail and shopping, and certain high-density residential uses. Behind the frontage, the area is zoned primarily as single family Residential to the east and Light Industrial to the west. The Industrial district is fairly extensive and continues along 109th Avenue to the west.

- The area south of 109th Avenue to US 231 has a combination of Business (B-2) and Residential (R-1 and R-2) zoning districts on Broadway frontage, and a combination of Residential and Industrial zoning in adjoining parcels. A large area on the southern end of Broadway and east on US 231 is zoned as Industrial (I-1).

The following observations result from a review of the City's regulations. They focus on future developments and policies which may impact development of livable communities:

- The City has some flexible zoning provisions that can foster active living and walkability. However, those provisions, especially in the Planned Unit Development (PUD) Zoning, have not been utilized to their fullest potential.

- A large portion of the Broadway frontage is zoned Single family residential (R-1). This zoning, if retained as the final use for this land, may need to be revisited due to the potential for extensive commercial development in the Corridor.

- A significant amount of land is zoned Industrial in the Corridor. These uses could offer employment opportunities, but will require planning for pedestrian and transit access.

- Height restrictions in all zoning districts limit the development of taller buildings.

- Substantial front lot setbacks are required in all zoning districts in the Corridor.

- The City has a series of Special Use provisions that can be used to create mixed-use neighborhoods, which can foster walkability. However, some of these provisions are more suitable for improving existing neighborhoods and have been successfully applied in Crown Point's Downtown area.

- The City's subdivision regulations, which are for new neighborhoods, require the installation of sidewalks in all new developments. However, they may not foster connections between new neighborhoods and commercial areas in a pedestrian-friendly manner.

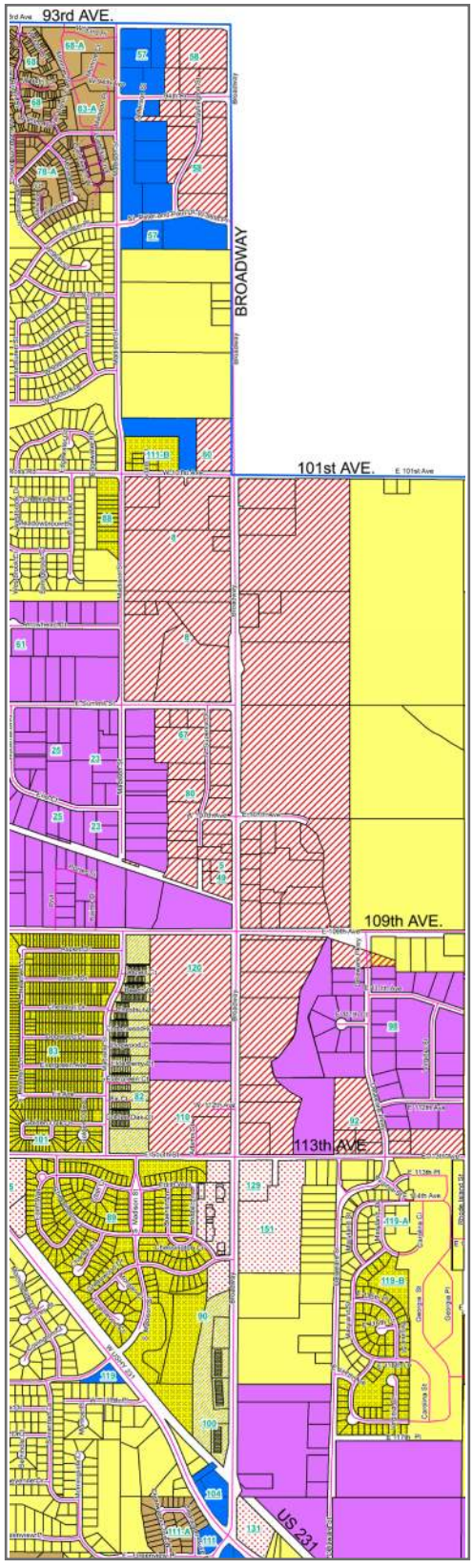
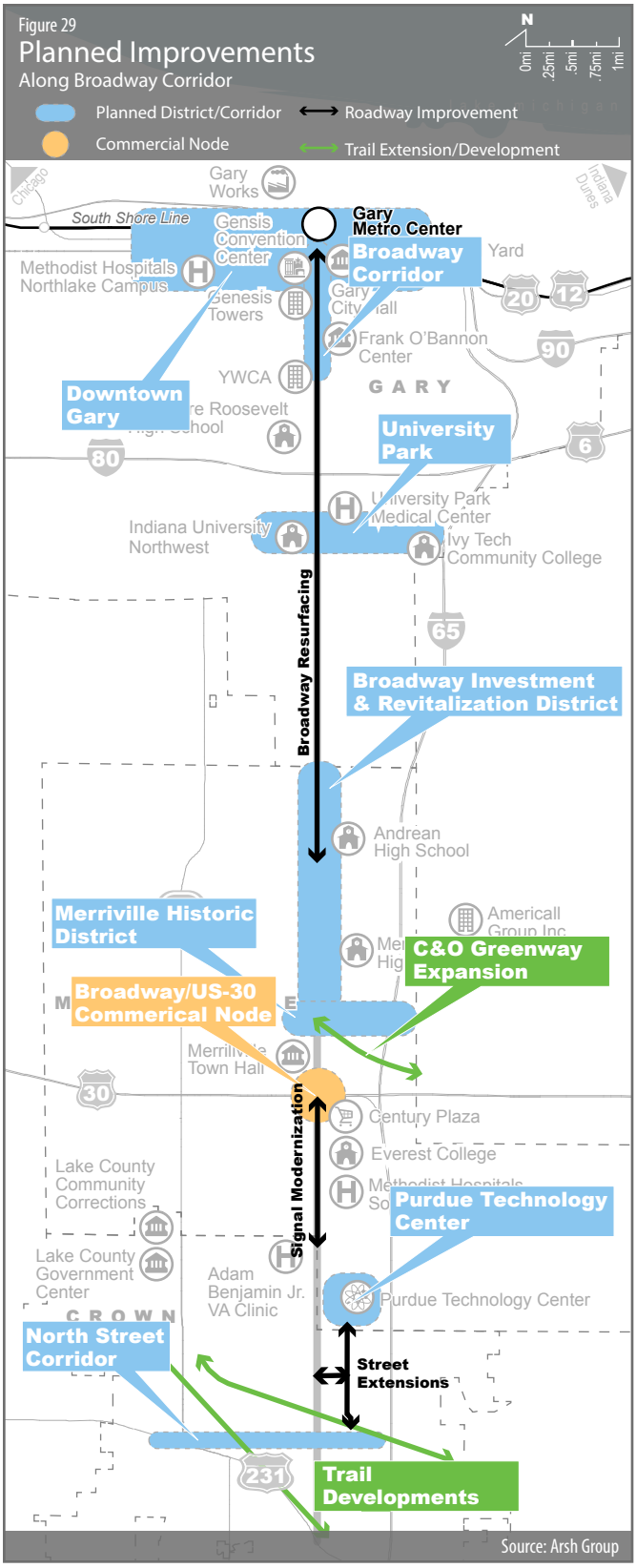


Figure 28 - Crown Point Zoning Map

Planned/Programmed Improvements

The location of planned and programmed improvements for the Corridor are generally shown in **Figure 29** Planned Improvements - and briefly discussed for each municipality. The list is not inclusive, as opportunities for other potential projects may evolve and there may be improvements that are in the conceptual stages. These improvements can provide drivers for current and future transit service.



Gary

Most of the Corridor is developed, the notable exception being the area within the Little Calumet River floodplain around I-80/94. However, the condition of the existing uses varies greatly. The continued population decline has left many buildings or uses vacant or severely underutilized. As such, many of the planned improvements along the Corridor also include substantial redevelopment efforts for the neighborhoods that surround it.

- **Downtown Gary**
  Several improvements and projects will be implemented in Gary under the Northside Revitalization Plan initiative. Some of these activities include new plans for enhancements and revitalization of three neighborhoods in and around the Corridor (Emerson, Downtown, and Horace Mann), demolition of several dilapidated structures such as the former Sheraton Hotel and JC Penny buildings, and development of NWI Veterans Village on 8th Avenue and Massachusetts Street. A 5th Avenue Sports Subdistrict has also been proposed in this area, linking the Genesis Center and US Steelyard. The former Gary State Bank Building, a landmark building that is mostly vacant, is also proposed for renovation. Anticipated uses include office uses and a bank. A transit oriented development (TOD) project is envisioned for the Adam Benjamin Transportation Center and South Shore-Metro Station.

- **Broadway Corridor**
  The Gary Comprehensive Plan proposes a revitalization of Broadway by "extending" downtown-style commercial development south to 21st Avenue. Complementing this would be additional multi-family development, such as the recently completed Comfort Villas at 21st Avenue and Jefferson Street.

- **University Park**
  The 35th Avenue corridor in Gary is home to several educational facilities. The most prominent is Indiana University-Northwest (IUN), located at the Broadway/35th Avenue intersection. Although not located within the study corridor, Ivy Tech and Gary Career Center, located at the far eastern end of 35th Avenue around Martin Luther King Drive, are other major educational facilities in the neighborhood. IUN has been planning a facility expansion on the northeast corner of Broadway and 35th Avenue. New multi-family housing to serve the campus is also a planned improvement. On a broader scale, 35th Avenue has long been designated for the creation of an "Academic/Technology Corridor", linking all of the major educational facilities on this street. In addition, the City is currently pursuing a Choice Neighborhood Planning Grant to implement a neighborhood revitalization program for the area.

- **Broadway Resurfacing**
  INDOT is planning a resurfacing project of Broadway from 61st Avenue (Merrillville) north to I-90 in Gary. This project, anticipated to be completed by 2016, could also allow for the inclusion of new sidewalks, streetscaping, and public amenities

- **Gary Metro Center**
  The Northwest Indiana Commuter Transit District (NICTD) has prepared a 20-year strategic plan dated May 2014. The plan suggests two alternatives for Gary NICTD stations. There are three stations in Gary with low level boarding platforms that are past the end of their useful life. The alternatives will be evaluated and selected through a future National Environmental Protection Act evaluation.

- Alternative 1, Station Consolidation, is based on a 2012 NICTD study that determined there is significant travel time and construction costs savings to be derived from consolidating Gary Metro Center and Miller stations at a new location near I-65 and the Indiana Toll Road. The new station would include 8-car long, ADA-compliant high level boarding platforms with a full service station and expanded parking, providing easy access for passengers living along the I-65 corridor. Benefits would include travel time improvements, ridership efficiency, and reduced maintenance costs.

- Alternative 2, Station Modernization, would close the Clark Road station, and upgrade the Miller and Gary Metro stations. The Miller station would be rebuilt with high level boarding platforms at Clay Street. The elevated Gary Metro station would be rebuilt with high level boarding platforms in the same model as the East Chicago station. Benefits would include travel time improvements, maintaining mobility for local commuters, and maintaining stations as an aspect of neighborhood redevelopment plans. Although the Clark Road station would be closed, connections to the Gary/Chicago International Airport would be made at East Chicago or Gary Metro Center.

- The capital cost for Alternative 1 is $38 million and Alternative 2 is $52 million. The proposed cost distribution for Alternative 1 would be that 50% of $38 million in capital costs would come from federal funds and the other 50% would be from state or local sources. The additional $14 million needed for Alternative 2 would be paid by local sources.

Merrillville

Although there is substantial vacant land in the southern portion of Merrillville that is planned for development in the near future, several of the identified planned improvements in Merrillville are aimed to stabilizing and revitalizing the more urban sections of the northern end.

- **Broadway Investment and Revitalization District**
  The Corridor from 53rd Avenue to 73rd Avenue has been designated as a revitalization district. Some of the proposed improvements here include redevelopment around the 61st Avenue intersection, transit hubs to support increased transit use, and expanding and enhancing street connections.

- **Merrillville Historic District**
  The Town of Merrillville is currently in the process of establishing a historic district along 73rd Avenue (Old Lincoln Highway). The historic district as well as 73rd Avenue are planned for total road improvement including streetscaping. The Broadway/73rd Avenue intersection is also the current eastern terminus of the C&O Greenway. On the north side of the district is the recently acquired Union Park, which is slated to be developed in 2015 to visually enhance the corridor and the historic district.

- **C&O Greenway Expansion**
  The Town of Merrillville is planning an eastward extension of the C&O Greenway from Broadway to Mississippi Street in 2015, to connect to the existing loop trail in Hobart's Silverstone Crossing development. With Mississippi Street being a major connector to several regional retail centers, including Southlake Mall, this extension has the potential to encourage more pedestrian and non-motorized traffic between the corridors.

- **Broadway/US-30 Commercial Node**
  The intersection of Broadway and US 30 is one of the most important commercial nodes in the Corridor, and is the focus of several development efforts. The southeast corner of the Broadway/US 30 intersection, including the former Century Mall site, has been planned for a variety of high intensity uses including a Town Center to attract more regional visitors. At the northeast corner of Broadway/US 30, a CVS Pharmacy is planned to open in 2016. Further south, two new health care facilities are planned: a memory care facility at 90th Avenue and Connecticut Street (anticipated 2015 opening), and a cancer treatment center at 98th Avenue and Massachusetts Street (anticipated 2016 opening). In the transportation arena, there is a plan to extend 86th Avenue west to Merrillville Road (tentatively in 2016) to accommodate residential development.

- **Broadway Signal Modernization**
  According to the NIRPC Transportation Improvement Plan, the stretch from US 30 to 93rd Avenue is scheduled for maintenance work in 2017. Additional traffic signal modifications are planned at 78th Avenue, 80th Avenue, and 86th Avenue in 2015.

- **Purdue Technology Center**
  Ivy Tech has identified the Purdue Technology Center site as a location for future program expansion.

- A large portion of the 73rd Avenue is within a Tax Increment Financing (TIF) District.

Crown Point

With the continued population growth in the City and anticipated commercial growth along Broadway, Crown Point is facing significant development pressures on all fronts. While rapid growth creates significant prospects for development, there may be opportunities to enhance sustainability for new developments and encourage integration of transit and alternative transportation modes in new developments.

- **Street Extensions**

  Delaware Parkway

  Proposed improvements consist of the extension of Delaware Parkway from 109th Avenue north to 101st Avenue. This extension will provide a new access point to the Purdue Technology Center as well as opening up additional areas for new development.

  Summit

  Concurrent with Delaware Parkway extension, this street will be extended eastward to meet an extended Delaware Parkway.

- **Trail Developments**
  Two major trail expansions are expected to be completed in Crown Point. One is the Veterans Memorial Trail, generally paralleling US 231 at the south end of the Corridor. Further north, the Winfield Trail would cross Broadway at 109th Avenue, then run along North Street west to near Downtown.

- **North Street Corridor**
  There are several planned activities for North Street/109th Avenue, including a resurfacing project from Indiana Avenue to Broadway, scheduled for completion by 2016. In 2014, Crown Point was awarded a Creating Livable Communities Grant to develop a plan for this corridor, which will connect the downtown core to the Broadway Corridor. In addition, the City started a pilot program to expand its trolley program for regular summer service. Currently, trolley stations are planned to be built in Downtown and at the Crown Point Sportsplex. If the service proves popular, it is the City's goal to add additional stops at major Crown Point facilities, which could include those along Broadway.

- A large portion of the Corridor between 109th Avenue and Broadway is within the City's Tax Increment Financing (TIF) district. As such, funding for infrastructure improvements, including those for transportation, may be appropriated.

Broadway Roadway Improvements

INDOT has jurisdiction over Broadway (IN 53). Aside from resurfacing projects and preliminary engineering for bridge deck overlay over Beaver Dam Ditch and Turkey Creek, no major improvement projects are planned for Broadway The table below lists projects that impact the Corridor.

Table 12
Broadway Roadway Improvements

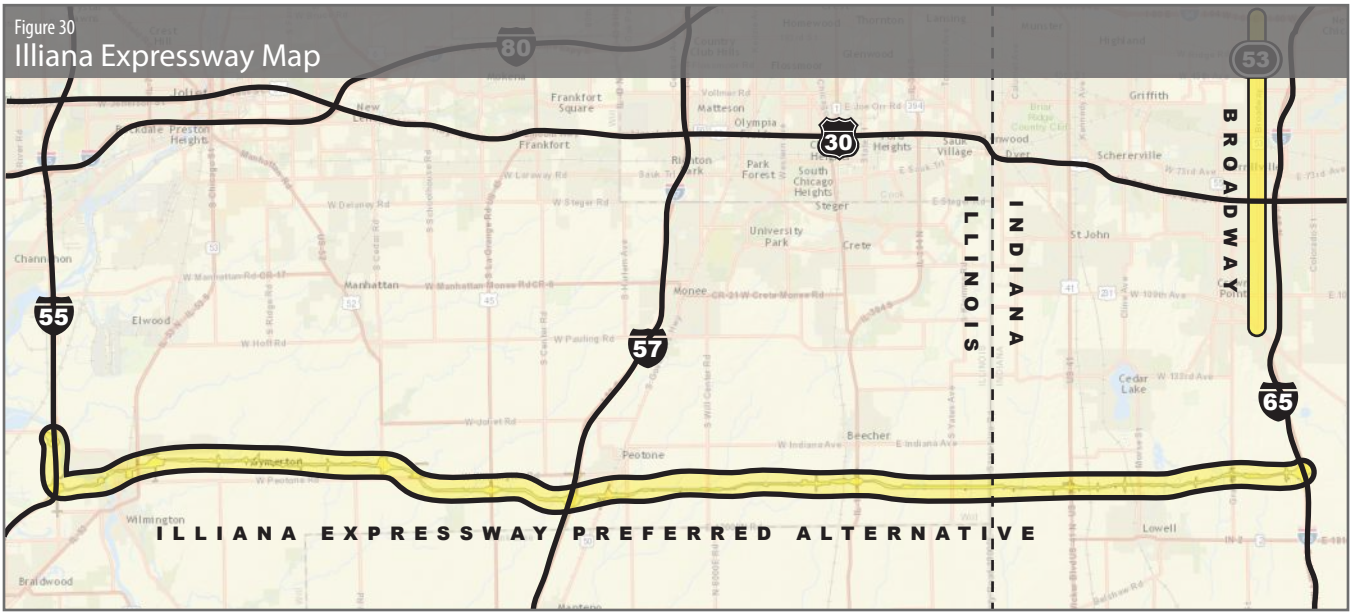
Road	Work Type	Location	Phase	Year
SR 53	Bridge Deck Overlay	Bridge over Turkey Creek, 5.31 mi. north of US 30	Preliminary Engineering	2014
SR 53	Bridge Deck Overlay	Bridge of Beaver Dam Ditch, 1.93 mi. north of US 231	Preliminary Engineering	2014
SR 53	Re-surfacing	93rd Ave. to US 30	Preliminary Engineering	2014
SR 53	Re-surfacing	61st Ave. to Toll Rd. (I-90)	Preliminary Engineering	2015
SR 53	Re-surfacing	61st Ave. to Toll Rd. (I-90)	Construc-tion	2016

Source: INDOT

Illiana Expressway

The Illiana Expressway is a planned expressway that would connect Interstate 55 in Wilmington, Illinois with Interstate 65 south of Crown Point. The proposed expressway would not involve the Broadway Corridor but an increase in traffic in the vicinity of Crown Point is anticipated as a result of the planned improvement. **Figure 30** Illiana Expressway Map - shows the preferred alignment for the planned expressway.

Figure 30
Illiana Expressway Map



Development Opportunity Sites

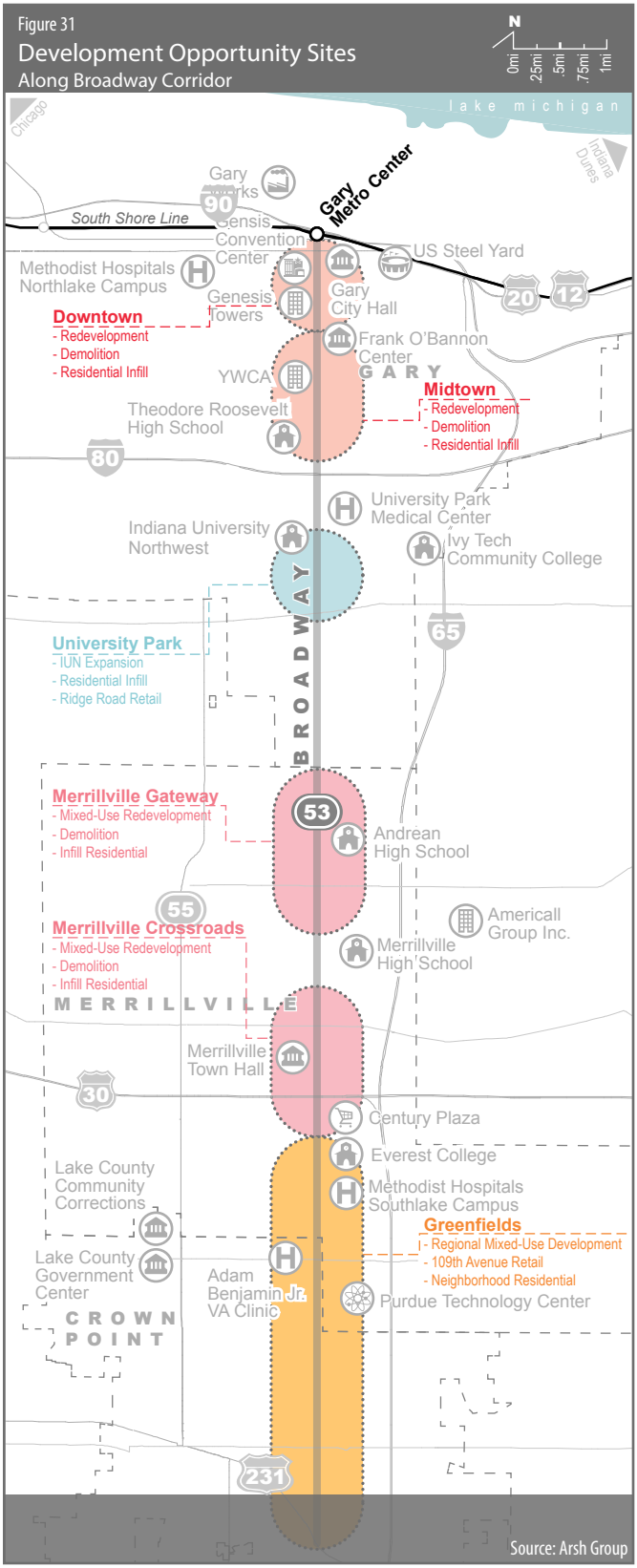
In a general survey of the Corridor, land use was reviewed to identify development opportunities including vacant land and buildings. **Figure 31** Development Opportunity Sites - shows the location of these areas. The areas shown on the figure are highlighted in bold below.

Gary

The abundance of vacant land, structures, and marginal uses offers great opportunity for large-scale revitalization, adaptive reuses, and total redevelopment all along the Corridor, while also instituting more sustainable land use practices. Two prominent targets for this work are the **Downtown** area (generally I-90 to 10th Avenue) and **Midtown** (generally 11th Avenue to I-80/94). The Downtown section can accommodate a variety of uses, ranging from residential to office or business parks. The City's Comprehensive Plan calls for a major downtown redevelopment with a host of activities, although most of these developments may be unrealistic in the short term. Development of housing and mixed uses is also recommended in the Comprehensive Plan.

The City, in recent months, has embarked on several initiatives to demolish abandoned and unsafe structures, some of which have been noted above. Demolition efforts can create large parcels of developable land in the heart of the City, both east and west of the Corridor, where infrastructure is already in place. Further south, in the Midtown neighborhood, there has been several new infill or higher density housing developments in recent years. The vacant areas in this neighborhood offer opportunities for similar residential developments.

Perhaps the most important opportunity area is around Indiana University-Northwest and **University Park**. IUN has a significant stabilizing effect on the neighborhood and could generate several revitalization opportunities. This revitalization area can extend east to Ivy Tech along 35th Avenue and south to Ridge Road to provide much needed services to this



area. Opportunities in this section could include retail consolidation, expansion of the Ivy Tech campus, and construction of higher density housing for students and faculty. South of Ridge Road, the Corridor is relatively stable. While scattered vacant parcels exist, there does not appear to be much large-scale redevelopment potential in this area.

Merrillville

Similar to Gary, the Corridor north of US 30 is mostly developed. At the same time, however, the northernmost section features several clusters that remain vacant or underutilized. Some of these former retail uses can still be supported by the market and offer opportunities for redevelopment, infill, or adoptive reuse. Two such clusters with a variety of infill potential include the **Merrillville Gateway** area between 53rd and 67th Avenues, and the **Merrillville Crossroads** area between 73rd Avenue and US 30. These areas include parcels at the edges of the Corridor, which may be more suitable for residential uses. There are opportunities for reinvestment at 73rd Avenue which is a part of Merrillville's historic district as well as part of a TIF district, both potential sources of funding. As these reinvestments occur, there will be new opportunities for transit and expanded pedestrian amenities. Larger mixed use developments at the cross section of US 30 and Broadway may be viable since there remains a substantial amount of vacant land.

The areas south of 89th Avenue contain significant amounts of **greenfield** land. This area offers opportunity for larger-scale mixed-use development with appropriate connections and linkages to other facilities and services. The Purdue Technology Center also offers synergistic opportunities both within and outside its boundaries. The area could generate significant demand for support services once it is fully developed.

Crown Point

Crown Point, as with much of southern Lake County, is currently experiencing rapid population growth that is expected to continue into the next decade. As Crown Point expands, there will be a need for more and larger supporting retail, employment, and recreation facilities. The large areas of undeveloped **greenfield** land in the Corridor are attractive to modern developers for these purposes. Most of this area however is planned for auto-oriented commercial developments, despite the fact that opportunities exist for denser and more intense uses that could strengthen the vitality of Broadway and its community impact as a livable corridor. To this end, there is a need to review the City's policies which govern the development of Broadway. There is a good example of such type of development on the corner of 11100 Broadway, where several offices have been placed close to the street. The City's policies could be revised to require such developments to provide sidewalks and other amenities on the front with access to the street while maintaining parking lots to the back.

The recent opening of the I-65 interchange at 109th Avenue should become a catalyst for new development. The proximity of the Corridor to the Interstate can easily attract regional visitors. At the same time, its proximity to Downtown Crown Point makes it easily accessible to local residents. Thus, the Corridor's location between the two should attract a large user base to support a wide variety of new developments and uses. The availability of existing or planned trails also offers the opportunity for strong linkages. Creating strong pedestrian linkages to Downtown, adjoining residential neighborhoods and other places of interest should be incorporated in all future land use decisions. Finally, the Franciscan Medical System campus occupies a large area just south of US 231 interchange. This facility, once fully developed, could generate significant opportunities for employment and medical services.

Gary Public Transportation Corporation (GPTC)
Livable Broadway Regional Plan:
Part 2 - Planning Framework

6 Introduction

The *Current Conditions* report provided background on the existing transit service along Broadway. Making the Corridor more transit supportive is an iterative process. It will take small improvements in transit, land use and walkabilty. As transit service improves with more frequent and faster service and with better connections, more people will desire to use the service and live, work and shop in the Corridor.

This planning framework recommends strategies for improving transit service in the Livable Broadway Corridor and creating a transit supportive environment. Four types of strategies are presented in this planning framework: GPTC Transit Actions, Municipal Land Use and Walkability Toolbox, Indiana Department of Transportation (INDOT) Coordination, and Transit Supportive Zones (TSZ).

- GPTC Transit Actions - Guidelines, programs and projects are proposed in order to improve transit service in the Corridor and to help lay the foundation for development of a rapid bus service. Providing more frequent, reliable and faster transit service can help increase ridership by making the service more useful and attractive. Improved transit service along Broadway will make the Corridor more livable and stimulate development.

- Municipal Land Use and Walkability Toolbox - These are measures that INDOT and the municipalities can adopt to promote and support development that is transit supportive and walkable. These tools may also be used by developers, property owners and institutions to promote the vision of enhanced transit service that contributes to the environmental sustainability of the region.

- Indiana Department of Transportation (INDOT) Coordination - INDOT is responsible for Broadway. As such, coordination between GPTC, the municipalities and INDOT is essential part of creating a more a move transit supportive environment in the Corridor. While GPTC and the municipalities may pursue certain improvements, it is up to INDOT to implement roadway and traffic improvements to better accommodate transit service. In additional, the municipalities and GPTC can work to implement bus stop improvements and toolbox measure in the right-of-way. These improvements will need to be coordinated with INDOT.

- Transit Supportive Zones (TSZ) - TSZ based upon Northwest Indiana Regional Planning Commission's (NIRPC) Creating Livable Communities/ Livable Centers Initiative, are locations along the Corridor where current land use can be reoriented and redeveloped in order to support transit service. Future development should be focused in order to support a rapid bus service by encouraging Transit Oriented Development (TOD) at future rapid service stops. Identifying future TSZ will be the responsibility of the municipalities working in conjunction with GPTC. These zones will use the strategies in the municipal land use and walkability toolbox to encourage greater transit use.

7 GPTC Transit Actions

In this Section, a strategy for improving transit service in the Corridor is proposed. The strategy begins with transit actions that GPTC can immediately begin to work on. These transit actions will provide a framework for improving transit service. The transit actions which include guidelines, programs and projects will be combined with the municipal and INDOT efforts to improve walkability and create TOD in the Corridor. The guidelines, programs and projects and municipal and INDOT efforts will lay the ground work to provide a rapid bus service in the Corridor.

This Section presents the strategy for improving transit service. The transit actions set up the framework for improving transit service in the Corridor. Guidelines can be adopted immediately. Programs and projects require staff/and or consultant time to develop. Guidelines need to be adopted prior to implementation of programs and projects.

7.1 Guidelines

Bus Stop Spacing
Adopt Bus Stop Spacing Guidelines

Stop Placement
Adopt Stop Placement Guidelines

7.2 Programs

Bus Stop Typology
Develop a bus stop typology program

Stop Adoption/Subsidized Fare
Develop a bus stop adopotion and subsidized fare program

Service Branding
Develop a branding and marketing strategy

Corridor Transit Connections
Develop a transit connections to nearby generators

7.3 Projects

Transit Signage
Develop transit signage

Transit Stop Amenities
Determine transit stop amenities

Rapid Bus Service
Develop a rapid bus service

7.1 Guidelines

Bus Stop Spacing

GPTC has an informal flag stop policy where it is permissible for riders to get on or off a bus at their desired location. The distance between transit stops greatly impacts service efficiency and performance as well as the customer experience including accessibility, walking distance, travel time and comfort[1].

Land use including the length of city blocks, a connected street network and the presence of sidewalks, building setbacks and orientation and signalized intersection locations dictate the distance between bus stops. The Corridor is broken up into two types of land uses; pedestrian oriented and auto oriented. Pedestrian oriented environments allow stops to be spaced further apart since there is greater access due to the high level of pedestrian accessibility and connectivity. Auto oriented environments with poor pedestrian accessibility and connectivity and longer walk times limits the maximum distance between stops.

Designated bus stops within the Corridor are identified by a bus stop sign, shelter or bench. Over 90% of all physical bus stops within the Corridor are located in the City of Gary. Within Gary, the average distance between stops is 1,230 feet slightly less than 1/4 mile. However, distances vary greatly depending on the location and direction of travel. Northbound between 53rd Avenue and 26th Avenue, stops are spaced every 1,468 feet. Between 26th Avenue and Metro Center, the spacing between northbound stops decreases to every 786 feet. Southbound between Metro Center and 53rd Avenue, stops are spaced 1,433 feet apart. Several stops are spaced less than 500 feet apart including northbound between 25th and 24th, 19th and 18th, 16th and 15th and between 6th and 5th Avenues. Bus stop distances within Merrillville range from 880 feet to 20,502 feet or about 1/6 mile to almost 4 miles.

Another way to view the bus stop spacing issue is that of all the bus stops located along Broadway, 27.4% of the area within walking distance of a GPTC stop is also within walking distance of another bus stop based on walking distance to a bus stop of 1,320 feet or 1/4 mile[2] **(See Figure 32 - Duplicative Coverage Area).**

1 Transit Cooperative Research Program (TCRP);
Report 19 Guidelines for the Location and Design of Bus Stops; 1996

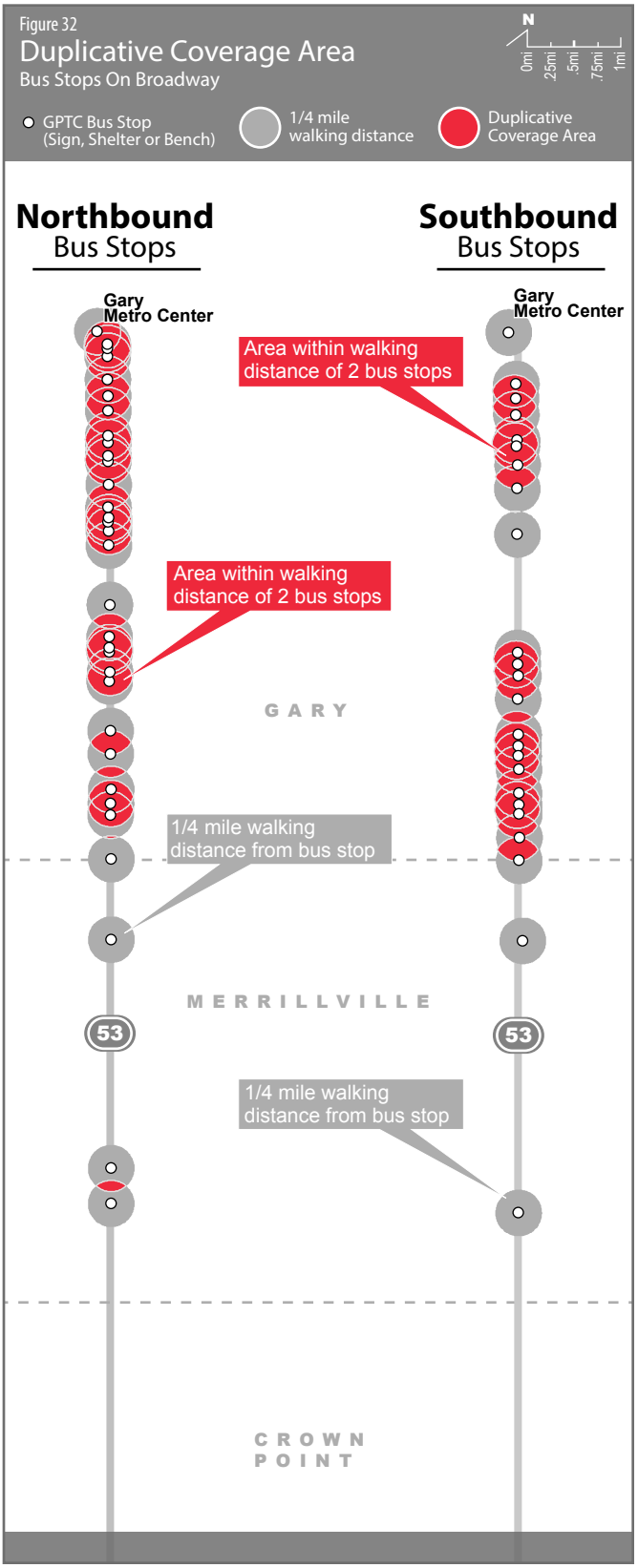
2 Victoria Institute Transport Policy; Land Use Impacts on Transport; August 2014

Of the 59 United States (US) transit agencies surveyed in Transit Cooperative Research Program (TCRP) *Synthesis 110 Commonsense Approaches for Improving Transit Bus Speeds (2013)*, consolidating stops was most frequently mentioned as the most successful action to improving bus speed. With fewer bus stops along a route, the customer experience on board a bus is more comfortable and travel time decreases due to less curbing and stopping time. In addition, transit speeds are higher and reliability is far greater since buses move faster. Providing more customer amenities along a route also becomes easier for a transit agency when there are fewer stops to maintain.

However, accessibility narrows with a greater distance between stops. The farther apart stops are spaced, the greater the walking distance. As part of the Transit Seat Drop Survey conducted September 16th 2014, 51% of customers responded that they would be willing to walk farther to their bus stop if the bus ran faster.

Various North American transit agencies have stop spacing standards of 1,000 feet or greater in urban areas. Suburban areas tend to be spaced farther apart. Site specific reviews for bus stop locations in suburban areas may be needed due to poor pedestrian networks[3].

Figure 32
Duplicative Coverage Area
Bus Stops On Broadway



3 Maryland Transit Administration (MTA); Bus Stop Optimization Policy; July 2014

Gary (Pedestrian Oriented Land Use)
In order to balance customer accessibility and provide the service, stops should be spaced about 1,320 feet or 1/4 mile within Gary between Metro Center and 53rd Avenue. Walking distances are typically shorter in Gary due to a strong pedestrian network in place. The roadway grid consisting of short block lengths, a connected street network and the presence of sidewalks allows for more direct access to a bus stop along Broadway **(See Table 13 and Figure 33 - Bus Stop Spacing Guidelines for Broadway).**

There may be a need to address transit generators such as senior centers, schools, hospitals, medical centers, shopping centers, transfer locations and/or major activity centers that warrant a bus stop. Stops could be spaced closer together as conditions necessitate but a minimum distance of about 660 feet or 1/8 mile between stop should be maintained.

Merrillville/Crown Point (Auto Oriented Land Use)
Where sidewalks are present, stops should be spaced about 660 feet or 1/8 mile. Where sidewalks are not present, a flag stop policy should be implemented. The overall lack of a roadway grid within Merrillville and Crown Point creates a poor pedestrian network where directly accessing Broadway is a challenge. Walking distances are longer and sidewalks are scarce, therefore bus stop access should be more prevalent **(See Table 13 and Figure 33 - Bus Stop Spacing Guidelines for Broadway).**

One stretch in Merrillville, where sidewalks are present, will have stop spacing of 1/8 mile since buses are not expected to stop as frequently since ridership generally occurs only at select locations. In Merrillville, signage will also help market the transit service offered in the Corridor. As TSZ develop and density increases, some stops can be removed and the stop spacing increased to 1/4 mile. The placement of future stops within the flag stop areas should be developed by GPTC in conjunction with the municipalities. However, it should confirm the municipalities desire to create TSZ.

Table 13
Bus Stop Spacing Guidelines for Broadway

Roadway Segment	Distance Between Stops
Between Metro Center and 53rd Avenue	1,320 feet or 1/4 mile (stops may be spaced closer together as conditions necessitate)
Between 53rd Avenue and 63rd Place	Flag Stop (specific locations may warrant a physical bus stop)
Between 63rd Place and 74th Avenue	660 feet or 1/8 mile
Between 74th Avenue and 93rd Avenue	Flag Stop (specific locations may warrant a physical bus stop)

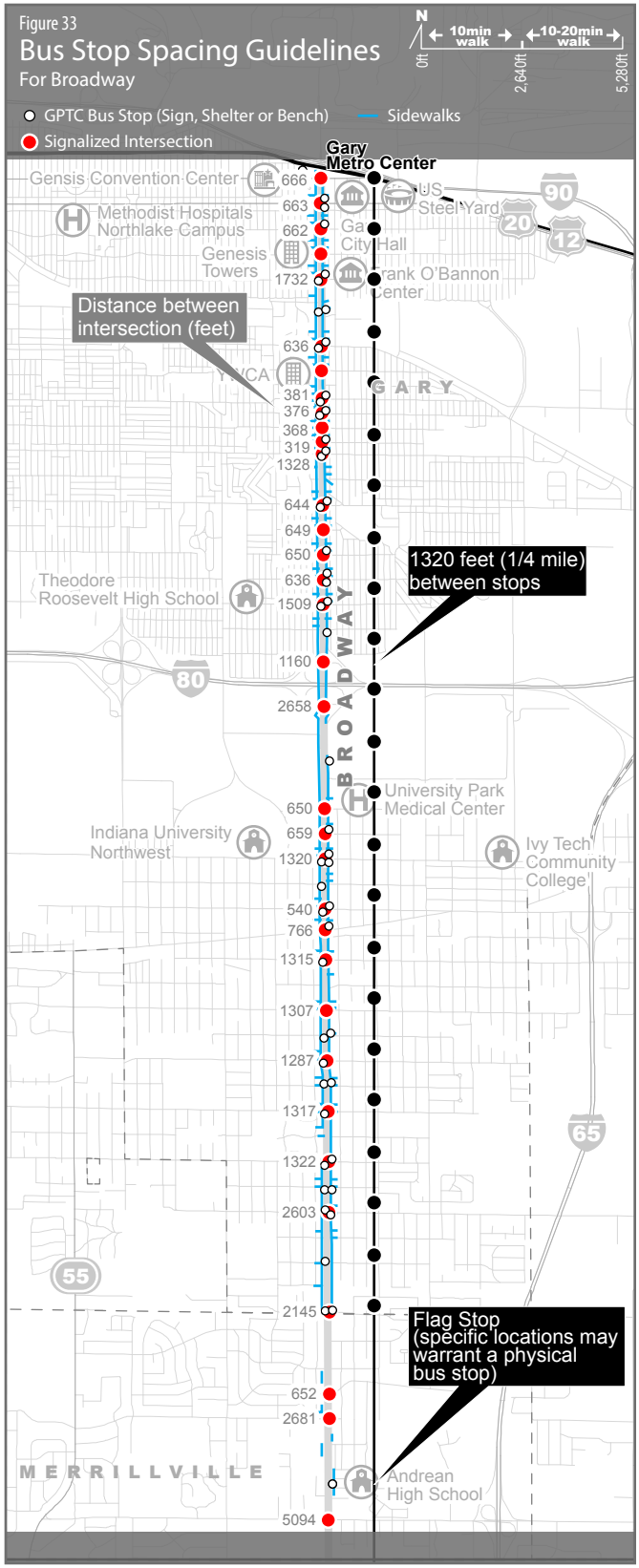


Figure 33
Bus Stop Spacing Guidelines
For Broadway
N
10min walk
10-20min walk
0ft
2,640ft
5,280ft
GPTC Bus Stop (Sign, Shelter or Bench)
Signalized Intersection
Sidewalks
Gary Metro Center
Gensis Convention Center
Methodist Hospitals Northlake Campus
Genesis Towers
US Steel Yard
Gary City Hall
Frank O'Bannon Center
YMCA
GARY
Distance between intersection (feet)
1320 feet (1/4 mile) between stops
Theodore Roosevelt High School
BROADWAY
University Park Medical Center
Indiana University Northwest
Ivy Tech Community College
MERRILLVILLE
Flag Stop (specific locations may warrant a physical bus stop)
Andrean High School
666
663
662
1732
636
381
376
368
319
1328
644
649
650
636
1509
1160
2658
650
659
1320
540
766
1315
1307
1287
1317
1322
2603
2145
652
2681
5094
90
20
12
80
65
55

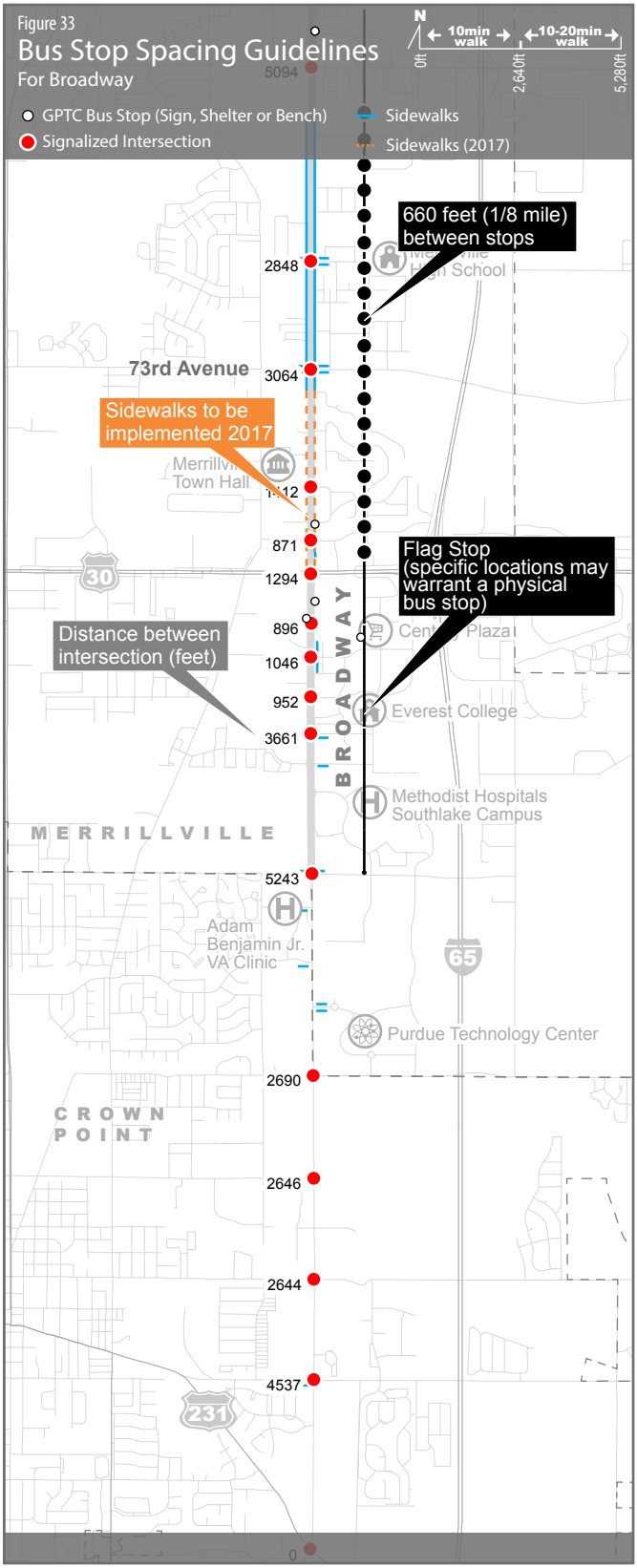


Figure 33
Bus Stop Spacing Guidelines
For Broadway
N
10min walk
10-20min walk
0ft
2,640ft
5,280ft
GPTC Bus Stop (Sign, Shelter or Bench)
Signalized Intersection
Sidewalks
Sidewalks (2017)
660 feet (1/8 mile) between stops
73rd Avenue
Sidewalks to be implemented 2017
Merrillville Town Hall
Flag Stop (specific locations may warrant a physical bus stop)
Distance between intersection (feet)
BROADWAY
Everest College
Methodist Hospitals Southlake Campus
MERRILLVILLE
Adam Benjamin Jr. VA Clinic
Purdue Technology Center
CROWN POINT
5094
2848
3064
871
1294
896
1046
952
3661
5243
2690
2646
2644
4537
0
30
65
231

Stop Placement

Bus stops should be a minimum of 90 feet in length and designated as a no parking zone in order to provide adequate space for a typical 40 foot bus vehicle and weaving movements[4]. Bus stops should avoid being located where driveways and curb cuts exist and in right turn lanes.

Bus stops should be located in pairs, one for each direction of travel, and be positioned close together. This allows for customers to easily identify bus stops locations and provides for simplicity in planning the return trip[5].

Stops should be located at intersections with traffic signals to allow for pedestrian crossings. The average distance between signalized intersections on Broadway currently is 1,508 feet or just over 1/4 mile **(See Figure 33 - Bus Stop Spacing Guidelines for Broadway).**

Locating bus stops at the farside of an intersection, or the side after passing through an intersection is preferable wherever possible. Farside bus stops allow buses to travel through an intersection avoiding having to wait at a traffic signal. Conflicts between buses and right turning vehicles are also reduced.

Where placement of farside stops is not possible or where land use and sidewalk widths are not transit supportive, placing stops nearside or the side before passing through an intersection should be implemented.

All bus stop types should comply with INDOT The Americans with Disabilities Act (ADA) requirements and *ADA Standards for Transportation Facilities*[6]. Bus stops should provide a minimum 5x8 foot wheelchair loading zone.

7.2 Programs

Bus Stop Typology

Ridership and route transfer locations within the Corridor should be evaluated in order to develop stop typologies and the level of amenities at bus stop locations.

Various configurations and orientations of bus stop type can be considered. TCRP *Report 19 Guidelines for the Location and Design of Bus Stops* should be consulted. Analysis of bus boardings and alightings would be needed in order to determine the typology. Once determined, amenities **(See Section 7.3 Transit Stop Amenities)** could be applied to individual stops.

All bus stop types should comply with INDOT The Americans with Disabilities Act (ADA) requirements and *ADA Standards for Transportation Facilities*[7]. Bus stops should provide a minimum 5x8 foot wheelchair loading zone and be clear of any obstructing street furniture such as bollards or planters that may impact customer boarding and alighting.

Major ridership, transfer locations and major retail/educational/employment centers include:

- Metro Center *(Ridership/Transfer Location)*
- Broadway and 5th *(Ridership/Transfer Location)*
- Broadway and 6th *(Transfer Location)*
- Broadway and 11th *(Transfer Location)*
- Broadway and 19th *(Transfer Location)*
- Broadway and 25th *(Transfer Location)*
- Broadway and 35th *Ridership Location/Educational Center)*
- Broadway and 53rd *(Ridership Location)*
- Century Plaza *(Ridership/Transfer location)*
- Lake County Community Corrections *(Ridership Location)*
- Methodist Hospitals Southlake/Northlake Campus *(Employment Centers)*

4 Transit Cooperative Research Program (TCRP);
Report 19 Guidelines for the Location and Design of Bus Stops; 1996

5 Washington Metropolitan Area Transit Authority;
Guidelines Design and Placement of Transit Stops; 2009

6 United States Access Board; Americans with Disabilities Act (ADA)
Standards for Transportation Facilities; 2006

7 United States Access Board; Americans with Disabilities Act (ADA)
Standards for Transportation Facilities; 2006

Stop Adoption/Subsidized Fare

Institutions, organizations and business with large numbers of employees and customers can greatly benefit from improved transit service. Often these entities are community minded and would like to support transit service. GPTC can provide opportunities to these entities to help improve the transit service. GPTC can develop a program that would allow these entities to adopt a bus stop and/or provide a subsidized fare programs.

GPTC can start an Adopt-A-Stop Program. The program would allow the entity to install bus stop amenities and/or maintain the bus stop. Amenities could include signage, benches, shelters, waste receptacles, bicycle racks, next bus arrival information and landscaping. Stop maintenance could include emptying trash receptacles, reporting damage and graffiti, cleaning benches and shelters and snow removal. The entity logo could be included on the bus stop signage or with other amenities.

Transit agencies have reported that adopt-a-stop programs are a means to "enhance station/stop appearance." Many agencies reported that "branding the program with an attractive logo or recognizable volunteer plaque is important to program identity and success."

In addition, larger entities may wish to subsidize the transit fares of their employees or customers. GPTC could develop a program that would allow the distribution of pre-paid transit fare cards with the entity paying the cost of the fare. It would then be up to the entity to determine how much to charge the employees or customers for the fare card. The entity could advertise this benefit as well as how it is supporting transit.

Resource:

- Transit Cooperative Research Program, *Synthesis 103: Transit Station and Stop Adoption Programs, 2013*

Example of bus stop adoption program sign in Nashville, Tennessee
Nashville, Tennessee Metropolitan Transit Authority (MTA)
Source: www.nashvillemta.org

Service Branding

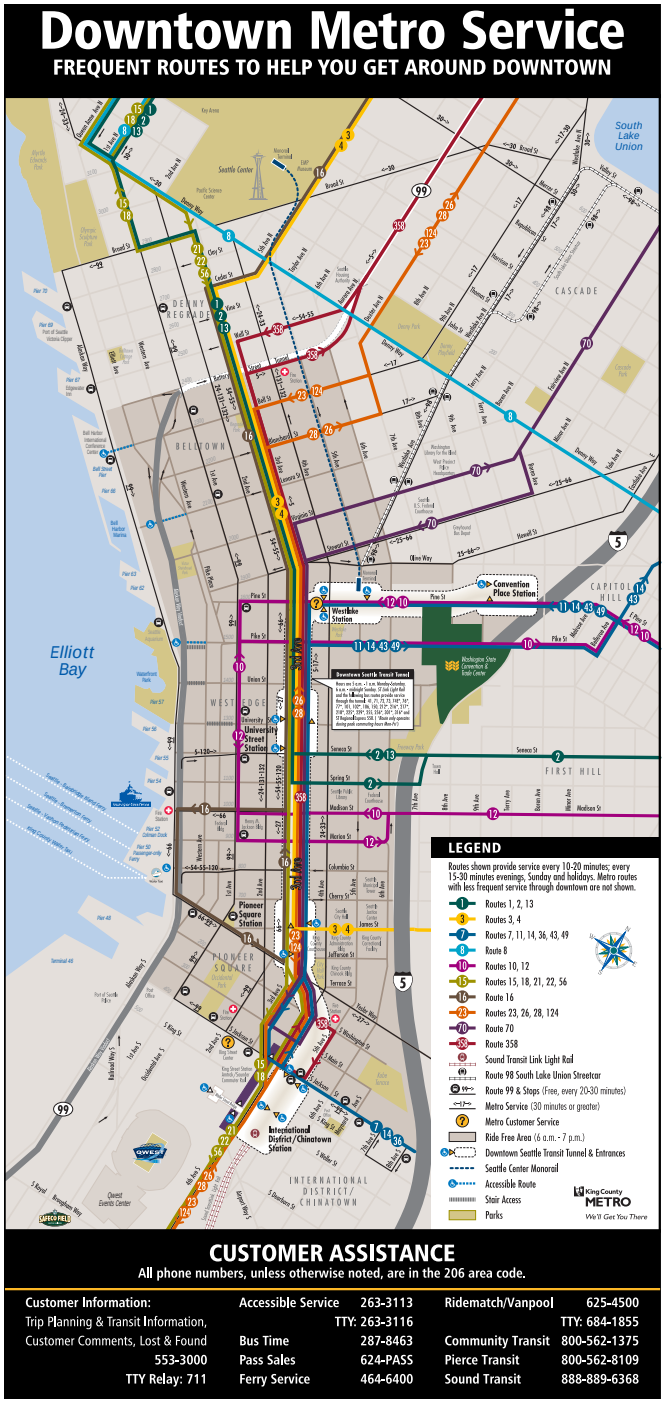
Branding and marketing the existing service offered on Broadway can help attract riders by simplifying transit service complexity and making it easy to use. Between the Metro Center and 35th Avenue, service operates every 11-33 minutes northbound and every 15-30 minutes southbound. Branding and marketing this level of frequency along with the hours of operation in the Corridor can help communicate to customers service usefulness and availability. Branding and marketing may include[8] :

- Distinctive name/logo/color scheme
- Identification of distinctive brand and information on transit signage, shelters and other infrastructure
- Marketing materials i.e. route/system maps, schedules, web site, media information

Hi Frequency Network
Metro Transit (Minnesota)
Source: www.metrotransit.com

Frequent Service Lines
Tri-County Metropolitan Transportation District of Oregon (TriMet)
Source: www.commons.wikimedia.org

El Paso's Brio frequency branding
Sun Metro Mass Transit Department
(Sun Metro)



Seattle's frequent route branding
King County Metro
(Metro)

8 Transit Cooperative Research Program (TCRP); Report118 Bus Rapid Transit Practitioner's Guide (2007)

Corridor Transit Connections

Promoting transit in the Broadway Corridor also can include improving connections to nearby significant generators. This can be done through bus service connections and improved transit stops at the transit route connections **(see Figure 34- Potential Regional Connection to Corridor)**.

The connection to nearby significant generators needs to be considered. For example, during the course of the project, it was decided to extend the Corridor study area west along 5th and 6th Avenues to connect to the Methodist Hospital – Northlake Campus. This hospital is a significant transit generator and is only a few blocks from Broadway. GPTC Routes #12, #19, and #22 travel westbound along 4th Avenue and #12, #22, and #23 travel eastbound on 5th Avenue providing a close connection between the Metro Center to the Methodist Hospital – Northlake Campus. Service enhancements may be needed to improve this connection as service on Broadway is improved.

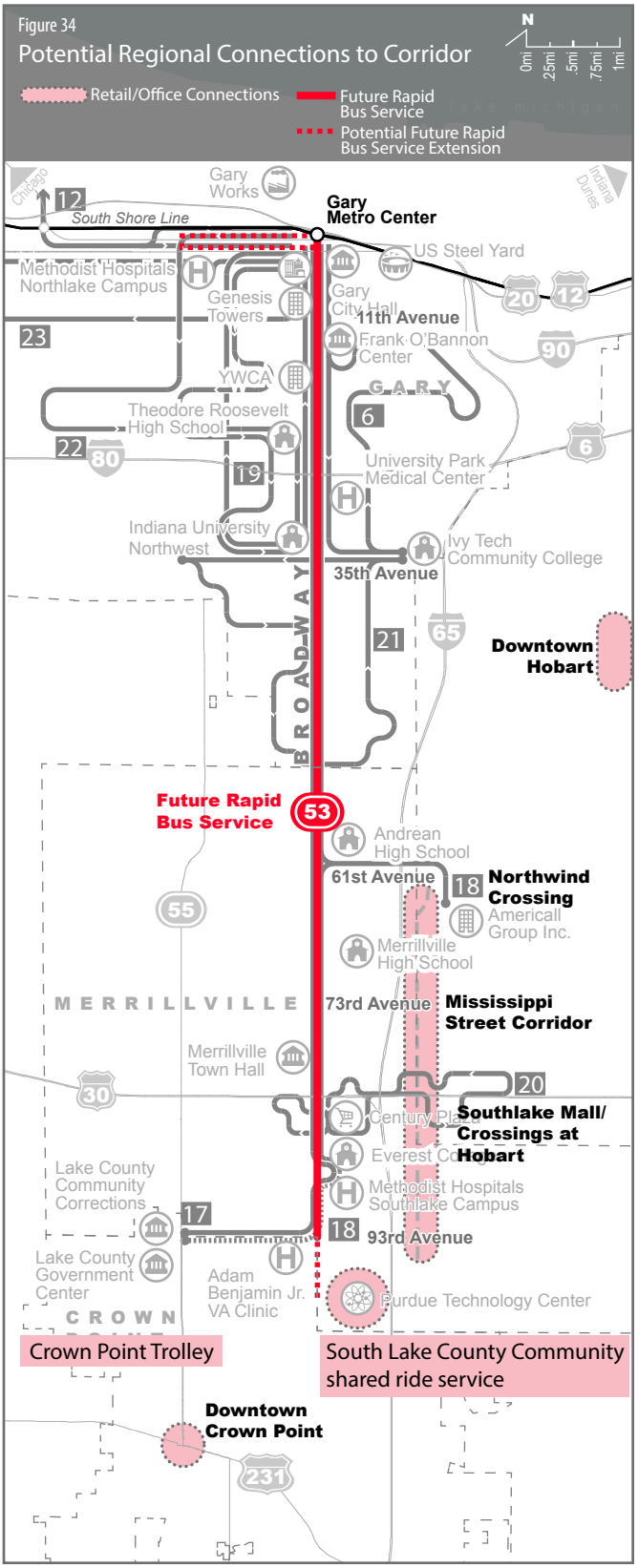
Bus stops that provide connections to other transit services should be improved to include shelters, benches, route information, and other amenities to improve the connection between the routes.

For example, GPTC operates shuttle service routes that intersect Broadway. Where GPTC Routes #6, #19, #20, #21, and #22 intersect Broadway, improved transit stops should be provided at connection locations.

Longer distance transit connections can play a part in improving transit service in the Corridor. For example, GPTC has had discussions with the City of Hobart about providing a transit connection to the Metro Center. This potential service would likely use Broadway for part of the route. Future service expansions should be incorporated into the Corridor Service Operations Plan. Again service connections could be improved with shelters, benches, route information and other amenities.

The Mississippi Street Corridor has extensive office and commercial land uses. GPTC Route #18 deviates off Broadway to serve this Corridor and GPTC Shuttle Route #20 intersects the Mississippi Street Corridor. In

Figure 34
Potential Regional Connections to Corridor



the future, a more extensive shuttle serve within this Corridor that connects to the Broadway service could be considered.

The Purdue Technology Center is a potentially significant generator that currently is not served by GPTC service. Bus service could be extended to this location.

The City of Crown Point has been working towards introducing a trolley that could improve transit connection between Broadway and downtown Crown Pointy. The connection would warrant an improved transit stop.

The South Lake County Community Services Agency provides approximately 24,000 dial-a-ride curb to curb vehicle trips in south Lake County. GPTC and the South Lake County Community Services Agency could work together to allow connections to the Broadway Corridor bus service. This connection could effectively increase the reach of the services provided by the South Lake County Community Services Agency. In order to do this, the connections locations could be improved and the route schedule information upgraded so that the Agency drivers would have access to real time information on bus schedules.

7.3 Projects

Transit Signage

Guidelines need to be adopted prior to implementation.

A bus stop sign and pole should be placed at every designated bus stop location within the Corridor **(See Section 7.1 Stop Placement)**. In certain circumstances signs may be fixed to a bus shelter or existing pole. Signs should remain unobstructed and follow the minimum clearances required.

Transit signage should clearly identify a bus stop to both customers and bus drivers and provide useful service information. The Transit Seat Drop Survey results show that improving route information at bus stops on Broadway is the second highest recommendation by surveyed customers.

Examples on the following page highlight the range of information that can be depicted on bus stop signage in the Corridor. Generic signage includes a standard bus stop sign and pole with minimum service information. Signage with route information includes additional service information such as route destination(s), service type, routing map(s) and span or frequency information. Service branding signage helps identify the level and type of service at the bus stop.

Table 14
Customer Information at Transit Stops

Signage Elements	Generic Signage	Signage with Route Information
Transit Identification e.g. pictograph of bus	x	x
Operator Logo	x	x
Operator Information e.g. website/phone number	x	x
Route(s) Designation e.g. number and name		x
ADA Accessibility Information		x
Route Destination(s) and Direction of Travel		x
Days/Hours of Service		x
Service Type (e.g. limited, express, rapid)		x
Basic Route Map		x

Generic Signage

Grand Rapids, Michigan
The Rapid
Source: www.m.woodradio.com

Minneapolis, Minnesota
Metro Transit
Source: www.startibune.com

Signage with Route Information

Milwaukee, Wisconsin
Milwaukee County Transit System (MCTS)
Source: Flickr User Anthony

Indianapolis, Indiana
Indianapolis Public Transportation Corporation (Indygo)
Source: www.indygo.net

Chicago, Illinois
Chicago Transit Authority (CTA)
Source: www.expatarrivals.com

San Francisco, California
San Francisco Municipal Transportation Agency (SFMTA)
Municipial Transit (Muni)
Source: Flickr User Octoferret

Transit Stop Amenities

A Service Branding Program needs to be adopted prior to implementation.

In general, the highest quality amenities should be provided at locations where the greatest amount of customers will benefit. Amenities include bicycle racks, benches, shelters, next bus arrival information and landscaping. Research shows that providing amenities at a bus stop can help decrease customer perception of time by up to 36%[9] .

GPTC's *Title VI Civil Right Program Update (2013)* recommends considering transit amenities at stops with over 50 boardings per day and at transfer points between local and regional routes.

Depending on the environment, various configurations and orientations for each bus stop will need to be considered. TCRP *Report 19 Guidelines for the Location and Design of Bus Stops* should be consulted. All bus stops should comply with INDOT ADA requirements and ADA) *Standards for Transportation Facilities*[10] . Bus stops should provide a minimum 5x8 foot wheelchair loading zone and be clear of any obstructing street furniture such as bollards or planters that may impact customer boarding and alighting.

Table 15
Transit Stop Amenities

Type	Unit	Unit Price ($)
Bicycle Rack	Each	$250
Bench	Each	$400
Enhanced Signage	Each	$3,000
Next Bus Arrival	Each	$7,500
Shelter	Each	$15,000

Major ridership, transfer locations and major retail/educational/employment centers include:

- Metro Center *(Ridership/Transfer Location)*
- Broadway and 5th *(Ridership/Transfer Location)*
- Broadway and 6th *(Transfer Location)*
- Broadway and 11th *(Transfer Location)*
- Broadway and 19th *(Transfer Location)*
- Broadway and 25th *(Transfer Location)*
- Broadway and 35th *(Ridership Location/Educational Center)*
- Broadway and 53rd *(Ridership Location)*
- Century Plaza *(Ridership/Transfer location)*
- Lake County Community Corrections *(Ridership Location)*
- Methodist Hospitals Southlake/Northlake Campus *(Employment Centers)*

Detailed service information is provided at a bus stop in Seattle, Washington
Source: www.rochestersubway.com

9 University of Minnesota;
Transit Station and Stop Design and Travel Time Perceptions; 2012

10 United States Access Board;
Americans with Disabilities Act (ADA) Standards for Transportation Facilities; 2006

Rapid Bus Service

Guidelines, programs and projects need to be adopted prior to implementation.

Broadway serves as the backbone for the overall GPTC transit system. It is the 2nd most heavily used transit corridor in Lake County after the South Shore Commuter Line. There currently are four bus routes (#6, #17, #18, and #19) that serve the Corridor. #17 and #18 are regional routes that operate from the Metro Center to 93rd Avenue, with some buses heading west to the Lake County Government Center.

A new rapid bus service should be developed for the Corridor. This new service can help attract riders who are seeking a fast and more comfortable commute. The rapid bus service would operate frequently and stop at select locations only.

Initial stop locations are listed below and in **Figure 35 - Rapid Bus Service Initial Stop Locations.** Stops are based on major GPTC ridership and transfer locations as well as areas identified in NIRPC's Creating Livable Communities/Livable Centers Initiative as having more than 25 employees per acre.

Major Ridership Locations:

- Metro Center
- Broadway and 5th
- Broadway and 35th
- Broadway and 52nd
- Broadway and 81st

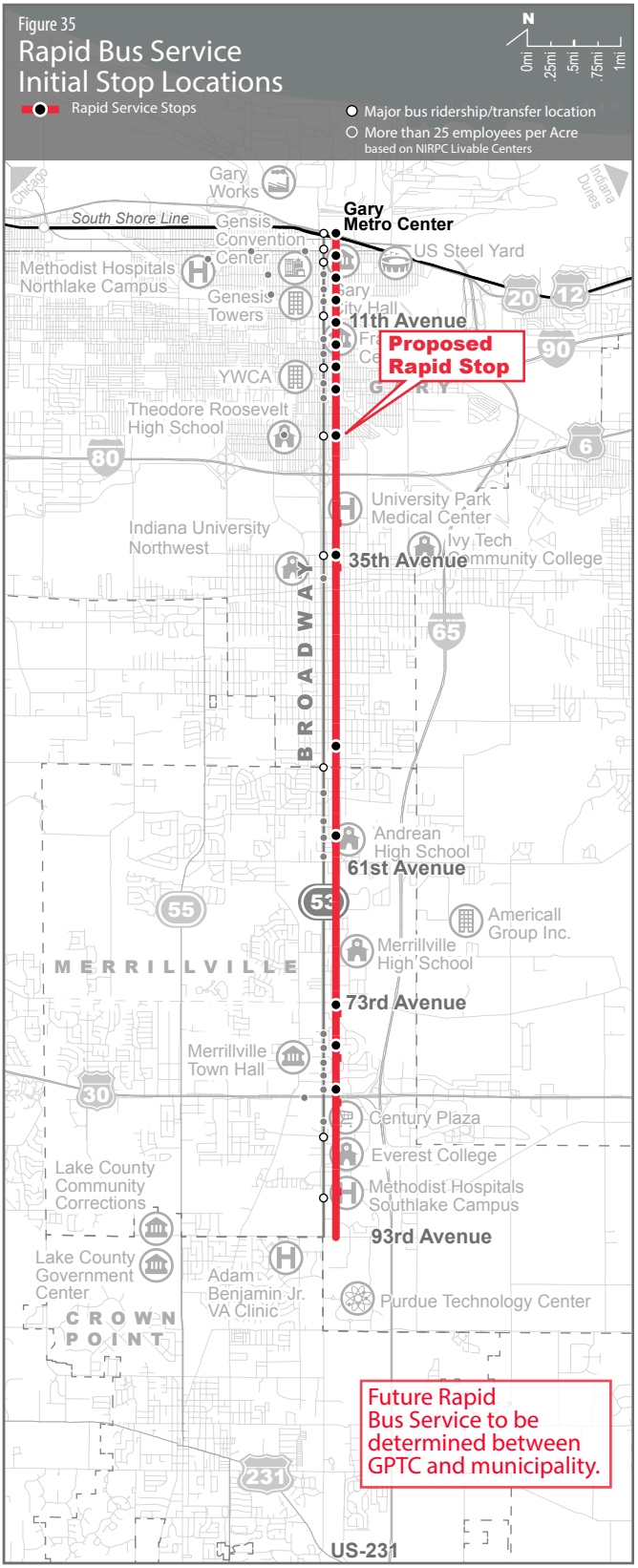
Transfer Locations:

- Metro Center
- Broadway and 5th
- Broadway and 11th
- Broadway and 25th
- Broadway and 81st

Areas with 25 employees or more per acre:

- Broadway and 7th
- Broadway and 9th
- Broadway and 15th
- Broadway and 18th
- Broadway and 21st
- Broadway and 35th
- Broadway and 52nd
- Broadway and 59th

Figure 35
Rapid Bus Service
Initial Stop Locations



- Broadway and 73rd
- Broadway and 76th
- Broadway and 81st

Rapid bus service should be branded and marketed separately. Branding and marketing strategies may include:

- Distinctive name/logo/color scheme
- Identification of distinctive brand and information on transit signage, shelters and other infrastructure
- Marketing materials i.e. route/system maps, schedules, web site, ads, media information
- Wrapping buses with a unique vehicle identity

Cleveland's Health Line's has a unique vehicle identity and color scheme
Greater Cleveland Regional Transit Authority (RTD)
Source: www.blog.cleveland.com

El Paso's Brio branded station
Sun Metro Mass Transit Department (Sun Metro)
Source: www.sunmetro.net

Grand Rapids's Silver Line logo
The Rapid (Interurban Transit Partnership)
Source: www.mlive.com

8 Municipal Land Use and Walkability Toolbox

The following tools are intended to encourage walkability and transit supportive land use and density near transit stops. These are tools that can be adopted by the municipalities to help create TSZ. Broadway improvements right-of-way improvement would require coordination with INDOT.

8.1 Roadways

Improve Pedestrian Crossings

Locate pedestrian crossings at signalized intersections and transit stops and mark to clearly identify crossing locations. Ensure that the crossings meet standards especially those related to ADA compliance. In some places it may be appropriate to add medians to act as refuge islands. Higher curb radius to slow vehicle turning speeds or pork chop islands may be appropriate. Designs should comply with Indiana Department of Transportation (INDOT) Americans with Disability Act (ADA) requirements and ADA *Standards for Transportation Facilities*.

Resources:

- Indiana Department of Transportation (INDOT) *Indiana Design Manual 2013* (IDM) *Part 5 Traffic and Safety* ***See Sections 502-1.0, 502-2.0 and 502-3.0*** *(www.in.gov/indot/design_manual/files/Part_5_2013.pdf)*
- American Association of State Highway and Transportation Officials (AASHTO) *Guide for the Planning, Design, and Operation of Pedestrian Facilities, July 2004* ***See Sections 3 and 4***
- Americans with Disability Acts (ADA) *Standards for Transportation Facilities* ***See Sections 206, 209 and 810*** (www.access-board.gov/attachments/article/1498/ADAdotstandards.pdf)
- Minnesota Local Road Research Board (LRRB) Pedestrian Crossings: Uncontrolled Intersections (www.mnltap.umn.edu/publications/handbooks/pedcrossingguide/documents/ped_guidebook.pdf)

A pedestrian refuge island on a six lane roadway
Source: www.harttma.com

A marked pedestrian crossing and *stop for pedestrian* sign at a bus stop
Source: www.wbez.org

A countdown pedestrian signal
Source: www.wherethesidewalkstarts.com

Add Sidewalks

Sidewalks should be added at and leading up to transit stops and should comply with Indiana Department of Transportation (INDOT) Americans with Disability Act (ADA) requirements and ADA *Standards for Transportation Facilities*.

Resources:

- Indiana Department of Transportation (INDOT) *Indiana Design Manual 2013* (IDM) *Part 3 Roadway* ***See Sections 45-1.06 and 51-1.05(02)*** *(www.in.gov/indot/design_manual/files/Part_3_2013.pdf)*
- American Association of State Highway and Transportation Officials (AASHTO) *Guide for the Planning, Design, and Operation of Pedestrian Facilities, July 2004* ***See Sections 3 and 4***
- Americans with Disability Acts (ADA) *Standards for Transportation Facilities* ***See Sections 206, 209 and 810*** *(www.access-board.gov/attachments/article/1498/ADAdotstandards.pdf)*
- Transit Cooperative Research Program (TCRP) *Report 19 Guidelines for the Location and Design of Bus Stops*; ***See Page 60*** *(http://onlinepubs.trb.org/Onlinepubs/tcrp/tcrp_rpt_19-c.pdf)*
- United States Environmental Protection Agency (EPA) *Restructuring the Commercial Strip , A Practical Guide for Planning the Revitalization of Deteriorating Strip Corridors, 2010* ***See Page 30*** *(www.epa.gov/dced/pdf/2010_0318_wa_328_corridor_manual2.pdf)*

View of a roadway in Portland, Oregon before installation of a sidewalk
Source: www.trimet.org

View of a roadway in Portland, Oregon after installation of a sidewalk
Source: www.trimet.org

Preserve On-Street Parking (In Gary)

Preserve existing on-street parking in Gary in order to buffer pedestrians from traffic, provide a source of short-term parking for adjacent retail and service uses and promote a higher level of street activity.

Resources:

- Institute of Transportation Engineers (ITE) *Designing Walkable Urban Thoroughfares;* ***See Page145*** *(http://library.ite.org/pub/e1cff43c-2354-d714-51d9-d82b39d4dbad)*
- United States Green Building Council (USGBC) *Walkable Streets* ***See Section i*** *(www.usgbc.org/credits/lt7)*

On-street parking on Broadway in Gary, Indiana

Promote Traffic Calming (Off Broadway)

Traffic calming can help to make streets safer. Vehicles can be slowed by making them move side to side by constructing chicanes, medians and diverter islands (horizontal deflection). In addition, humps, speed tables and raised intersections (vertical deflection) also can slow vehicles. Curb extensions can be used to expand space for pedestrians, improve sight lines and structurally reinforce the no parking zone at intersections.

Resources:

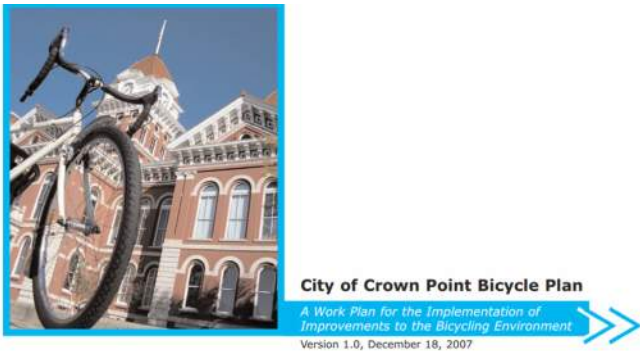
- Institute of Transportation Engineers (ITE) *Traffic Calming Library (www.ite.org/Traffic/)*
- Federal Highway Administration (FHWA) *Traffic Calming Website (http://safety.fhwa.dot.gov/speedmgt/traffic_calm.cfm)*
- National Association of City Transportation Officials (NACTO) *Urban Street Design Guide (http://nacto.org/usdg/)*

A hump on a residential roadway
Source: www.streetsblog.org

A curb extension on a residential roadway with landscaping
Source: www.hpigreen.com

Promote Bicycle Connections

In order to promote multimodal connections within the Corridor, transit infrastructure should be located where existing and planned/proposed bicycle improvements connect with the Corridor. A coordinated approach between GPTC, INDOT and the municipalities can ensure transit and bicycle connections are created. Ensure coordination with the INDOT *Bicycle and Pedestrian Program.*



City of Crown Point, Indiana Bicycle Plan
Source: www.crownpoint.in.gov

Resources:

- Northwest Indiana Regional Planning Commission (NIRPC) *Greenways and Blueways* (www.nirpc.org/media/3618/greenwaysbluewaysmap_west.pdf)
- City of Gary *Gary Green Link Corridor* (www.gary.in.us/planning/developing_9.asp)
- City of Crown Point *City of Crown Point Bicycle Plan* (2007) (www.crownpoint.in.gov/parksweb/final%20bike%20plan.pdf)
- National Association of City Transportation Officials (NACTO) *Urban Bikeway Design Guide* *(http://nacto.org/cities-for-cycling/design-guide/)*
- American Association of State Higway and Transportation Officials (AASHTO) *Guide for the Development of Bicycle Facilities, 2012* (https://bookstore.transportation.org/collection_detail.aspx?ID=116)
- Indiana Department of Transportation (INDOT) *Bicycle and Pedestrian Program* *(www.in.gov/indot/2828.htm)*

8.2 Walkability/Placemaking

Create Public Plazas and Activity Centers near Transit Stops

Promote public plazas and community activity centers in order provide pedestrians with a safe and comfortable space to gather.

Resources:

- Whole Building Design Guide (WBDG) *(www.wbdg.org/design/plaza.php)*
- City of New York *Active Design Guidelines* ***See Section 2.5 Public Plazas*** *(http://centerforactivedesign.org/dl/guidelines.pdf)*
- Project for Public Spaces (PPS) *(www.pps.org/reference/grplacefeat/)* *(www.pps.org/info/placemakingtools/casesforplaces/11steps)*

Public plaza at the Eastview Mall Rochester in Victory, N.Y.
Source: www.kainc.com

Create Transit Stops as People Places

Activate transit stops by providing a safe and comfortable customer waiting space with high quality amenities and facilities integrated into the surrounding environment.

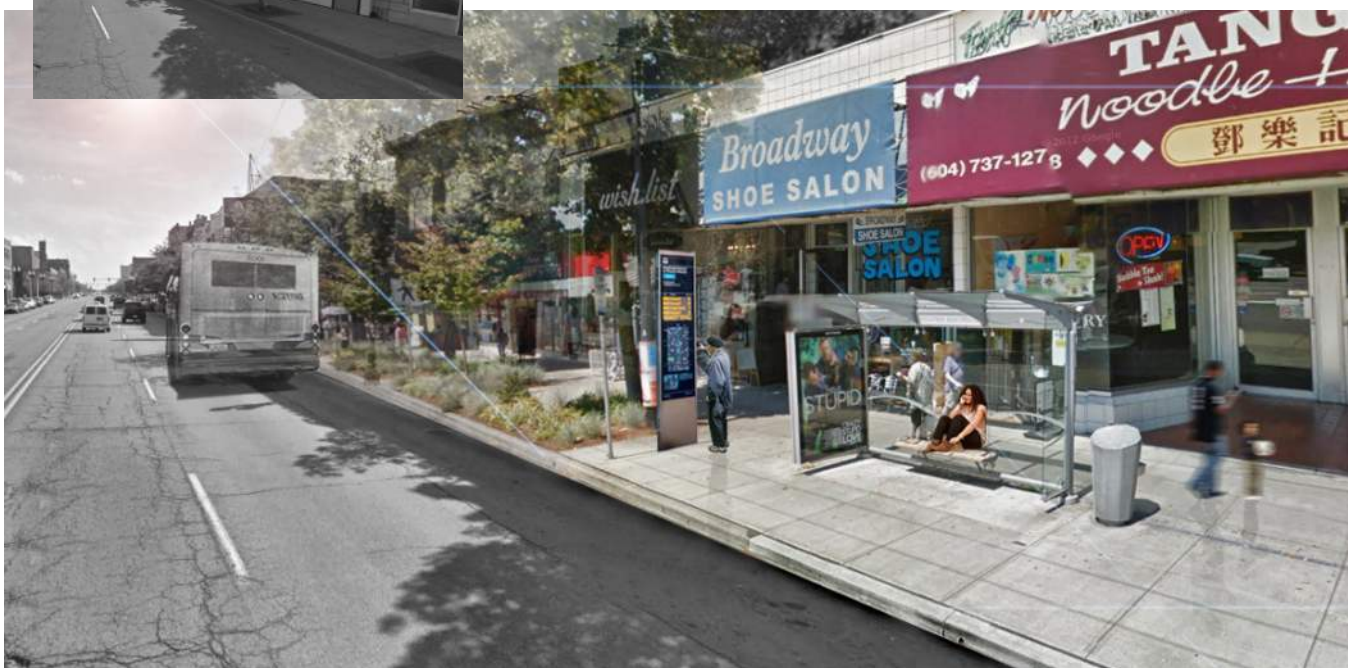
Resources:

- Whole Building Design Guide (WBDG) *(www.wbdg.org/design/plaza.php)*
- City of New York *Active Design Guidelines* ***See Section 2.5 Public Plazas*** *(http://centerforactivedesign.org/dl/guidelines.pdf)*
- Project for Public Spaces (PPS) *(www.pps.org/reference/grplacefeat/)*

A placemaking bus stop in Vancouver, British Columbia (CA)
Source: www.news.ubc.ca

A bus stop on Broadway in Gary, Indiana integrated into the surrounding environment. Providing a new shelter and transit signage can help improve the customer experience.

Existing view of Broadway and 6th in Gary, Indiana
Source: www.google.com



Adding new shelters, signage, and landscaping can improve the transit experience on Broadway

Adding new shelters, signage, and landscaping can improve the transit experience on Broadway

Compliance with Americans with Disability Act (ADA)

All aspects of this plan should be made accessible for all users and be compliant with ADA regulations and standards set forth by the Americans with Disabilities Act of 1990 (ADA), U.S. Department of Transportation and Federal Transit Administration *Standards for Transportation Facilities*, Indiana Department of Transportation regulation and standards, and the municipalities ADA plans.

Resources:

- United States Access Board, *ADA Standards for Transportation Facilities* (www.fta.dot.gov/civilrights/12325.html)
- United States Department of Justice - Civil Rights Division, *Information and Technical Assistance on the Americans with Disabilities Act American with Disabilities Act,* (www.ada.gov)
- Indiana Department of Transportation, *American with Disabilities Act,* (www.in.gov/indot/3036.htm)

8.3 Land Use

Promote Transit Supportive Densities

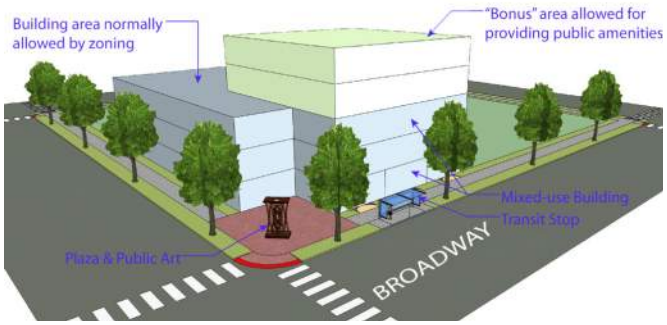
Encouraging density can help increase ridership demand and thus necessitate frequent transit service. According to TCRP *Report 27 Building Transit Ridership*, "density is a critical factor affecting the interrelationship between land use and transit ridership...development density is the most significant determinant of market share variations across cities."

Further, TCRP *Report 111 Elements Needed to Create High Ridership Transit System* highlights a study published by the Washington Metropolitan Area Transit Authority (WMATA) titled *Regional Bus Study September 2003* which concludes "the most important single factor affecting ridership is the density of development in the corridor served by the route."

Setback and land coverage standards often impede flexibility in the siting of buildings and allocation building mass. Higher floor area ratios (FARs) and height restrictions for developments can allow the land situated along Broadway to build out to its full potential.

Density incentives can be incorporated into existing codes, allowing developers more freedom to create quality development. An example is the density bonus concept, where a developer, in exchange for providing public amenities (such as transit stops, various pedestrian improvements, affordable housing allotments, etc.), is allowed to build a larger building or project than the existing regulation allows. The density incentives can provide an incentive for the developer to provide sidewalks, streetscape and transit stop improvements.

Example of transit supportive density
Source: www.usa.streetsblog.org



Example of a density bonus
Source: The Arsh Group Inc.

Table 16
Density Requirements for Transit Service[1]

Service Type	Bus Trips per Day	Minimum Density (Dwelling Units per Acre)
"Minimum" Local Bus	20 bus trips	4
"Intermediate" Local Bus	40 bus trips	7
"Frequent" Local Bus	120 bus trips	15
GPTC Service on Broadway	**52 bus trips (Weekday)**	

1 Boris S. Pushkarev and Jeffrey M. Zupan (1977), Public Transportation and Land Use Policy, Indiana University Press (Bloomington)

Resources:

- Transit Cooperative Research Program (TCRP) *Report 111 Elements Needed to Create High Ridership Transit Systems* ***See Page 10,14 and 19*** (http://onlinepubs.trb.org/onlinepubs/tcrp/tcrp_rpt_111.pdf)
- Urban Land Institute, 2001 Booth, Geoffrey; Leonard, Bruce; Pawlukiewicz, Michael *Ten Principles for Reinventing America's Suburban Strips* ***See Page 18*** (www.smartgrowth.org/pdf/uli_Ten_Principles.pdf)
- Urban Land Institute, *Shifting Suburbs Reinventing Infrastructure for Compact Development, Washington, D.C., 2012*

Allow Mixed-Use Buildings and Multiple Land Uses

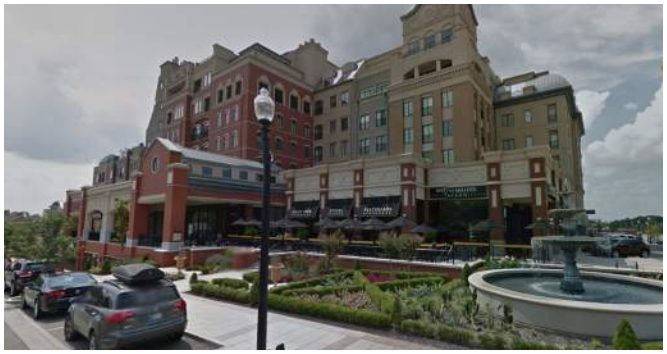
Encouraging mixed uses in buildings and diversity in employment opportunities can be a valuable tool for redevelopment, creation of jobs and enhancement of tax base. Mixed use developments are often a significant tool for transformation of larger vacant or underutilized urban and suburban areas. For example, a former retail building can be retrofitted as a mixed use building for a diverse uses including office, housing and perhaps light industrial uses.

Multiple land uses within close proximity of each other can encourage walking and transit use. The zoning regulations often focus on separating or compartmentalizing land use. Transit supportive areas allowing multi-family and high-density land use to be close to office and commercial areas can promote walking and transit use.

Resources:

- Urban Land Institute, 2001
  Booth, Geoffrey; Leonard, Bruce; Pawlukiewicz, Michael
  Ten Principles for Reinventing America's Suburban Strips
  See Page 14
  (www.smartgrowth.org/pdf/uli_Ten_Principles.pdf)
- Marya Morris (ed.), *Smart Codes: Model Land-Development Regulations, American Planning Association (APA) Planning Advisory Service; 2009*
  See Model Mixed Use Zoning District Ordinance
- *Missed Opportunity: Transit and Jobs in Metropolitan America, Metropolitan Policy Program at Brookings; 2011*
  (www.brookings.edu/~/media/research/files/reports/2011/5/12%20jobs%20and%20transit/0512_jobs_transit.pdf)

Mixed-use building with apartments and retail in Columbus, Indiana
Source: www.buckingham-co.com



Mixed-use building with apartments, retail and parking in Carmel, Indiana
Source: www.google.com

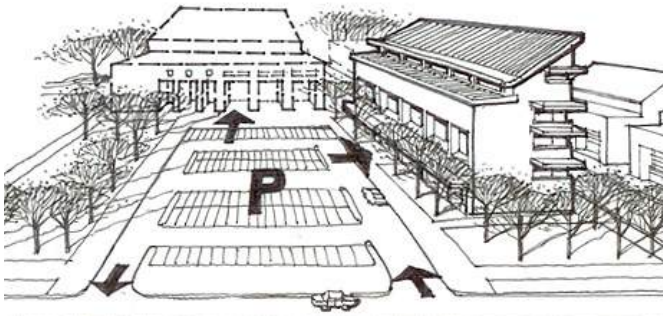
Reduce Surface Parking

Parking lots often take a large portion of valuable frontage land on Broadway. This causes a significant loss of tax base as well as fragmentation of the corridor. Excessive parking spaces also contribute to a multitude of environmental concerns ranging from heat island effect to storm water management.

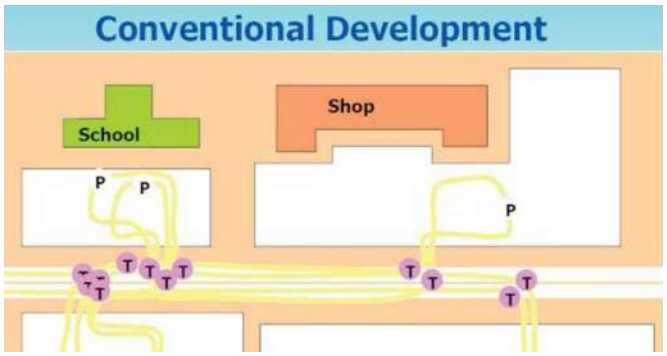
- Encourage shared parking among different uses including allowance for parking for transit use
- Establish access management policies to reduce number of curb cuts on Broadway. To the extent possible encourage parking entrance from side streets, rear side of the development and alleys.
- Reduce required number of spaces.
- Provide incentives for parking reduction, or construction of parking underground.
- Parking should be placed to the rear of a building.

Resources:

- Governor's Office of Smart Growth *Driving Urban Environments: Smart Growth Parking Best Practices,* (www.contextsensitivesolutions.org/content/reading/parking_md/resources/parking_paper_md)
- U.S. Environmental Protection Agency (EPA), *Parking Spaces/Community Places: Finding the Balance through Smart Growth Solutions, 2006,* (www.epa.gov/dced/pdf/EPAParkingSpaces06.pdf)
- Urban Land Institute, 2001
  Booth, Geoffrey; Leonard, Bruce; Pawlukiewicz, Michael
  Ten Principles for Reinventing America's Suburban Strips
  See Page 22
  (www.smartgrowth.org/pdf/uli_Ten_Principles.pdf)
- Marya Morris (ed.), *Smart Codes: Model Land Development Regulations, American Planning Association (APA) Planning Advisory Service; 2009*
  See Model Shared Parking Ordinance



Schematic of parking being shared by multiple uses
Source: www.wbdg.com



Conventional Development Parking

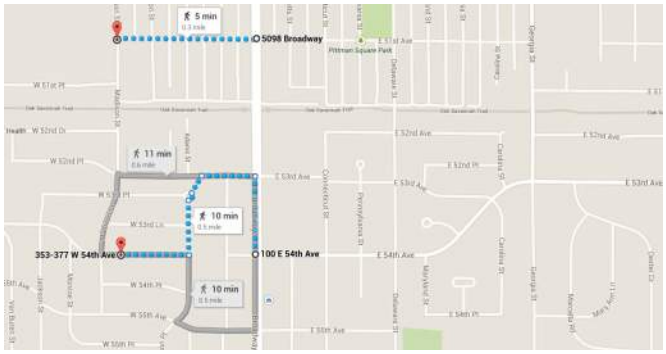
Mixed Use, Park Once District

Promote Connectivity

Promote development of a traditional roadway grid near transit stops. Cul-de-sacs should not be encouraged, but when needed, provide pedestrian and bicycle access via paths to the roadways.

Streets play a much larger role in the public life of communities than just thoroughfares for traffic. A well connected community adds to its charm, efficiency and sense of the place. To ensure that Broadway is well connected to adjoining uses and neighborhoods, the following practices can be employed:

- Avoid creation of superblocks and long stretches of buildings without interaction to the street frontage. Maintain block scale at traditional subdivision levels (300'-400').
- Provide direct paths of travel for pedestrian destinations within large developments.
- Incorporate passageways into mid-block developments, particularly on through blocks that facilitate pedestrian and bicycle access to commercial amenities from adjacent residential areas.
- Maintain existing alleys for access. Avoid vacating alleys or streets to address project-specific design challenges.
- Encourage rear cross access agreements, or access roads with commercial land uses.
- Maintain easy access to commercial areas from adjacent residential neighborhoods to avoid unnecessary or circuitous travel.



Walk time comparison in a connected vs unconnected roadway network

Example of a mid-block plaza providing additional access to the roadway
Source: Flickr User Brett VA

Resources:

- Green Futures Research & Design Lab, *Activating Alleys for a Lively City* (www.greenfutures.washington.edu/pdf/ActivatingAlleys_2011.pdf)
- Marya Morris (ed.), *Smart Codes: Model Land Development Regulations, American Planning Association (APA) Planning Advisory Service; 2009* ***See Model Street Connectivity Standards***
- Victoria Transport Policy Institute (VTPI) *Evaluating Complete Streets;* ***See Page 7*** *(www.vtpi.org/compstr.pdf)*
- American Planning Association (APA) *Complete Streets*; ***See Page 27*** *(www.planning.org/pas/brochure/pdf/report.pdf)*
- Institute of Transportation Engineers (ITE) *Designing Walkable Urban Thoroughfares;* ***See Table 6.2*** *(http://library.ite.org/pub/e1cff43c-2354-d714-51d9-d82b39d4dbad)*
- Urban Land Institute, 2001 Booth, Geoffrey; Leonard, Bruce; Pawlukiewicz, Michael *Ten Principles for Reinventing America's Suburban Strips* ***See Page 10*** (www.smartgrowth.org/pdf/uli_Ten_Principles.pdf)

8.4 Urban Design

People long for places that excite and energize their daily lives. While transit stops serve as a gathering place, the design of such spaces should support innovation and create opportunities for social interaction. This in turn will attract investment and higher revenues for businesses and higher values for homeowners.

Urban design should support placemaking by balancing architecture's focus on building forms with outside spaces where communal experiences occur. Urban design could serve as a catalyst to make new urban centers, regenerate struggling neighborhoods, and give growing communities identity – all through a common goal of bringing people together.

A walkable building design and orientation on Broadway in Gary, Indiana

Active store fronts improve the pedestrian realm in Indianapolis, Indiana
Source: www.visitindy.com

Encourage Walkable Building Design and Orientation

- Create a strong street wall on Broadway by locating building frontages at the required setback or, where no setback requirement exists, at the front property line.
- Development with the highest land use intensities should be located close (within 1/4 mile) to transit stops.
- Where additional setback is necessary or a prevailing setback exists, activate the area with a courtyard or "outdoor room" adjacent to the building by incorporating pedestrian amenities such as plazas with seating, water features, public arts, or others.
- Widen sidewalks to accommodate additional pedestrians and green space around major activity centers and transit stops.
- Minimize front setbacks on Broadway (no more than 20' from the right-of-way) where possible.
- Place public use areas such as restaurant seating, reception and waiting areas, lobbies, and retail, along street-facing walls where they are visible to passersby.
- Orient the long side of larger buildings parallel to Broadway to physically define the street edge.
- Large format retail or multiple tenants should provide distinct, yet flexible entrances and storefronts that can support a wide variety of current and potential future uses.
- Provide shelter from the sun and rain for pedestrians along Broadway where the buildings meet the street. Provide architecturally integrated awnings, arcades, and canopies where practical.

Resources:

- New York City, *World Class Streets*, (www.nyc.gov/html/dot/downloads/pdf/WCS_Gehl_08_spreads.pdf)
- Urban Land Institute, 2001
  Booth, Geoffrey; Leonard, Bruce; Pawlukiewicz, Michael
  Ten Principles for Reinventing America's Suburban Strips
  See Page 16
  (www.smartgrowth.org/pdf/uli_Ten_Principles.pdf)

Streetscape Design

Streetscaping encourages pedestrian activity and improves the environmental, economic and social well-being of neighborhoods and communities. Establish buffer zones between pedestrians, moving vehicles, and transit modes by the use of landscaping and street furniture. Examples include street trees, benches, newspaper racks, pedestrian information kiosks, bicycle racks, bus shelters, and pedestrian lighting.

Resources:

- Institute of Transportation Engineers (ITE)
  Designing Walkable Urban Thoroughfares
  See Chapter 8, Streetside Design Guidelines
  (http://library.ite.org/pub/e1cff43c-2354-d714-51d9-d82b39d4dbad)
- Victoria Transport Policy Institute (VTPI)
  Streetscape Improvements
  (www.vtpi.org/tdm/tdm122.htm)
- Project for Public Spaces, *A Guide to Neighborhood Placemaking in Chicago, 2008*
  (www.placemakingchicago.com/cmsfiles/placemaking_guide.pdf)
- New York City Department of Design and Construction and the Design Trust for Public Space,
  High Performance Infrastructure Guidelines
  See Streetscape Chapter
  (www.nyc.gov/html/ddc/downloads/pdf/hpig.pdf)
- Portland Metro, *Creating Livable Streets: Street Design Guidelines for 2040, Second Edition, June 2002*

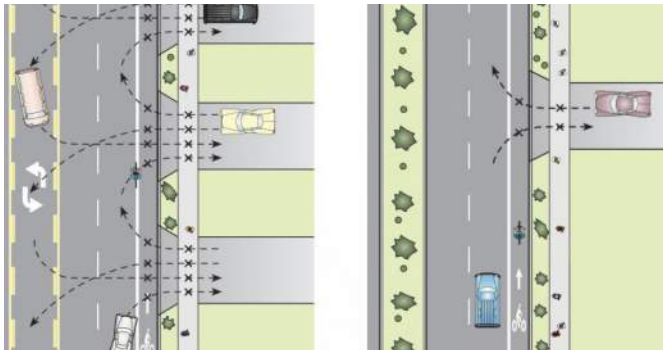
Eddy Street South Bend, Indiana
Source: www.southbendon.com

Capitol Avenue Springfield, Illinois
Source: www.rdgusa.com

Street furniture
Source: www.streetfurniture.com

Driveway and Parking Orientation

- Locate curb cuts and driveways on side streets and as far from the street corner as practical.
- Locate curb cuts in a manner that does not reduce on-street parking and replace any unused curb cuts and driveways with sidewalks to maintain continuity for pedestrians.
- Prioritize pedestrian access first and automobile access second.
- When a driveway in a front yard cannot be avoided, locate the driveway at the edge of the parcel rather than the center.
- INDOT's *Access Management Guide* should be consulted.



Conflicts with multiple driveways (left)
Reduced conflicts with consolidated driveways (right)
Source: www.ahtd.info

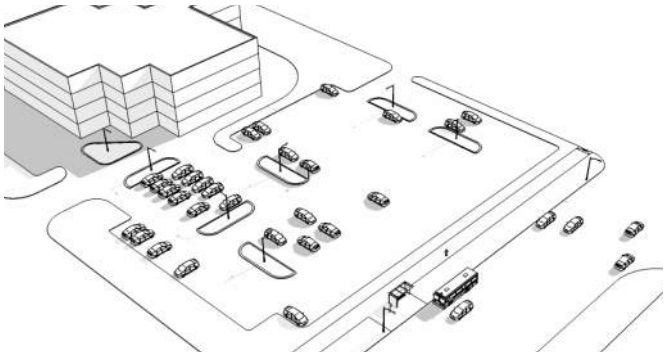
Resources:

- Indiana Department of Transportation (INDOT) *Access Management Guide (http://www.in.gov/indot/files/guide_total.pdf)*
- Institute of Transportation Engineers (ITE) *Promoting Sustainable Transportation Through Site Design: An ITE Proposed Recommended Practice.* ***See Section 3.4.5*** (www.cite7.org/resources/documents/ITERP-PromotingSustainableTransportationThroughSiteDesign.pdf)

Access road provided behind development

Connect Building Entrances to Transit Stops

- Provide clear pathways connecting building entrance to transit stops
- Clearly define transit stops with appropriately sized and placed signage visible to pedestrians
- Place wayfinding signage to direct passengers to stops.
- Encourage new developments adjacent to transit stops to invest in amenities such as trash receptacles, shelters, benches or seating that does not intrude into the accessible route.
- Provide path lighting for sidewalks and access paths



View of a development without a direct connection for pedestrians to a transit stop

A clear pedestrian pathway connects the building entrance to a transit stop

Resources:

- American Society of Landscape Architects (ASLA) *Wayfinding: Principles and Practice, David Raphael*
- Institute of Transportation Engineers (ITE) *Promoting Sustainable Transportation Through Site Design* ***See Section 3.5.3*** (www.cite7.org/resources/documents/ITERP-PromotingSustainableTransportationThroughSiteDesign.pdf)

8.5 Green/Sustainable Initiatives

Landscaping

- Provide landscaping with plant materials near transit stops.
- Provide canopy trees for shade and energy efficiency
- Use landscape features to screen parking. Trees, shrubbery, planter boxes, climbing plants, vines, green walls, or berms can be used to soften views from the public right-of-way.

Resources:

- New York City Department of Design and Construction and the Design Trust for Public Space, *High Performance Infrastructure Guidelines* ***See Landscape Chapter*** (www.nyc.gov/html/ddc/downloads/pdf/hpig.pdf)
- Trowbridge, P. and Bassuk, N., *Trees in the Urban Landscape: Site Assessment, Design and Installation, John Wiley and Sons, Hoboken, NJ, 2004*

Street trees near a transit stop on Broadway in Merrillville, Indiana

Landscaping at a transit stop
Source: www.google.com

Turn Vacant Lots into Beautification Projects

Vacant lots can be an eyesore and discourage new development. Until development is ready to occur, lots can be temporarily turned into community garden projects that beautify neighborhoods, feed people, capture stormwater and teach about the environment. They also show others that there is pride in the neighborhood.

Resource:

- Kent State University's Cleveland Urban Design Collaborative, *Re-imagining Cleveland, Resource Book, January 2011*, (www.dropbox.com/s/p91r1skeba2ct02/2011-Re-Imagining-Cleveland-Ideas-to-Action-Resource-Book.pdf?dl=0)

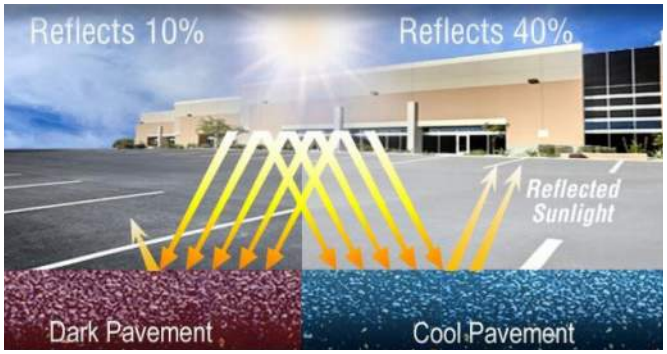
A temporary community garden in a vacant lot in Chicago, Illinois
Source: www.placemakingchicago.com

Allow Use of Pervious Pavement

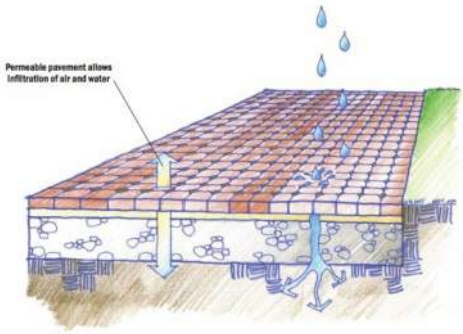
Plant parkways separating the curb from the sidewalk with ground cover, grass or permeable materials that accommodate both pedestrian movement and car doors. Brick work, pavers, gravel, and wood chips are examples of suitable permeable materials.

Resources:

- City of Chicago, *The Chicago Green Alley Handbook* (www.cityofchicago.org/dam/city/depts/cdot/Green_Alley_Handbook_2010.pdf)
- Urban Horticulture Institute, Cornell University, *Using Porous Asphalt and CU-Structural Soil* (www.hort.cornell.edu/uhi/outreach/pdfs/cu_porous_asphalt.pdf)
- Heat Island Group, *Cool Pavements Lower Temperatures* (http://heatisland.lbl.gov/coolscience/cool-science-cool-pavements)
- National Association of City Transportation Officials (NACTO) *Urban Street Design Guide* *(http://nacto.org/usdg/)*



Permeable pavement reduces the "heat island" effect
Source: Heat Island Group



Permeable pavement allows infiltration of air and water
Source: www.berkeleyside.com

Encourage Bioswales/Flow through Planters/Infiltration Trenches

- Facilitate storm water capture, retention, and infiltration, and prevent runoff by using rain gardens, bioswales, or permeable paving materials in lieu of concrete or asphalt.
- Collect, store, and reuse storm water for landscape irrigation.
- Strategically place bioswales to effectively manage stormwater, minimize parking loss, and maximize green landscaping.

Resources:

- St. Paul: Metropolitan Council, *Urban Small Sites Best Management Practice Manual, 2003* (www.metrocouncil.org/Wastewater-Water/Planning/Water-Resources-Management/Water-Quality-Management-Key-Roles.aspx)
- Chicago Department of Transportation *Sustainable Urban Infrastructure Guidelines* *(www.cityofchicago.org/content/dam/city/depts/cdot/Sustainable%20Transportation/SUIGv1.pdf)*

Example of a bioswale in Milwaukee, Wisconsin
Source: City of Milwaukee

Promote Sustainable Neighborhoods

Leadership in Energy & Environmental Design (LEED) provides a rating system for the sustainability of a neighborhood. The use of this system should be encouraged with new development.

Resources:

- U.S. Green Building Council *(USGBC)*
  Pilot Version: LEED for Neighborhood Development Rating System
  See Neighborhood Pattern & Design Section
  (www.usgbc.org/ShowFile.aspx?DocumentID=2310)
- U.S. Environmental Protection Agency (USEPA)
  Smart Growth Guidelines for Sustainable Design and Development (www.epa.gov/smartgrowth)

LEED for Neighborhood Development
Source: www.thefield.asla.org

9 INDOT Coordination

INDOT is responsible for the Broadway Corridor roadway and adjoining right-of-way. As such they are responsible for how the roadway is used and play in integral part in the planning process for the future of transit in the Corridor. GPTC buses operate on the roadway and pedestrians must walk along and across Broadway in order to get to transit stops.

A comfortable and safe pedestrian environment is an important factor in creating a transit supportive environment. The Municipal Land Use and Walkability Toolbox provided several measures located that specifically addressed improving the pedestrian environment:

- Improve Pedestrian Crossings
- Add Sidewalks
- Compliance with Americans with Disabilities Act (ADA)

INDOT has developed guidelines and standards for improving the pedestrian environment. These can be found in the following documents:

- Indiana Design Manual – provides design standards for non-motorized pedestrian facilities (chapter 307) and for crosswalk in Part 5 – Traffic and Safety.
- Indiana Manual on Uniform Traffic Control Devices – provides additional information on pedestrian crosswalk and
- Notice of Nondiscrimination under the American with Disabilities Act and Section 504 of the Rehabilitation Act of 1973
- Accessible Pedestrian Signals (APS) Policy dated July 21, 2013 –INDOT commitment to meet the accessibility and mobility needs of blind, low-vision, deaf, and hearing impaired persons in a non-discriminatory manner consistent with the intone of requirements of the ADA
- Complete Streets Guidelines and Policy – policy guidance that promotes an integrated multimodal transportation system that sustains land use developments

The Municipal Land Use and Walkability Toolbox also included recommendations for the right-of-way that could be undertaken by INDOT, the municipalities, or property owners. The toolbox item , listed below should be coordinated with INDOT.

- Create Transit Stops as People Places
- Streetscape Design
- Driveway and Parking Orientation
- Landscaping
- Encourage Bioswales/Flow through Planters/Infiltration Trenches

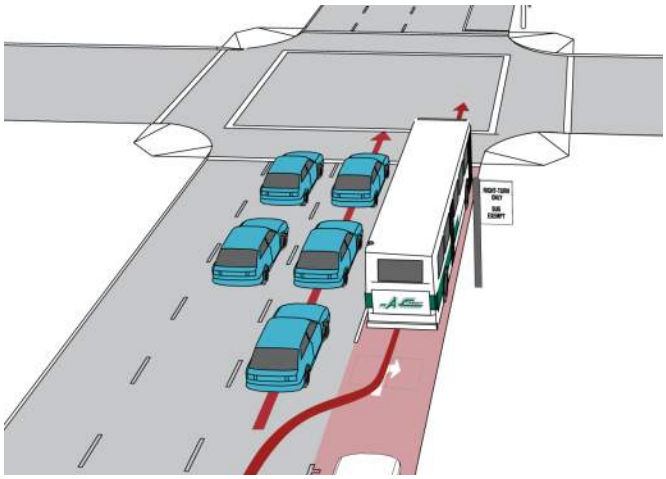
GPTC operates buses in Broadway and can work with INDOT to improve bus speed and operations. With improved GPTC bus service and ridership increases, actions can be taken to improve bus operations. These may include:

- Queue jump or bypass lanes
- Dedicated bus lanes
- Transit Signal Priority (TSP)
- Boarding platforms/bus bulbs

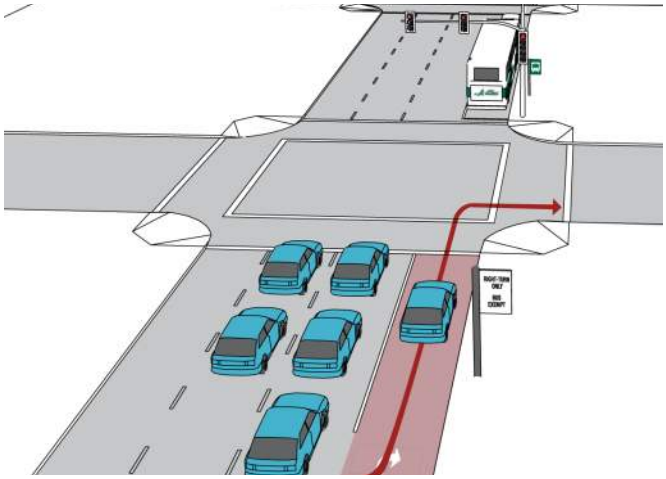
Bypass lanes should be used in order to allow transit vehicles to travel quickly through an intersection. With a bypass lane, the bus would enter either a right-turn lane or a separate lane developed for buses only between the through and right-turn lane and then continue through the intersection into a far-side stop before pulling back into general traffic. With a bypass lane treatment, a right-turn lane or separate lane for buses must be provided[1]. Signage visible to motorists would be needed.

Dedicated bus lanes should be used to improve vehicle speed by providing a designated space for vehicles to travel along a roadway. Operations are improved by reducing the amount of time a bus is waiting behind another vehicle. Bus lanes also increase transit service visibility and identity[2]. Bus lanes can be curbside, offset or center running. Signage and pavement markings should be used in order to help identify the lane and keep it free of non-transit vehicles. Bus lanes can be implemented as exclusively for buses or shared with similar demand response vehicles such as taxis or with as a shared lane with cyclists. Bus lanes can also be designated for specific hours such as during the rush periods only and used as a normal travel lane during all other times.

Transit Signal Priority (TSP) should be used as a traffic measure to allow transit vehicles to travel quickly through an intersection. TSP is the process of altering the signal timing to give a priority or advantage to transit operations. TSP modifies the normal signal operations process to better accommodate transit vehicle within the coordinate operational of the signal system along a Corridor[3].



Bus accessing a bypass Lane
Source: www.actransit.org



Bus advancing into a stop across the intersection from a bypass lane
Source: www.actransit.org

Dedicated bus lanes provide an exclusive runninway for transit vehicles
Source: www.en.wikipedia.org

1Transit Cooperative Research Program (TCRP); Report118 Bus Rapid Transit Practitioner's Guide (2007)

2 Transit Cooperative Research Program (TCRP); Report118 Bus Rapid Transit Practitioner's Guide (2007)

3 Transit Cooperative Research Program (TCRP); Report118 Bus Rapid Transit Practitioner's Guide (2007)

While curbside stops are recommended, the following designs (see TCRP *Report 19 Guidelines for the Location and Design of Bus Stops*) may be considered when determining how to accommodate bus service at a specific location:

- Curbside Stop
- Bus Bay
- Open Bus Bay
- Queue Jumper Bus Bay
- Bus Bulbs

Bus bulbs should be used to help speed up buses along Broadway particularly at heavy traffic locations. Bus bulb allow buses to pull directly up to a stop eliminating the need to maneuver in and out of a travel lane[4]. They also provide additional space at a bus stop for customer facilities and shorten the pedestrian walking distance across a street[5].

Allowing customers to pay before boarding a vehicle and/or allowing customers to board through any door can help to reduce dwell time at a stop. Off-board fare collection methods include payment booths, ticket vending machines and prepayment boarding areas[6]. Off-board fare collection and all-door boarding may require ticket checkers on board vehicles to check proof-of-payment and in order to reduce fare evasion.

Bus bulbs improve transit operations by eliminating the need for buses to curb
Source: www.nacto.org

Riders pay their fare prior to boarding the bus helping to reduce dwell time at a stop
Source: www.untappedcities.com

4 Transit Cooperative Research Program (TCRP); Report 65 An Evaluation of Bus Bulbs on Transit, Traffic, and Pedestrian Operations (2000)

5 Transit Cooperative Research Program (TCRP); Report 19 Guidelines for the Location and Design of Bus Stops (1996)

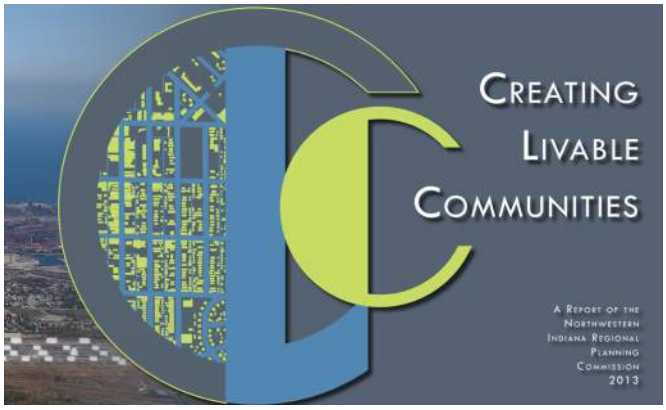
6 Transit Cooperative Research Program (TCRP);
Report118 Bus Rapid Transit Practitioner's Guide (2007)

10 Transit Supportive Zones/Transit Oriented Development

Transit Supportive Zones

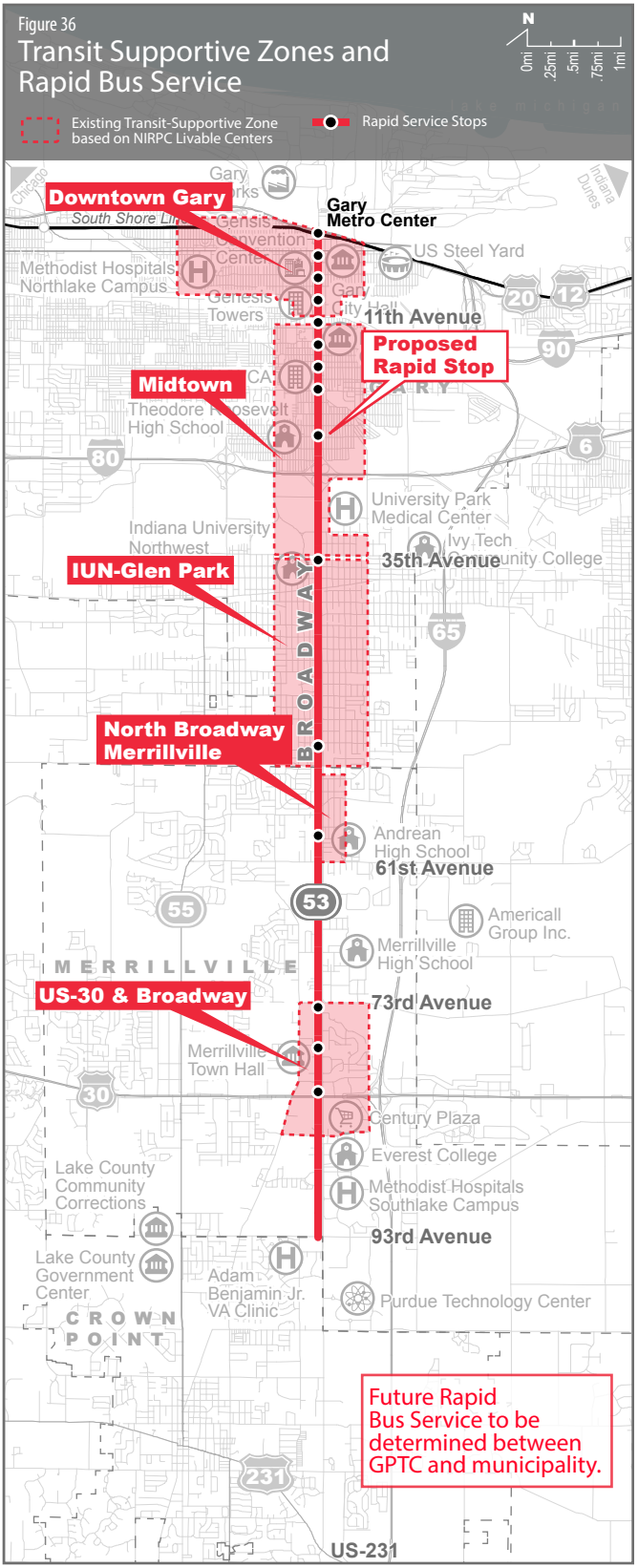
The NIRPC Creating Livable Communities Initiative **(see www.nirpc.org/2040-plan/implementation-programs/creating-livable-communities.aspx)** is used to identify transit supportive zones (TSZ) for promoting transit in the Corridor and achieving the preferred regional strategy for land use, transportation and environmental balance in Northwest Indiana. It encourages municipalities to plan and implement strategies that link transportation improvements with land use development strategies to create sustainable, livable communities that are consistent with regional development policies.

The Livable Communities Initiative identified centers where future growth should be concentrated and made livable, including five locations within the Corridor: Downtown, IUN-Glen Park and Midtown in Gary and North and Broadway and US-30 and Broadway in Merrillville. **Figure 36** illustrates the location of these Livable Centers within the Study Corridor and also shows the proposed locations for the rapid service bus stops, all of which are within the TSZ areas. The regional investment in the rapid service and stops will be in alignment with the NIRPC 2040 Comprehensive Regional Plan.



NIRPC Creating Livable Communities
Source: www.nirpc.org

Figure 36
Transit Supportive Zones and Rapid Bus Service



Transit Oriented Development

The proposed rapid service stops can become catalyst for promoting land use diversity, higher density and walkability. The municipal land use and walkability tools presented in this Study provided examples of how this can be accomplished. Another way to describe this is to promote transit-oriented development (TOD) at the rapid service stops. The term TOD is used to describe development that is designed to maximize access to public transport and encourage transit ridership. A TOD area can be centered on a rapid service stop and have a radius of a radius of one-quarter to one-half mile (400 to 800 meters) from a rapid service stop.

TOD should be focused at proposed and future rapid service stops in order to help shape the land use in the Corridor into a transit supportive environment. Dense mixed use development will transform the area around the transit stops into a live/work environment. Rapid transit service requires supporting population and employment density and a diversity of land use to promote walking and transit use.

There is not a "one size fits all" approach to incorporating transit based elements into development activities. Each case is different, particularly as the northern parts of Broadway vastly differ with the southern and middle sections. At the neighborhood scale, transit friendly strategies could link the neighborhoods with the Corridor through a variety of design techniques that would enhance connectivity. The Plan suggests opportunities for the introduction of bus stops and transit oriented developments (TOD).The municipalities also may identify future rapid service stops/ TOD areas. In so doing they can work with GPTC to promote the rapid bus service. These opportunities are presented in the form of TOD Concepts and Prototypes. The concepts are examples of how TOD could occur in the Corridor.

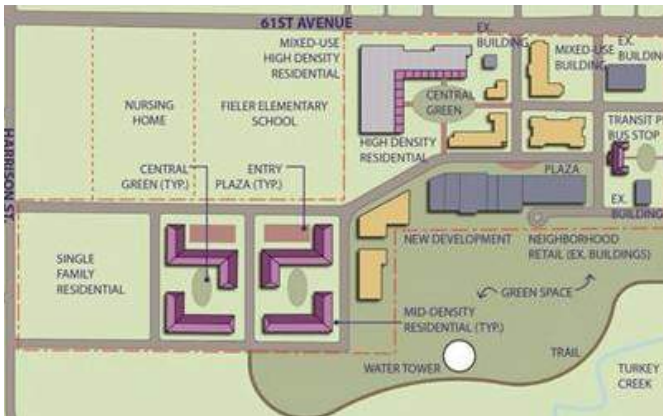
TOD Concepts

The concepts in this section represents illustrate TOD at three locations. The first concept (35th Avenue) presents a transit development plan for an urban setting. This concept encourages a variety of activities and programs that promote interaction people visiting the site.

35th Avenue Prototype
Source: The Arsh Group Inc.

35th Avenue Prototype
Source: The Arsh Group Inc.

The second concept (61st Avenue) illustrates transit oriented development in a suburban setting. This concept also contains a variety of activities, but with green space and a gathering place amongst an area with parking lots. The third concept (US 30) aims to incorporate redevelopment, infill development, and supportive transit elements in a larger, underutilized development. In this concept, transit elements play a supportive role in creating new development.



61st Avenue Prototype
Source: The Arsh Group Inc.

61st Avenue Prototype
Source: The Arsh Group Inc.

US-30 Prototype
Source: The Arsh Group Inc.

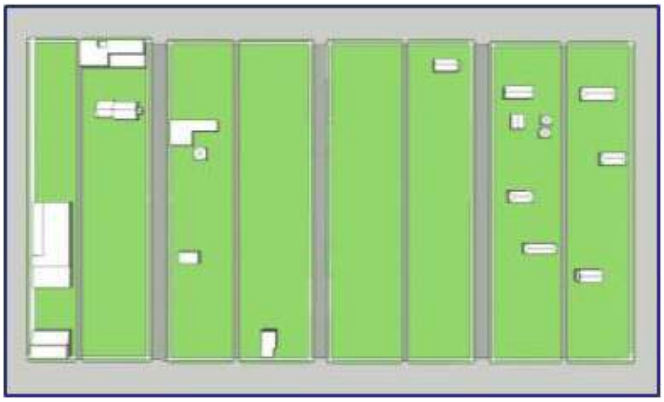
US-30 Prototype
Source: The Arsh Group Inc.

TOD Prototypes

Five TOD Prototypes were prepared to illustrate alternative ways that development or redevelopment can occur in different parts of the Corridor under a range of land use characteristics. For each Prototype, a description of the opportunity is provided and key principles are identified. While each development type is distinct, they all share certain design principles that will be important to all new developments.

1. Urban Village

Urban Village sites typically represent large parcels of vacant and underutilized blocks located within a 1/4 mile or five-minute walking distance from a rapid service stop. These sites, many in the form of redevelopment sites, provide an opportunity to focus high-density mixed-use development close to Broadway, encourage transit ridership, and strengthen destinations along the Corridor.



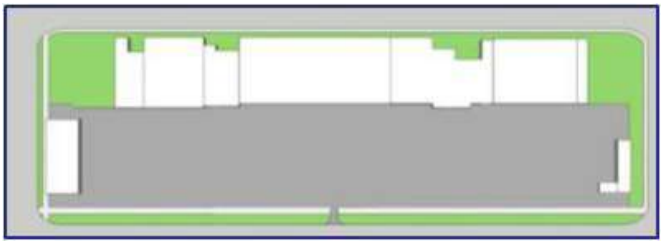
Typical Existing Urban Village Site
Source: The Arsh Group Inc.

The Urban Village concept also provides an opportunity to reintegrate many vacant or distressed blocks back into their surrounding neighborhoods through building and development forms that are more compact and pedestrian-friendly.

Urban Village Redevelopment Opportunity
Source: The Arsh Group Inc.

2. Big Box Redevelopment

Big Box sites typically comprise of large parcels of land with one or two large-format retail stores and extensive surface parking on the front yard. This development form often has the effect of disconnecting the site from the surrounding neighborhood. As a result, these sites are often either underutilized, in a transitional stage, or remain vacant. Although some offer opportunity for adaptive reuse, most require an intensification of uses on the site to become sustainable.



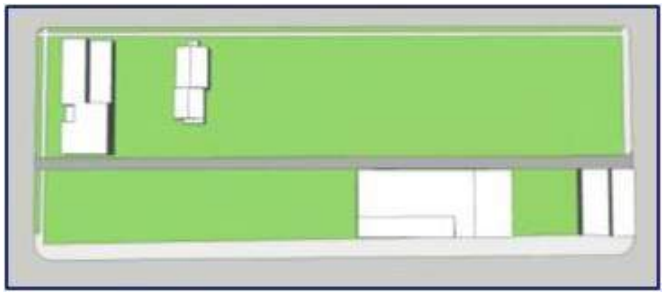
Typical Existing Big Box Site
Source: The Arsh Group Inc.

Because of their relative availability of undeveloped land, big box sites are excellent candidates for more intensive infill development to introduce a greater mix of uses and improve pedestrian linkages. New buildings will help reintegrate these developments back into their surroundings, fill in the gaps along the street face, and encourage visitors to walk instead of drive between destinations.

Big Box Redevelopment Opportunity
Source: The Arsh Group Inc.

3. Full Block Sites

Full Block Sites represent larger, narrow blocks of land adjacent to Broadway. These are typically individual blocks or several blocks running north-south along the Corridor. Such sites are easily identifiable in the northern part of the Corridor. These blocks are typically vacant, with some featuring scattered, marginal development.



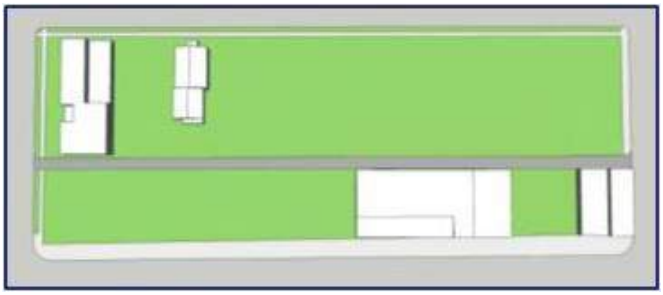
Typical Existing Full Block Site
Source: The Arsh Group Inc.

These sites provide an opportunity to reclaim large strips of land and fill in the gaps between blocks with new double-sided developments that face both onto Broadway as well as adjacent streets. The full block sites can offer an opportunity to create a substantial scale development capable of supporting a range of uses with mixed uses, urban plazas, or new neighborhood green spaces.

Full Block Site Redevelopment Opportunity
Source: The Arsh Group Inc.

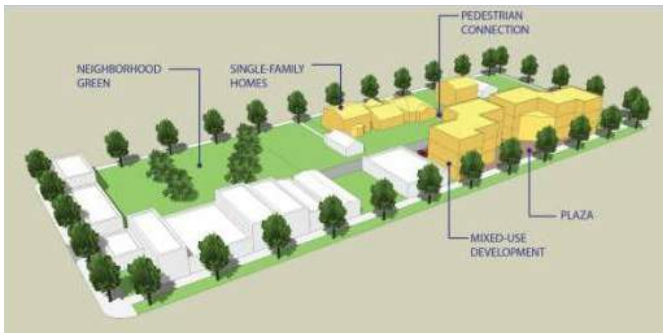
4. Full Depth Infill

Full Depth Infill sites typically represent parcels of vacant or underutilized land, located within otherwise viable blocks that extend from Broadway through to the neighborhoods in the rear. While individual parcels are typically separated by an alley, the character and location of the parcels, as illustrated below, essentially allow them to be connected from Broadway to the adjacent residential streets.



Typical Existing Full Depth Infill Site
Source: The Arsh Group Inc.

These lots offer an opportunity to both fill in the gaps with new development of a complementary scale to Broadway and complete the residential streetscape to the rear. New development on these sites also offers an opportunity to intensify retail activity along Broadway and provide additional residential or commercial uses on the upper levels. To the rear of the property, new residential infill development could help increase densities along Broadway and repair the residential character of interior streets that have been eroded by disinvestment and lack of upkeep.



Full Depth Infill Site Redevelopment Opportunity
Source: The Arsh Group Inc.

5. Half Depth Infill Site

Half Depth Infill sites represent smaller parcels of vacant or underutilized land abundantly available throughout the Broadway corridor. The sites provide an opportunity to replace the gaps along Broadway with infill development of a scale complementary to existing buildings.

Typical Existing Half Depth Infill Site
Source: The Arsh Group Inc.

New development on these sites typically could be considered as an opportunity to intensify land use activity and provide additional residential or commercial uses on the upper levels. An important consideration for new development on infill sites should be how to transition these new buildings and parking with adjacent uses in a compatible scale. This issue can often be addressed through the design of rear service drives or alleys if none exist.

Half Depth Infill Site Redevelopment Opportunity
Source: The Arsh Group Inc.

Gary Public Transportation Corporation (GPTC)
Livable Broadway Regional Plan:
Part 3 - Implementation Strategies

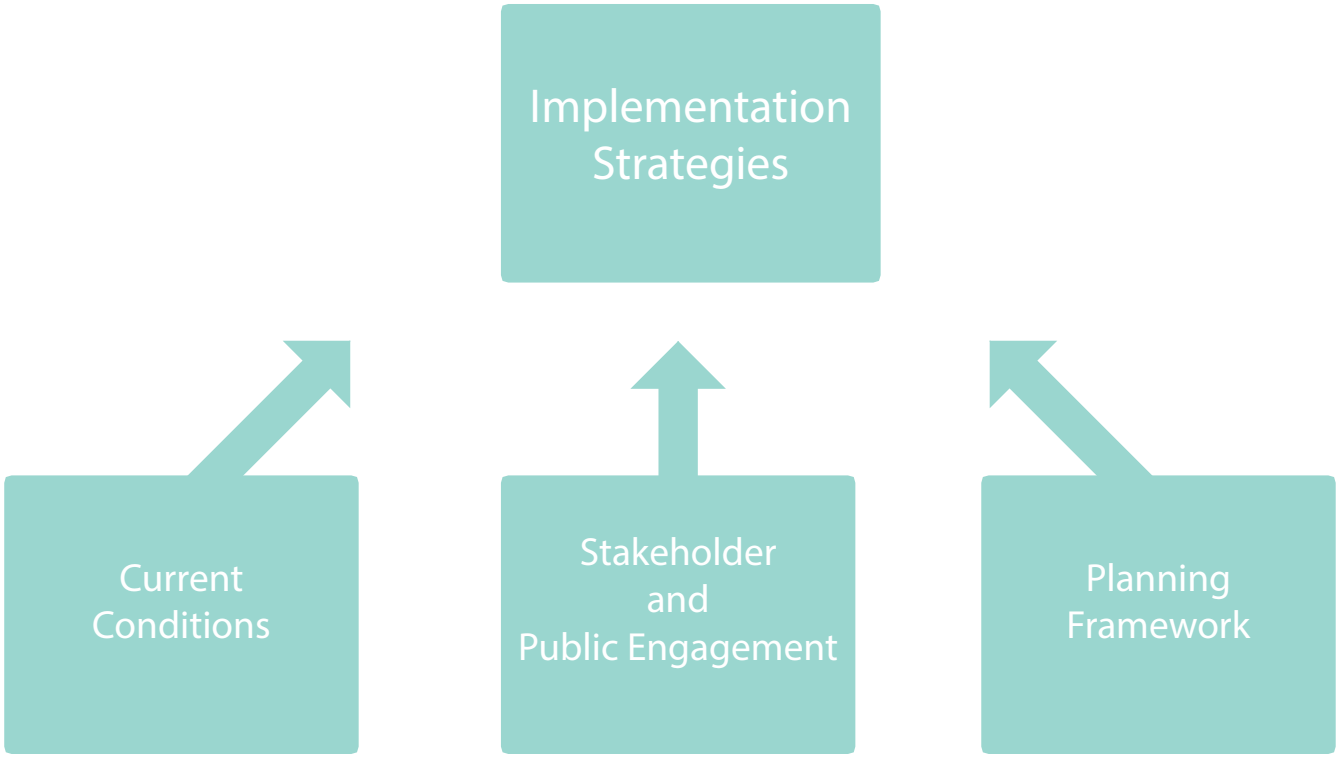
11 Introduction

The Livable Broadway Regional Corridor Plan (Plan) provides a vision for transit-supportive development which refers to a planning concept that suggests that effective and predictable transit service encourages surrounding development, which, in turn, supports transit.

This Plan integrates transit planning with local land use planning by proposing short-term improvements to improve transit service and frequency. It also suggests measures or tools that the municipalities can adopt to create development that will support transit. These actions will, in turn, support a higher level transit service.

Transit in almost all of its forms can support and encourage thoughtful development and place-making. To succeed, transit needs to be accepted and accommodated by the municipalities that control land use.

This document presents the strategies for implementing the Plan. It is the culmination of a planning effort that included a Current Conditions Report and a Planning Framework Report that suggested measures for improving transit and tools for making the Corridor more transit supportive and walkable. Throughout the planning effort there was stakeholder and public engagement to provide feedback on the proposed measures.



This Plan represents a coordinated transportation and land use planning effort. The Gary Public Transportation Corporation (GPTC), Indiana Department of Transportation (INDOT), The City of Gary, The Town of Merrillville, and The City of Crown Point have worked together in developing the Plan. The implementing agencies will need to continue to work together to fulfill the vision set forth in this planning effort.

GPTC Projects provides unit costs for the actions presented in the Planning Framework. These unit costs are then used to develop a planning budget for three projects that GPTC can implement within the next five years to promote transit service in the Corridor. The projects are branding/marketing, transit signage and amenities, and rapid bus service.

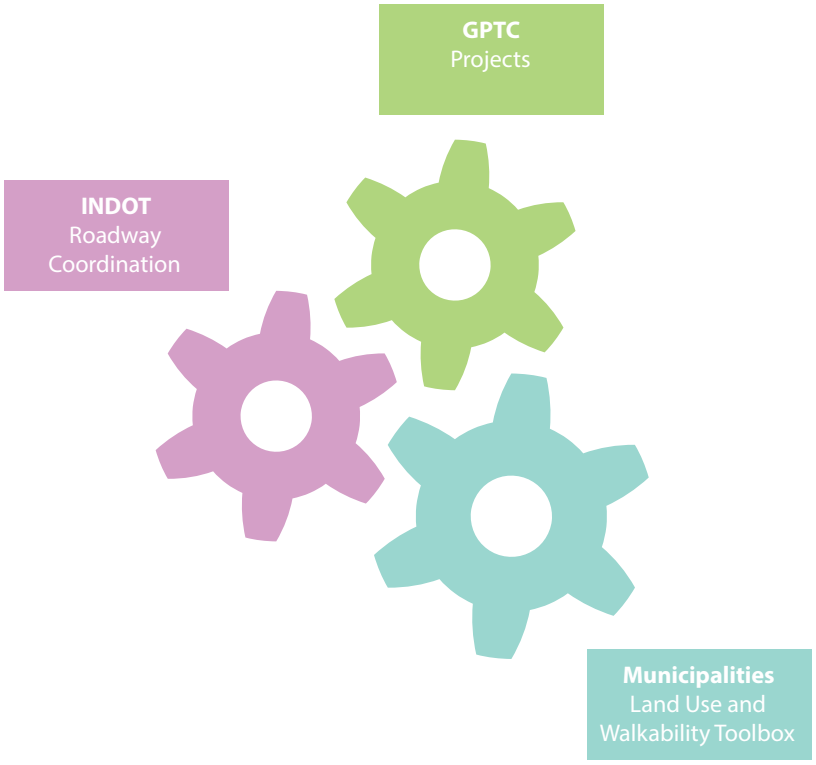
Transit Funding Sources presents potential funding sources and how they might be applied to the transit actions and walkability improvement.

Municipal Strategies describes actions that the municipalities can take to implement the toolbox measures in the Planning Framework .

INDOT Coordination discusses INDOT's continued role throughout the planning process.

Phasing illustrates implementation phasing for the plan strategies and the long term planning presents who is responsible for implementing the Plan and strategies.

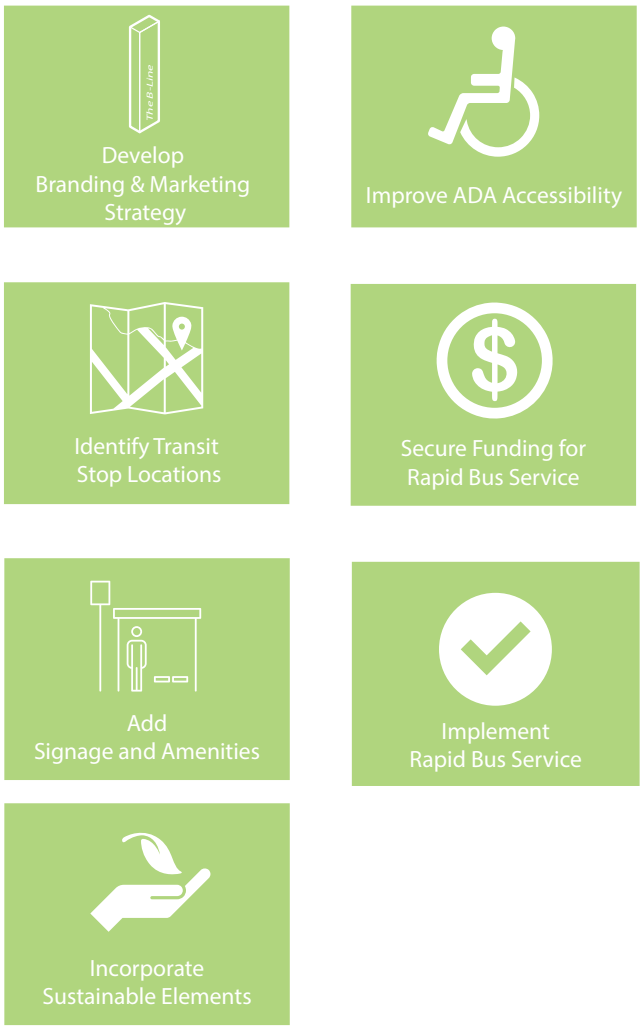
Coordinated Vision presents an understanding of how this Plan ends one process and another process begins. It also illustrates how a much larger community will be involved in implementation.



Comprehensive Planning Approach

12 GPTC Projects

The Planning Framework Report provides guidelines and programs that serve as the foundation for the GPTC projects. Refinement and approval of the guidelines and programs by GPTC is required prior to implementation of the projects. No cost is associated with the guidelines and programs since they could be performed by GPTC staff. However, available staff time is often limited on a day to day basis. In some cases it may be more appropriate to hire outside consulting services to assist with implementation.



Planning level unit costs were developed in order to gain an understanding of the cost magnitude associated with implementation. They are then used to prepare a planning level budget for the projects.

Table 17

GPTC Project Unit Costs ($)

This table provides a planning level understanding of GPTC project unit costs.

Transit Signage	
Proposed transit stops	76 - 98
Cost per transit sign[1]	$600
Allocation for sidewalk improvements ($)[2]	$600
Total Implementation Cost ($)	
Subtotal ($)	$91,200 - $117,600
30% contingency ($)	$27,360 - $35,280
Total cost ($)	$118,560 - $152,880
Amenities (includes sustainable design elements)	
Proposed transit stops	30
Cost per trash can ($)[3]	$600
Cost per bench ($)[3]	$1,000
Cost per bicycle rack ($)[4]	$444
Cost per enhanced sign ($)[1]	$1,200
Cost per shelter ($), includes sidewalk pad[2]	$7,900
Total Implementation Cost ($)	
Subtotal ($)	$334,320
Sustainable design elements ($) (10% of subtotal)[5]	$33,432
Subtotal ($)	$367,752
30% contingency ($)	$110,326
Total cost ($)	$478,078
Branding/Marketing	
Total Implementation Cost ($)	$20,000 - $100,000

[1]Based on typical construction price in Chicago, IL. area
[2]An allocation for sidewalk improvements is suggested at each stop. The allocation can be used to create a connection tot he crosswalk, a connection to the stop, or ADA compliance.
[3]Based on average price from Duo-Gard, Brasco International, and Austin Mohawk Inc.
[4]Reliance Foundry Co. Ltd.
[5]Elements at stops may include solar powered shelters, landscape/bioswales, and/or permeable pavement.

Three main projects were identified that GPTC could undertake to improve transit service in the Corridor. Elements of these projects were described in the Planning Framework Report and are described in this section.

Branding/Marketing

A branding and marketing strategy for the Corridor was presented in the Planning Framework. Total implementation cost could be $20,000 to $100,000. There is a wide variation in costs because GPTC will need to decide the extent of the branding/marketing program before proceeding with the effort. In the Planning Framework it was suggested that a brand be developed for the transit signage, the Corridor, and the rapid bus service. Branding could involve one or all of these elements. Also, the branding strategy could be developed in conjunction with an overall service brand strategy. GPTC will need to consider the extent of the branding effort before securing a consultant to assist with the effort.

Transit Signage and Amenities

Based on the proposed bus stop spacing guidelines provided in the Planning Framework, 76 to 98 bus stops would be needed for the Corridor. Using the unit cost from **Table 17 - GPTC Project Unit Costs ($),** total implementation cost for transit signage and improved sidewalk conditions at all stops is estimated between $118,560 and $152,880 depending on the final number of stops and signage design.

Shelters, benches, bicycle racks, trash cans, and enhanced signage are proposed at 30 stops. These amenities would be provided at all proposed rapid service stops. Using the unit cost from **Table 17 - GPTC Project Unit Costs ($),** total implementation cost is estimated at $478,078. The cost will vary based on the type and number of amenities provided. Stops with amenities could be increased if so desired by GPTC.

Rapid Bus Service

Basic service levels are proposed to initiate a rapid bus service in the Corridor. This is a longer-term project that should be started after GPTC's decisions on the branding program and the transit stop signage and amenities program.

As part of providing this service, the municipalities would have to agree to promote the transit oriented development concepts at the rapid service stops. Rapid bus service would provide an impetus to accelerate and encourage development in the area around the rapid service stops. With the new development, GPTC could continue to improve service and provide additional amenities at the stops as transit ridership increases. Amenities would be provided at all 30 proposed rapid service stops.

To initiate the rapid bus service, operations would be limited to weekday service only at the select stops between the Metro Center and 93rd Street. Service would operate every 20 minutes in both directions between 6:30am-9:30am and 3:30pm-6:30pm. Limiting operations to the peak travel periods can maximize and make efficient use of limited financial resources. By operating only during these hours, more frequent service can be provided. Frequency could be increased and hours of service expanded as ridership grows and demand increases.

Table 18 - Rapid Bus Service Cost ($) provides a planning level understanding of the costs associated with implementation of a rapid bus service. The most significant cost with the proposed service is adding new buses. However, existing service operating along Broadway could be restructured in order to reduce this additional cost and minimize service duplication. Total implementation cost is estimated between $2,240,486 and $4,807,164.

Current scheduled bus travel time between the Metro Center and 95th is approximately 49 minutes. It is estimated that travel time savings with a rapid bus service could be reduced by as much as 20%. Travel time savings would be obtained by reducing the number of service stops. This estimated time savings would

reduce the travel time from 49 minutes to 39 minutes. Actual time savings would depend on ridership levels, final stop determination, and implementation of the proposed bus stop guidelines.

Sustainability

Sustainable elements should be incorporated into the design of transit stops. Elements at stops may include solar powered shelters, landscape/bioswales, and/or permeable pavement.

An additional 10% of the total amenities cost is suggested in order to incorporate sustainable elements along the Corridor. Using the unit cost from **Table 17 - GPTC Project Unit Costs ($),** estimated cost to incorporate sustainable elements into the design of transit stops is $33,432 (before contingency).

Table 18

Rapid Bus Service Cost ($)

This table provides a planning level understanding of the costs associated with implementation of a new rapid bus service. Existing service operating along Broadway could be restructured in order to reduce costs and minimize service duplication.

Service Operations ($)	
Travel time per round trip[1]	88min (includes 10min layover)
Daily round trips	20 trips
Daily vehicle operating hours	29.3 hours
Cost per vehicle service hour ($)	$100.00
Daily cost ($)	$2,933
Annualized cost ($)	$736,267

Capital Cost ($)	
Buses required[2]	2 - 6
Cost per bus[3]	$493,592
Total cost ($)	$987,184 to $2,961,552

Total Implementation Cost ($)	
Annual service operations	$736,267
Capital cost	$987,184 - $2,961,552
Subtotal	$1,723,451 - $3,697,819
30% contingency	$517,035 - $1,109,346
Total	$2,240,486 - $4,807,164

[1]20% estimated travel time savings would be obtained by a reduced number of bus stops. Current scheduled bus travel time between the Metro Center and 95th is approximately 49 minutes.
[2]GPTC could make use of the buses that currently service the Corridor (Routes #17 and #18). The exact number of buses will need to be determined by GPTC.
[3]American Public Transportation Association (APTA)

13 Transit Funding Sources

Several funding sources are potentially available for the three GPTC projects presented in **GPTC Projects**. These include federal funding, the Transportation Alternatives Program (TAP), Indiana Department of Transportation, and local sources which include Tax Increment Financing (TIF), an Adopt a Stop program, and the Northwest Indiana Regional Development Authority (RDA).

Federal

Federal Transit Administration (FTA) SAFETEA-LU Formula Grants Job Access and Reverse Commute Program (49 U.S.C. 5316): Provides capital, planning and operating expenses for projects that transport low income individuals to and from jobs and activities related to employment, and for reverse commute projects. Funds are available for year of appropriating plus two additional years, three in total. See www.fta.dot.gov/grants/13093_3550.html for more information.

FTA Urbanized Area Formula Grants (49 U.S.C. Section 5307): Provides grants to urbanized areas for public transportation project related to capital, planning, job access, and reverse commute. Eligible activities include capital projects, planning, job access, and reverse commute projects that provide transportation to jobs and employment opportunities for welfare recipients and low-income workers. Federal share is 80% with a required 20% local match. See www.fta.dot.gov/grants/13093_3561.html for more information.

FTA SAFETEA-LU Discretionary Grants Bus and Bus Related Equipment and Facilities Program (49 U.S.C. 5309(b)(3)): Provides capital assistance for purchasing of buses for fleet and service expansion, transfer facilities, and passengers amenities such as passenger shelters and bus stop signs. Funds are available for year of appropriating plus two additional years, three in total. See www.fta.dot.gov/grants/13094_3557.html for more information.

FTA Moving Ahead for Progress in the 21st Century (MAP-21) Capital Investment Program New Starts, Small Starts and Core Capacity Improvement Projects (49 U.S.C. 5309(b)(1)): This program provides funds for construction of new fixed guideway systems including Bus Rapid Transit (BRT). Funds are available for year of appropriating plus two additional years, three in total. See www.fta.dot.gov/12304_3559.html for more information.

Surface Transportation Program (STP) (MAP-21 Section 1108; 23 U.S.C. 133): Capital costs for transit projects eligible for assistance include vehicles and

facilities used to provide intercity passenger bus service. Eligible transit-related activities include transit research and development and technology transfer, surface transportation planning programs, capital costs for transit projects eligible under Chapter 53 of Title 49, which may include: intercity bus service, public transportation electric and natural gas vehicles and infrastructure, bicycle facilities and pedestrian projects having a nexus to public transportation. STP funds can be transferred (or "flexed") over from the States to transit agencies and local governments for transit projects. A State may request that FHWA transfer STP funds to FTA for any Chapter 53-eligible projects. See www.fta.dot.gov/grants/12867.html for more information.

Congestion Mitigation and Air Quality (CMAQ) Improvement Program (MAP-21 Sections 1101, 1105 and 1113; 23 U.S.C. 149): The CMAQ program provides a flexible funding source to State and local governments for transportation projects and programs to help meet the requirements of the Clean Air Act. Eligible actives include transit system capital expansion and improvements that are projected to realize an increase in ridership. Federal share is 80% with a required 20% local match. CMAQ funds can be combined with federal funds such as STP funds. Funds are apportioned to States based on a formula that considers the severity of their air quality problems. See www.fta.dot.gov/grants/12867.html for more information.

Transportation Alternatives Program (Federal)

The Transportation Alternatives Program (TAP) (MAP-21 Sections 1122; 23 U.S.C. 213(a)). The TAP provides funding for programs and projects defined as transportation alternatives, including on- and off-road pedestrian and bicycle facilities, infrastructure projects for improving non-driver access to public transportation and enhanced mobility, community improvement activities, and environmental mitigation; recreational trail program projects; safe routes to school projects; and projects for planning, designing, or constructing boulevards and other roadways largely in the right-of-way of former Interstate System routes or other divided highways.

Indiana Department of Transportation

INDOT Public Mass Transportation Fund (I.C. 8-23-3-8). The funds are allocated to public transit systems on a performance based formula. An eligible recipient is defined as any transit system that receives federal funds under the Federal Transit Act and provides public transportation in Indiana. Eligible activities include Operating Project Grants which provide assistance for the operations of the transit service and Capital Project Grants which generally include expenses for purchasing vehicles, communication equipment, fare boxes, passenger shelters, and construction of and rehabilitation of transit facilities.

Tax Increment Financing (Local Funding)

Tax Increment Financing (TIF) allows governments to finance economic development of areas. Funds from TIF districts located along the Corridor could be used to provide new transportation infrastructure on Broadway. This source also could be sued to fund sidewalk improvements.

Adopt a Stop (Local Funding)

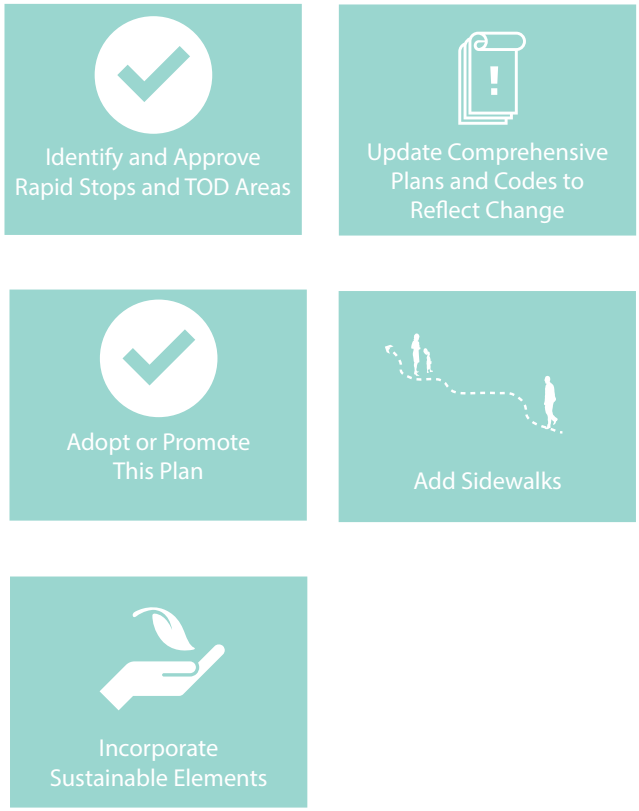
The Bus Stop Adoption Program outlined in the Planning Framework could serve as a possible funding source for transit stop amenities and/or fund ongoing stop maintenance. The program would allow institutions, organizations and business with large numbers of employees to adopt a bus stop.

Northwest Indiana Regional Development Authority (Local Funding)

The Northwest Indiana Regional Development Authority (RDA) is a development agency covering Lake and Porter counties in Northwest Indiana. RDA has been given four tasks by the state General Assembly: redevelop the Lake Michigan shoreline in accordance with the Marquette Plan; expand the Gary/Chicago International Airport; develop and support regional passenger rail and bus transportation; and enhance economic development Northwest Indiana. RDA could provide funding for the project.

14 Municipal Strategies

The following are strategies that the municipalities can implement to improve transit and walkability in the Corridor.



Approve Rapid Service Stops/Transit Oriented Development Areas

15 Transit Oriented Development (TOD) locations have been identified for the Corridor. Municipalities should work with GPTC in order to approve the rapid service stops and TOD locations. In addition, the municipalities can work with GPTC to identify future locations.

Adopt or Promote This Plan

Municipalities may adopt this Plan, parts of the Plan, or apply it to Transit Supportive Zones (TSZ). Advocacy groups, developers, and institutions can assist by promoting the Plan to the municipalities.

Update Municipal Comprehensive Plans

Municipal Comprehensive Plans should be revised to allow for tools laid out in the Municipal Land Use and Walkability Toolbox in the Planning Framework Report. TSZ's could become a part of the comprehensive plan.

Update Development Codes

Development codes should be updated to support the desired goals and objectives of this Plan. Updates can use tools laid out in the Municipal Land Use and Walkability Toolbox in the Planning Framework Report.

Add Sidewalks

Municipalities should improve walkability within the Corridor. Sidewalks should be added along Broadway and on side streets within 1/4 mile of transit stops. Connections between transit stops and crosswalks should be added. All installations of sidewalks should be ADA compliant.

Sustainability

Municipalities should incorporate sustainable elements into the public realm and streetscape wherever possible. **See Green/Sustainable Initiatives** in the Planning Framework Report for more information.

15 INDOT Coordination

In 2017, INDOT is scheduled to resurface Broadway between 4th Avenue and 61st Avenue. TYLI reviewed the INDOT road plans prepared for the preliminary field check dated March 4, 2015. As part of the roadway improvement project, INDOT indicated all signalized intersections within the project limits will be striped for crosswalks and upgraded to be ADA complaint.

In addition, transit bypass lanes will be reviewed for feasibility at select locations along the Corridor.

While sidewalks are present on all legs of the intersection of Broadway and 43rd Avenue, plans do not show an east-west crosswalk on the south leg of the intersection.

The plans also do not show crosswalk pavement markings at the ramps to/from I-94.

Crosswalks should be placed at all locations where a bus stop exist. However, bus stop locations for the Corridor have not yet been determined.

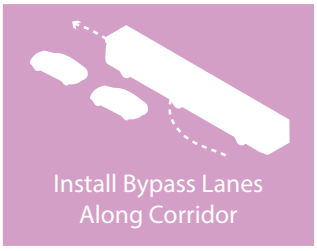
Install Crosswalks at all Transit Stops (ADA Compliant)

As part of the 2017 Broadway resurfacing project, INDOT should install crosswalks at all transit stops and incorporate ADA accessibility into the project. GPTC should continue to work with INDOT once all transit stop locations have been identified.

Install Transit Bypass Lanes

INDOT is reviewing transit bypass lane feasibility at select locations along the Corridor. GPTC should continue to work with INDOT in order to help determine exact locations.


Install Crosswalks at all Transit Stop Locations


Install Bypass Lanes Along Corridor

16 Phasing and Roles

Short-Term Phasing (0-5 years)
Table 19 - Short-Term Implementation Phasing identifies actions that should be taken in the next 5 years by GPTC, the municipalities, and INDOT. This coordinated approach is required in order to start implementation of the Plan.

Table 19
Short-Term Implementation Phasing (0-5 years)

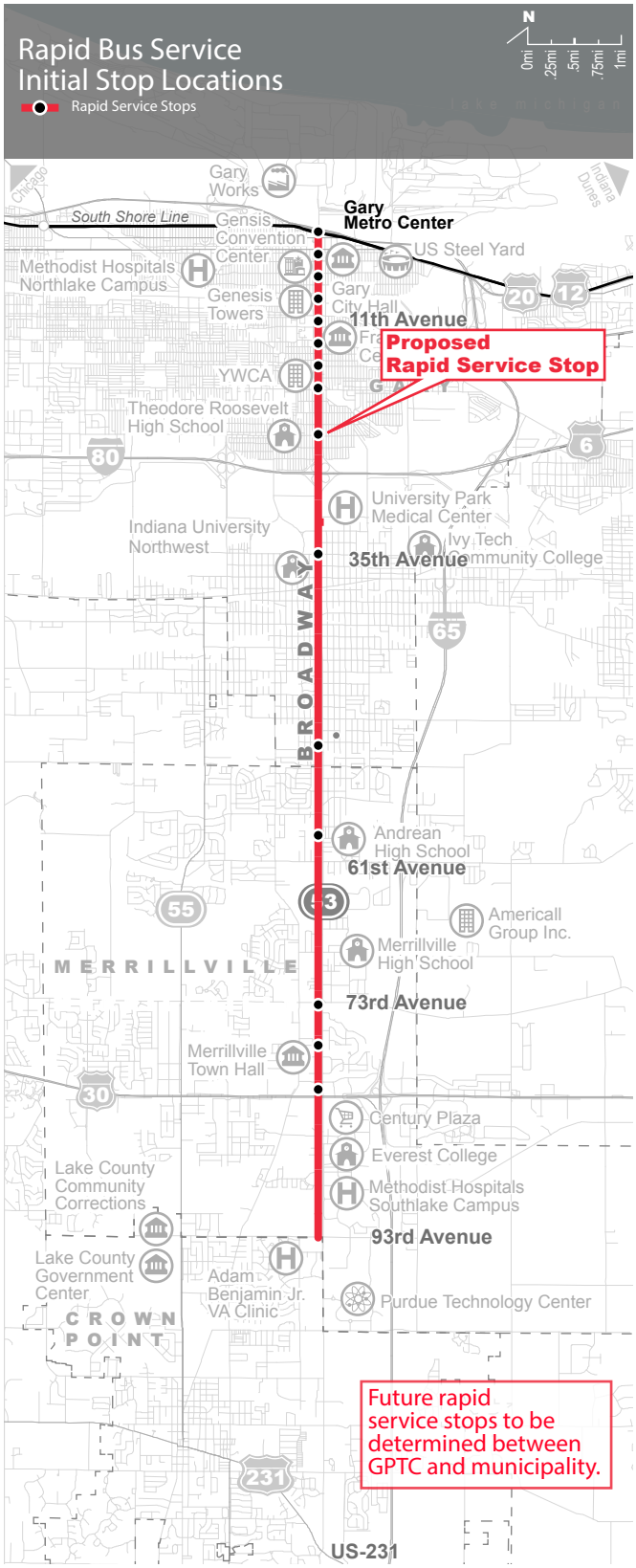
Phase	Coordination	Actions
A	GPTC	Implement the Branding/Marketing program Identify transit stop locations Install transit signage and amenities Improve accessibility for all users Incorporate sustainable elements
B	Municipalities	Approve rapid service stops/TOD areas (proposed and future)
	INDOT	Install crosswalks at all transit stops (ADA compliant) Install transit bypass lanes
C	GPTC	Secure funding for rapid bus service Implement rapid bus service
	Municipalities	Adopt or promote this plan Update municipal comprehensive plans Update development codes Improve walkability Incorporate sustainable elements

Mid-Term Phasing (0-10 years)
TOD should be focused at the 15 initial rapid service stop locations proposed for the Corridor. The figure to the right highlights the proposed 15 TOD/rapid service stop locations for the Corridor.

Municipalities could assist in identifying additional locations that are candidates for TOD surrounding future rapid service stops.

Transit corridor planning and design starts years and even decades before the system becomes operational. Real estate developers are market-driven and generally start to plan development projects two to three years before the system becomes operational. Transit-supportive development plans need to be in place set the foundation for decisions that will encourage transit-supportive development when the market is ready.

Transit-supportive developments are often more



expensive to build. Creating a compact district may require significant street systems, as well as water, sewer, and other utility improvements. Older infrastructure systems may need a major overhaul.

Financial institutions need to be aware that a vision has been created for the Corridor and all the stakeholders are in agreement with the vision. This Plan will help financial institutions understand the proposed TOD concepts for the Corridor.

Level boarding for customers at an enhanced transit stop in Grand Rapids, Michigan
Source: www.calvin.edu

Long-Term Phasing (10+ years)
Basic service levels are proposed to initiate a rapid bus service in the Corridor. The long-term transit vision for the Corridor includes increasing service frequency to every 10-15 minutes, extending service hours, installing enhanced stations, dedicated travel lanes, all-door boarding/off-board fare collection efforts, and Transit Signal Priority (TSP). Planning level cost estimates for some of these additional elements have been outlined in **Table 20 - GPTC Long-Term Project Unit Costs ($).**

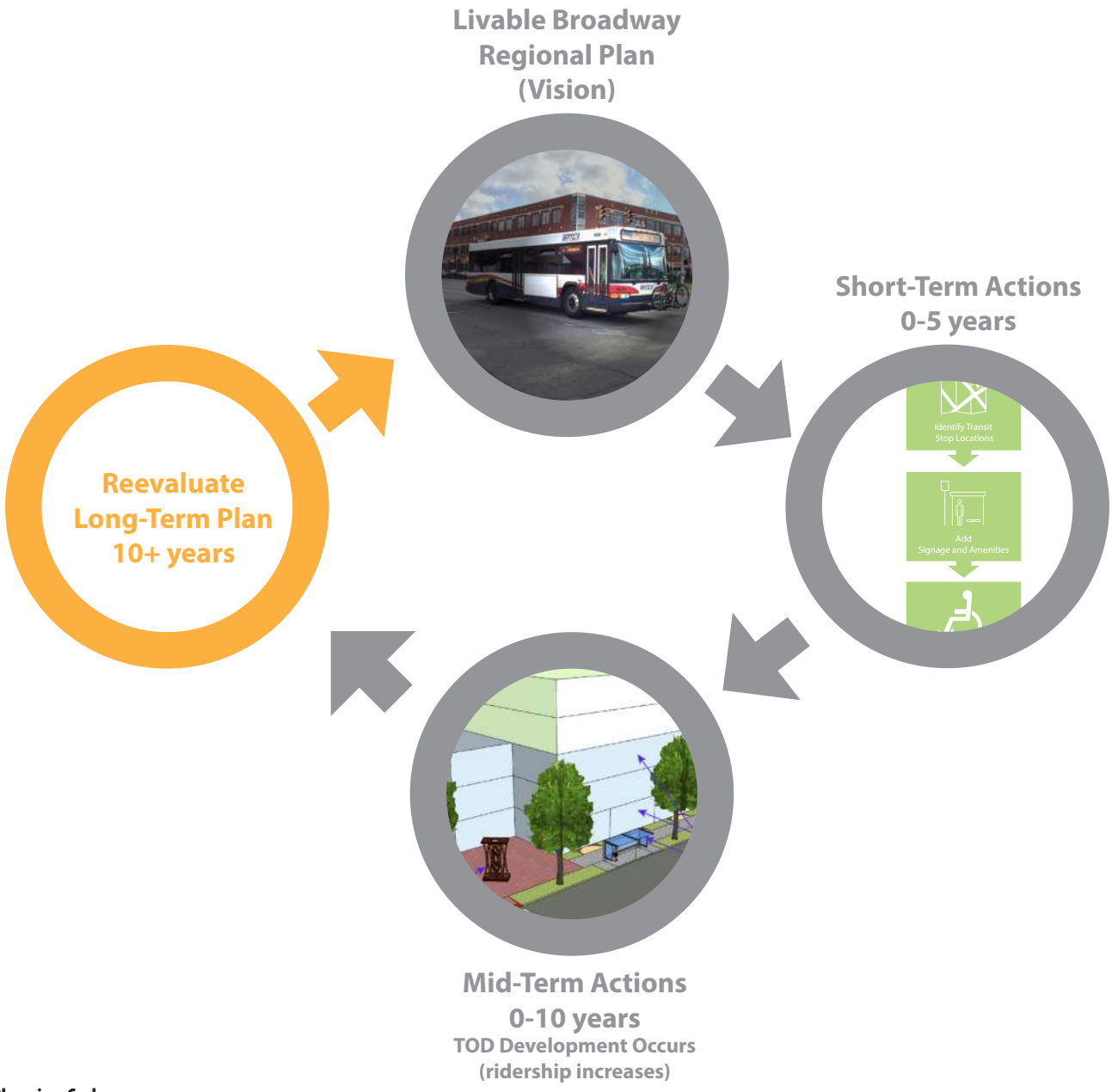
As rapid service begins, TOD occurs, and ridership increases, GPTC can reevaluate operations and provided improved transit service.

Table 20
GPTC Long-Term Project Unit Costs ($)
This table provides a planning level understanding of GPTC long-term project unit costs.

Element	Strategy Reference	Unit	Price ($)
Enhanced transit stop[1]	3.3	Each	$60,000-$250,000
Dedicated bus lane[2]	3.3	Per mile	$2-3 million
Queue jump bypass lane[3]	3.3	Per approach	$300,000
Transit Signal Priority (TSP)[2]	3.3	Per intersection	$2,500-$40,000
All-door boarding or off-board fare collection[4]	3.3	Each	$0-$25,000

[1]Transit Cooperative Research Program (TCRP); Report118 Bus Rapid Transit Practitioner's Guide (2007)
[2]Transit Cooperative Research Program (TCRP); Synthesis 83 Bus and Rail Transit Preferential Treatments in Mixed Traffic (2010) / Additional costs may include cameras for bus lane enforcement
[3]Transit Cooperative Research Program (TCRP); Report118 Bus Rapid Transit Practitioner's Guide (2007)
[4]New York City (NYC) Metropolitan Transportation Authority (MTA) – Streetsblog.org / Costs may include proof-of-payment enforcement and/or electronic fare payment readers

Development of the Corridor is a multi-step approach beginning with the GPTC projects and the municipalities implementing the toolbox strategies. As the projects and the municipal strategies are implemented, new development at proposed rapid service stops will begin to occur. As development occurs and ridership increases, transit service and the overall vision for the Corridor should be reevaluated.



Planning Cycle

Roles

This Plan creates a vision for the Corridor including strategies for implementation. However, this Plan represents one-step in the process and many challenges will remain. This Plan represents a coordinated transportation and land use planning effort. GPTC, INDOT and the municipalities have worked together in developing the Plan. However, as indicated, this effort concludes one chapter in the planning process and starts another. The implementing agencies will need to continue to work together and with the other stakeholders to fulfill the vision set forth in this planning effort. Creating a planning coordinating council will help with implementing this Plan.

Many different entities are involved in or influence the planning and implementation of transit systems and transit-supportive development. They include the Federal Transit Administration (FTA)/Federal Highway Authority (FHA), the State of Indiana, the Northeast Indiana Regional Planning Commission (NIRPC), the Gary Public Transportation Corporation, and the municipalities of Gary and Crown Point, the Town of Merrillville. Also important are the property owners and developers, business organizations, neighborhood organizations, advocacy groups, and lending institutions. Successful transit-supportive development requires support from all of these players to integrate transit planning and land use planning.

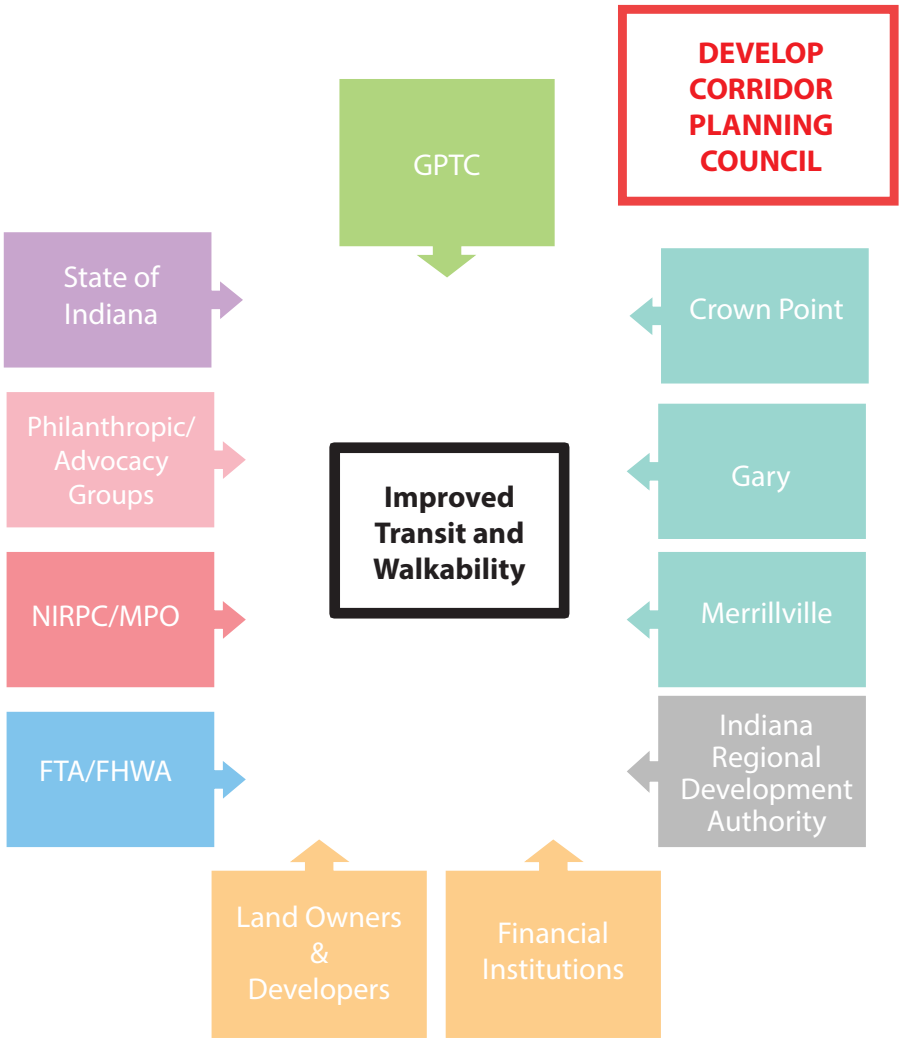
Table 21 - Roles in Transit and Roadway Investment and Land Use Decision-Making illustrates the involvement of government, the private sector, and not-for-profits in transit and roadway investment and land use decision-making.

Table 21

Roles in Transit and Roadway Investment and Land Use Decision-Making

Stakeholder	Transit Investment	Roadway Investment	Land Use Decision-Making
Federal Transit Administration / Federal Highway Administration	Significant	Significant	None
State of Indiana	Some	Significant	Some
Northwest Indiana Regional Planning Commission	Some	Some	Some
Gary Public Transit Corporation	Significant	Some	None
Crown Point, Gary and Merrillville	Some	Some	Significant
Land Owners & Developers (private; not-for-profit)	Some	None	Significant
Philanthropic/ Advocacy Groups ex. Legacy Foundation	Some-Policy	None	Some-Policy
Indiana Regional Development Authority	Maybe	Maybe	None

Funding will need to be secured to implement the Plan. Some of these funding sources are described in **Transit Funding Sources**. While not an implementing agency, NIRPC plays an important role as the regional planning agency in northwest Indiana. NIRPC prepared the Creating Livable Communities Report that sets the stage for creating the TSZ discussed in the Planning Framework. NIRPC is also responsible for coordinating federal transportation funding in the region.



Coordinated Vision

Gary Public Transportation Corporation (GPTC)
Livable Broadway Regional Plan:
Part 4 - Community Engagement Summary

Community engagement activities consisted of input and feedback from Steering Committee meetings, municipal meetings, public open houses, an online survey, a onboard transit rider survey, and a Gary Chamber of Commerce luncheon meeting. These engagement activities are summarized below.

Steering Committee Meetings

Four steering committee meetings were held throughout the planning process. The first Steering Committee meeting, held July 16, 2014, focused on gaining concurrence for the work plan and reviewing the goals and objectives for the Livable Broadway Regional Plan. The second meeting, held October 28, 2014, was used to present the Current Conditions Report and obtain feedback on the report. The third meeting, held February 3, 2015, discussed the Planning Framework Report and was used to gather input. The fourth meeting, held May 7, 2015, reviewed the recommendations set forth in the Implementation Strategies Report.

See Appendix A - Steering Committee Meetings

Municipal Meetings

Project meetings were conducted with the three municipalities as land use and zoning are significant aspects of the project. A meeting was held on July 3, 2014 with the City of Gary, on July 3, 2014 with the Town of Merrillville and on October 2, 2014 with the City of Crown Point.

See Appendix B - Municipal Meetings

Public Open Houses

Two seperate public open houses were conducted.

The first public open house was conducted on November 17 2014 at the Purdue Technology Center. The workshop was used to present the findings from the Current Conditions Report and to gather community feedback on toolbox/actions strategies developed for the Livable Broadway Regional Plan. A polling survey was conducted in order to gather community input. 10 responses were collected. **See 4.0 Online Survey** for public open house results.

The second public open house was conducted on May 14, 2015 which discussed the Implementation Strategies Report including final recommendations for the Plan.

See Appendix C - Public Open Houses

Online Survey

A survey was available online from November 20, 2014 to January 16, 2015 that provided an opportunity for those unable to attend the public workshop to comment on the toolbox/action strategies. 53 responses were collected.

Survey respondents represented a mix of citizens, local and/or regional/state government, advocacy groups and the business/private sector. The majority of respondents support all toolbox/actions strategies recommended.

See Appendix D - Online Survey

Onboard Transit Rider Survey

An onboard transit rider survey, conducted September 16, 2014 during the AM peak period, was prepared and provided to transit customers on GPTC Routes #17 and #18 and at the Metro Center. The survey provided the opportunity for customer input of current transit conditions on Broadway. 55 responses were collected.

The majority of customers surveyed were daily riders from Gary on their way to work or school. Over half of all customers walked 2 blocks or less to their bus stop. Survey information shows that a high proportion of customers are dissatisfied with the current level of infrastructure and service provided along Broadway An overwhelming number of customers recommend improving infrastructure and service over bus speed.

See Appendix E - Onboard Transit Rider Survey

Gary Chamber of Commerce Luncheon

A presentation of the Plan was given to the Gary Chamber of Commerce November 10, 2014 at the Majestic Star Casino Hotel Ballroom in Gary, Indiana. A survey was conducted.

Survey respondents included a mix of people in government, banking and development. Respondents agreed that transit service should be improved, residential density increased, and the Corridor be made more walkable.

See Appendix F - Gary Chamber of Commerce Luncheon