
CHAPTER 6: TRANSPORTATION

Revisions approved by Council on 11/15/2016 via Ordinance # 2579.

INTRODUCTION

The City of New Berlin has a strong network of streets and transportation corridors. New Berlin's streets, highways, transit routes, rail lines and bicycle and pedestrian facilities perform a pivotal role in shaping land use patterns, growth opportunities and economic development, attracting large concentrations of employment. The transportation network has been a major factor in the City's residential and commercial growth with continued demand for new, high quality development. The establishment of sound transportation policies is vitally important to maintain the existing quality and condition of the transportation system, and to provide for the future needs of the City.

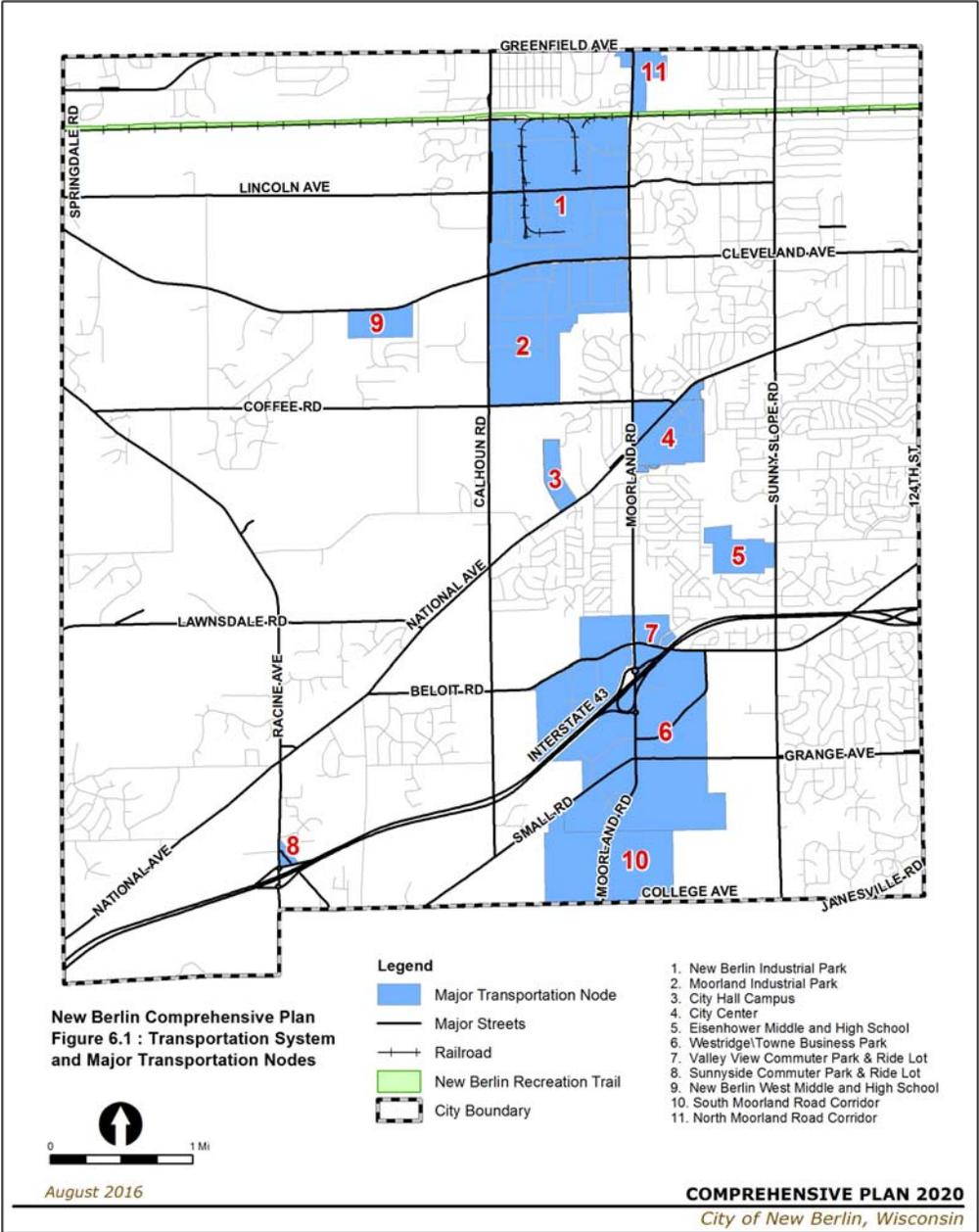
Land use and transportation are intertwined. As New Berlin's transportation corridors and street network create opportunities for development, the demand for development creates the need for new and improved streets, along with other forms of transportation and associated routes. The connection between the transportation system and major transportation nodes is illustrated on Figure 6.1.

This Transportation Plan is a required element of a Comprehensive Plan under Wisconsin's Smart Growth law. The Plan addresses the need to maintain and enhance New Berlin's transportation network and reflects the synergy between land use and transportation. In keeping with the requirements of Wisconsin Statutes 66.1001(2)(c), it contains the following:

- An inventory of New Berlin's existing transportation network and an assessment of its transportation needs

-
- Descriptions of state, county, regional and municipal plans applicable to transportation planning in New Berlin
 - An analysis of the relationship between these other plans and New Berlin's transportation needs
 - Transportation goals, objectives, policies and recommended programs for New Berlin.

These components, along with associated maps and tables, are presented in the pages that follow.



TRANSPORTATION INVENTORY AND NEEDS ASSESSMENT

This section provides background information to describe New Berlin's transportation system and an assessment of its needs.

Vehicles the Predominant Model of Travel

New Berlin's commuting patterns underscore the need to maintain the network of arterial, collector and local streets with adequate capacity and in good repair. The vehicle remains, and most likely will remain the predominant mode of travel, as shown in Figure 6.2.

	1990	2000
Drove Alone	88%	89%
Car Pooled	7%	7%
Public Transportation	1%	<1%
Walked	1%	<1%
Other Means	1%	<1%
Worked at Home	2%	3%

Figure 6.2. Commuting to Work-All Workers 16 Years and Over
Source: 1990 and 2000 U.S. Census, based on a 20% sample

Figure 6.2 shows the modes of transportation used by all workers in the City 16 years of age and over to travel to work alone by car, truck or van, a percentage virtually unchanged from 1990. There was no change in the percentage of carpoolers, while public transportation and walking modes were less used as a travel mode in 2000 than in 1990.

The average work commute travel time increased from 20.2 to 21.0 minutes from 1990 to 2000. This information can be interpreted to mean that as the population, and therefore the traffic volumes have increased in the City, improvements to local, county and state roads have kept pace fairly well with the growth in traffic.

An increase in the average one-way commute time of 0.8 minutes translates to 1.6 minutes per day. Applying that to the 20,792 commuters identified in the 2000 U.S. Census calculates to about 140,000 additional unproductive hours per year spent commuting for New Berlin residents. While the additional unproductive hours may appear staggering, there may be little New Berlin may do to control the increase, as the City is part of a large, vibrant region.

	1990	2000
No Vehicles	1%	3%
One (1) Vehicle	20%	24%
Two (2) Vehicles	51%	50%
Three (3) or More Vehicles	28%	23%

Figure 6.3. Vehicle Availability in the City of New Berlin
Source: 1990 and 2000 U.S. Census, based on a 20% sample

Figure 6.3 provides data on vehicle availability per household as a percentage for the City. The data further confirms the high reliance upon private vehicles for trips. In 1990 and 2000, one-half of all households in the City have two vehicles. The decrease from 1990 to 2000 in the percentage of three-plus

vehicle households as well as the corresponding increase in the percentage of households with one or no vehicles perhaps represents a shift in housing and household demographics, more than a shift away from the reliance in the individual vehicle. The growth of senior housing and condominiums occupied by empty nester households in the City mirror the trend of southeast Wisconsin as a whole, during the 1990's. This has caused a slight shift in the number of vehicles per household. In addition, the shift highlights the need for senior-based transit.

Comparisons to neighboring communities show that the type and time of commutes, and vehicle availability, are similar to the Census data in New Berlin. The City of Brookfield, to the north; the City of Muskego, to the south; and the City of Franklin, to the southeast; are comparable to New Berlin in land area and development patterns. All three communities are in the 88 to 89% range for single occupied vehicle commutes. Brookfield and Muskego have slightly less (6%) carpoolers and Muskego is the only community with over 1% of commutes who walk. As in New Berlin, the average one-way commute time increased in all three cities, with Brookfield showing the lowest average increase (0.3 minutes) and Muskego with largest average increase (3.1 minutes). Each community has comparable numbers of vehicles per household.

Neighboring City of Waukesha exhibits numbers associated with an older and established community. Both in 1990 and 2000, around 4% of the commuter population indicated they walk with a higher percentage of households without a vehicle.

Functional Classification

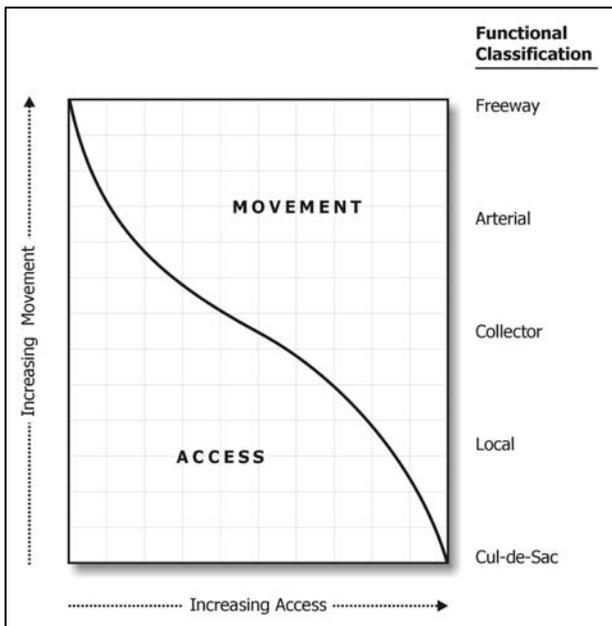
In New Berlin, all streets and highways are considered to be urban in character. The urban designation also applies to the western portion of New Berlin, despite the rural cross-sections, since the road network through that portion of the City connects eastward to the urban part of New Berlin and westward to the urbanized Waukesha area.

New Berlin classifies its roads under the following functional urban categories: principal arterials, primary arterials, standard arterials, collectors and local streets. New Berlin's classification system differs from that used by Wisconsin Department of Transportation (WisDOT) for urban streets, which distinguishes between "principal" and "minor" arterials. The City's classification system creates a finer distinction within the "principal" arterial category to more effectively describe New Berlin's road network. WisDOT also has a rural classification system. The differences between New Berlin's and WisDOT's classification systems are depicted in Figure 6.4.

New Berlin	WisDOT Urban	WisDOT Rural
<i>Principal Arterial</i>	<i>Principal Arterial</i>	<i>Principal Arterial</i>
<i>Primary Arterial</i>	<i>Principal Arterial</i>	<i>Minor Arterial</i>
<i>Standard Arterial</i>	<i>Minor Arterial</i>	<i>Major Collector</i>
<i>Collector</i>	<i>Collector</i>	<i>Minor Collector</i>
<i>Local Streets</i>	<i>Local Streets</i>	<i>Local Roads</i>

Figure 6.4: Differences between the New Berlin and WisDOT Street Classification Systems
Source: City of New Berlin and WisDOT

Figure 6.5



Access along the facility is related to the type of functional classification. As shown in Figure 6.5, an arterial allows for better traffic flow with fewer access points. Whereas a local street provides more access resulting in lower speeds and traffic flow.

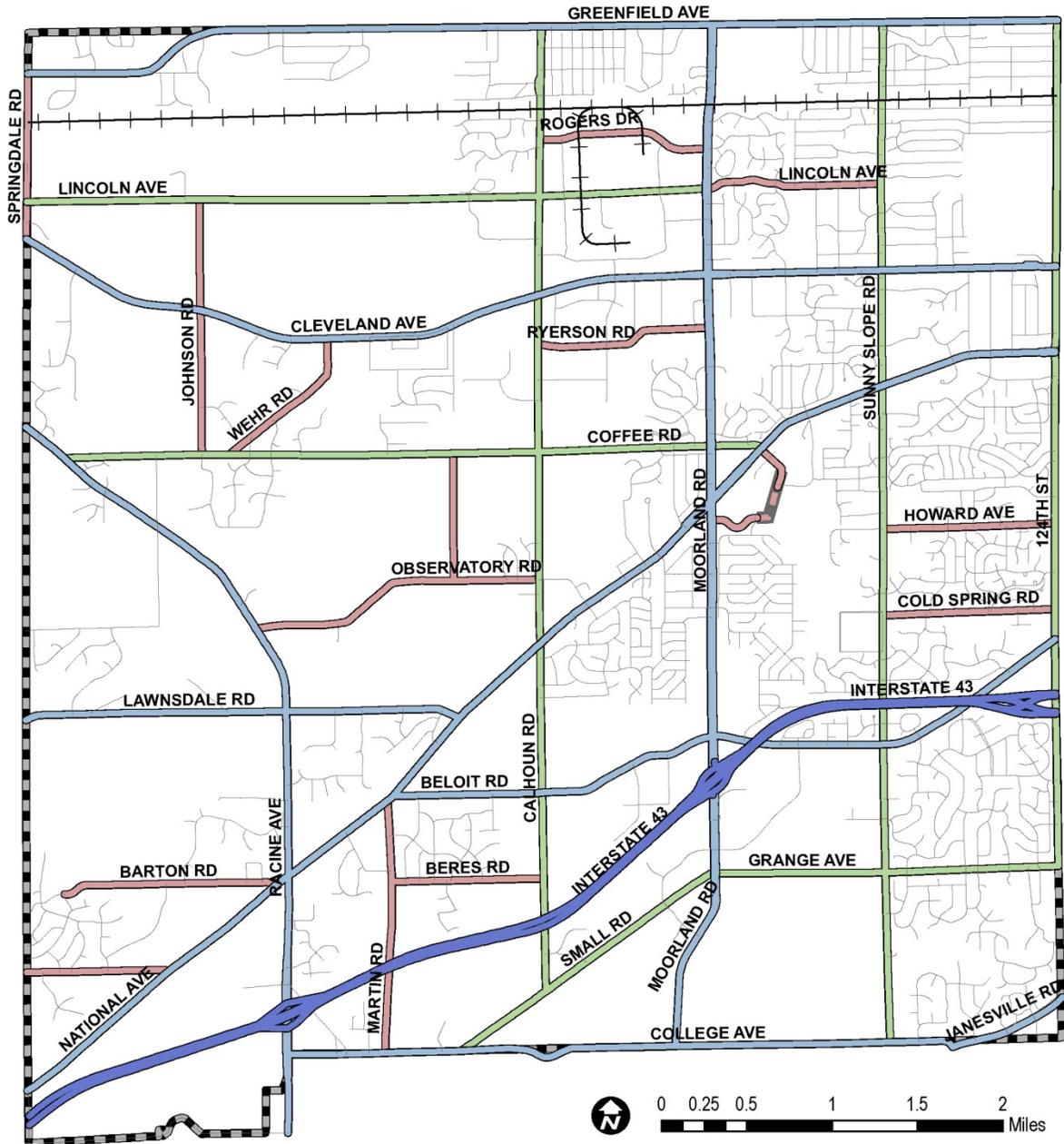
The term "local streets" actually describes land access, in that local streets provide the main access to land uses. While traditionally in transportation planning "local streets" denote a classification of streets maintained by a local unit of government, a local government often maintains arterials and collectors. "Land access streets" actually is the more descriptive term.

The following pages describe each category in the classification system. Figure 6.6 shows the classification of each street. This map was not updated as part of this update.

Figure 6.5: Relationship Between Functional Classification and Access

Principal Arterials

Principal arterials accommodate inter-community traffic moving through New Berlin to another community or destination outside New Berlin. They tend to be highways or freeways carrying more traffic on more lanes at higher speeds than other streets. Access to and from principal arterials in the Milwaukee area is generally limited to primary arterials at controlled interchanges.



New Berlin Comprehensive Plan
Figure 6.6: Street Classification System

- Legend**
- Principal Arterial
 - Primary Arterial
 - Standard Arterial
 - Collector
 - Proposed Collector
 - Municipal Boundaries
- Source: City of New Berlin

COMPREHENSIVE PLAN 2020
 CITY OF NEW BERLIN, WISCONSIN



New Berlin has one principal arterial, which is IH-43 with two access points, one at Moorland Road (CTH O) and the other at Racine Avenue (CTH Y). IH-43 is a high-speed freeway connecting the Milwaukee Metropolitan area with the City of Beloit. IH-94, which runs east-west through the City of Brookfield within a few blocks of New Berlin's northern border, cannot be considered one of New Berlin's principal arterials. However, the IH-94 interchange at Moorland Road, just north of New Berlin's northern border, provides the City with nearly direct access to this interstate. The Southeastern Wisconsin Regional Plan Commission (SEWRPC) Year 2035 Recommended Regional Transportation System Plan identifies a new interchange on IH-94 at Calhoun Road. This interchange would provide New Berlin with another nearly direct access point with the interstate. The SEWRPC Vision 2050 Plan continues to support this recommendation.

Primary Arterials

Primary arterials accommodate inter-community and intra-community trips and traffic. Design speeds tend to be between 35 and 55 miles per hour. Access is not as limited as in principal arterials. Driveways leading to primary arterials are often the major points of access for such land uses as industrial parks, large-scale retail complexes, large office complexes, large public schools and governmental facilities. Primary arterials typically have two to six travel lanes. The primary arterials in New Berlin, all of which are either county or state trunk highways, are as follows:

- Greenfield Avenue (STH 59)*
 - Cleveland Avenue (CTH D)
 - Lawnsdale Road and Beloit Road (CTH I)
 - Janesville Road (CTH L)
 - Moorland Road (CTH O)
 - Racine Avenue (CTH Y):
 - National Avenue (CTH ES):
 - College Avenue (CTH HH)*
- *Street that also forms the boundary with a neighboring municipality.

Standard Arterials

Standard arterials accommodate both inter-community traffic and intra-community traffic. They operate at slightly lower speeds than principal and primary arterials and provide more connections with individual parcels of land, including single-family and multi-family residences and small and medium sized businesses. Standard arterials typically have two or four travel lanes. The standard arterials in New Berlin are listed below.

- Lincoln Avenue (west of Moorland Road)
- Calhoun Road
- Sunny Slope Road
- 124th Street*
- Small Road (west of Moorland Road)
- Grange Avenue
- Coffee Road

*Street that also forms the boundary with a neighboring municipality.

Collectors

Collectors provide the connection between arterials and local streets and serve both local and through traffic in residential neighborhoods, commercial areas and industrial areas. They distribute trips from the primary and standard arterials to the local streets and they collect traffic from the local streets and channel it onto the arterial system. Collectors have fairly direct access to local residences, businesses and industries.

New Berlin's collectors include:

- Springdale Road*
- Johnson Road
- Wehr Road
- Rogers Drive (Moorland Road to Calhoun Road)
- Ryerson Road
- Lincoln Avenue (east of Moorland Road)
- Woelfel Road
- Observatory Road
- Barton Road

-
- Martin Road
 - Glengarry Road
 - Beres Road
 - Cold Spring Road
 - Howard Avenue
 - Michelle Witmer Memorial Drive – Proposed Collector
*Street that also forms the boundary with a neighboring municipality.

Local Streets

Local streets comprise all land access streets designed to serve local traffic that is not part of a higher classified street. In New Berlin, this includes residential and commercial grid streets, curvilinear streets serving residential, commercial and industrial areas and cul-de-sac streets. Local streets operate at the lowest posted speed limits and provide the most direct access to individual parcels of land. Their use for thru traffic is usually discouraged via design and traffic controls.

Local streets provide relatively safe environment for pedestrians and bicycle riders. Those activities on local streets are mostly recreational and do not appreciatively add to transportation alternatives. However, some local streets that evolve into collectors present travel alternatives to school, work and shopping to the point the alternatives must not be ignored in the design of local streets. At present, New Berlin does not desire sidewalks on local, or land access streets, unless part of a planned pedestrian or bicycle facility.

Recent & Planned Reconstruction Projects

Several projects have recently been completed or are currently under construction within the City, as summarized below.

- **IH-43 & Moorland Road Interchange Reconstruction Project**
In 2008, the WisDOT completed the reconstruction of the IH-43 & Moorland Road (CTH O) interchange project. Roundabouts were constructed at the ramp terminals.

-
- **Greenfield Avenue Reconstruction Project**

In 2009, the WisDOT completed the final segment of the Greenfield Avenue (STH 59) widening project. The two-lane undivided section of Greenfield Avenue between Baythorn Way and Barker Road (CTH Y) / Johnson Road was widened to provide four travel lanes.

 - **IH-43 & Racine Avenue Interchange Reconstruction Project**

In 2009, the WisDOT completed the IH-43 & Racine Avenue (CTH Y) interchange reconstruction project. This project included replacing the existing traffic signals at the ramp terminals with double lane roundabouts.

 - **Racine Avenue & National Avenue Reconstruction Project**

In 2009, Waukesha County completed the grade separation project for the Racine Avenue (CTH Y) intersection with National Avenue (CTH ES). This project also included widening Racine Avenue to a four lane facility from W. Julius Heil Drive to W. Pinewood Drive.

 - **Calhoun Road Reconstruction Project**

In 2010, the City rehabilitated the section of Calhoun Road between Greenfield Avenue and Cleveland Avenue. A two-lane roadway with intersection improvements was completed as part of this project.

 - **Coffee Road (National Avenue to Racine Avenue):** In 2013 and 2014, the City reconstructed Coffee Road from National Avenue to Racine Avenue. The project was completed in two phases. The first phase, Calhoun Road to Racine Avenue, consisted of widening the pavement to a rural cross-section with two 12-foot wide driving lanes, a 5-foot wide paved shoulder and 3-foot wide crushed aggregate shoulder on both sides of the roadway. The second phase, Calhoun Road to National Avenue, consisted of a rural cross section that transitioned into an urban cross section at St. Francis Drive. The urban cross section from St. Francis Drive to National Avenue includes curb and gutter, off-road side paths, on-road bike lanes and decorative street lighting. Storm water

management improvements were also incorporated into this project.

- **Calhoun Road Project**

In 2019, the City plans to repair 200 feet South of Cleveland Avenue to Beloit Road. Based on pavement condition and storm water management issues, the reconstruction of Calhoun Road between Cleveland Avenue and Beloit Road is warranted. The alignment is proposed to remain as a rural cross-section with two 12-foot wide driving lanes, with a 5-foot wide paved shoulder and 3-foot wide crushed aggregate shoulder on both sides of the roadway. Line of sight improvements and significant storm water management improvements will be needed. The overall Project approach will be similar to the City's approach on Coffee Road and Grange Avenue. It is recommended that a frost barrier be incorporated into the design. The City is considering phasing construction over several years.

- **Glendale Drive Reconstruction Project**

In 2016, the City reconstructed Glendale Drive from Calhoun Road to 162nd Street. The project consisted of widening the pavement to 44-feet with a 12-foot wide drive lane, a 10-foot wide auxiliary lane in each direction and curb and gutter on each side of the road. Storm water management components consist of grass terrace swales/field inlets connected to storm sewer to convey storm water to Deer Creek.

- **Rogers Drive Reconstruction Project**

In 2017, the City anticipates reconstructing Rogers Drive from Calhoun Road to Moorland Road. The project will consist of widening the pavement to 44-feet, adding a 3-foot wide concrete ribbon on each side.

- **Beloit Road Project**

In 2017, Waukesha County plans to reconstruct W. Beloit Road from Moorland Road to National Avenue. Project will consist of adding 5-foot paved shoulders with 3-foot gravel

shoulders. This will improve the substandard roadway alignment east of Calhoun Road and improving vertical curves throughout the project.

- **124th Street Project**

In 2018, in a joint venture with the City of West Allis the City will reconstruct 124th Street from National Avenue to Cleveland Avenue. Based on poor pavement conditions reconstruction of the roadway is warranted. The proposed design and construction documents will be prepared by the City of West Allis and, New Berlin will cost share equally except for items above the standard rural cross section design on New Berlin's side of the roadway.

Planned Future Roadway Connections

- New road(s) serving East Moorland Road Business Park –See Comprehensive Plan Chapter 17, Fig. 17.3 South Moorland Road Corridor Neighborhood Plan – Official Road and Trail Layout.
- Future connection west of Moorland Road aligned with the eastern connection into Section 35. This connection should preferably be public right-of-way that connects adjacent lands to the north and west of the Moorland Road frontage parcels. At a minimum, the two parcels adjacent to the north should be connected subject to Plan Commission review.
- Greenfield Avenue and Moorland Road area.
- A future connection is to be made between the lands along Moorland Road to the Walmart development. This connection could be private or public.
- City Center Connection.

A future Connection to neighborhoods to the south and east is desired. Options to consider for connections might include a connection to the south to Howard Avenue via an extension of Michelle Whitmer Drive, an extension of Library Lane south or could potentially be a connection through the existing commercial development to the west (i.e. former Walmart / Moorland Square Development). Route to be determined.

Rehabilitation Program

Roadway rehabilitation projects will be scheduled through a coordinated effort with the Utilities & Streets Department, such that roadway improvements for roadways having a pavement condition rating of 20, 30 & 40 will follow Utility Projects as applicable. We currently have projects scheduled for 2016 through 2021 (tentative). Roadway rehabilitation projects will be based on the results of the new pavement evaluations in 2015. Similarly, future roadway rehabilitation efforts will be based on subsequent bi-annual pavement evaluations.

Roadway Rehabilitation may include the following treatments:

- Cross Culvert Replacements where needed
- Removing existing asphalt
- Inlet repairs where needed
- Curb & gutter replacement, where needed on roads with an urban cross-section
- Placement of Asphalt
- Shoulder improvements on roads with a rural cross-sections
- Sidepath replacement.

Roadway Rehab Program	
Year	Miles of Road Rehabilitated
2013	10.72
2014	8.74
2015	7.86

Maintenance Program

The annual maintenance of roadways program consists of crack sealing, spot repairs, sidepath maintenance and pavement marking. The first priority of roadway maintenance is to seal cracks that have formed on roadways that have a pavement ranking of 90, 80 & 70. The annual crack sealing program was instituted in 2007. Based on the pavement evaluation that occurred in 2015, the citywide average PASER is 60.7. The City's goal is to maintain a weighted average of 60.0.

Traffic Counts

Every three years the WisDOT collects comprehensive traffic counts on arterials and most collectors. The counts are presented as an Annual Average Daily Traffic (AADT), as the counts are averaged over a period of collection days. While daily counts may present variations of actual traffic, AADT counts are an excellent tool to show increases, decreases or stability in traffic volumes over time.

Appendix H includes the historic AADT traffic counts at selected locations from 1991 to 2006 and for different years along shared streets in neighboring communities. Fluctuations in the data occur with the counts are taken every three years, but the data creates general trends in traffic volumes.

For the most recent AADT traffic count data refer to the WisDot's interactive mapping site – <https://trust.dot.state.wi.us/roadrunner/>

The streets and street segments that experienced significant increases in traffic volumes are listed below.

- National Avenue (CTH ES)
- Racine Avenue (CTH Y) between the west border and IH-43
- Lawnsdale Road (CTH I)
- Beloit Road (CTH I)
- Moorland Road (CTH O)
- Cleveland Avenue (CTH D)
- Greenfield Avenue (STH 59)
- Grange Avenue (east of Sunny Slope Road)
- Coffee Road
- Rogers Drive between Moorland Road and Calhoun Road
- Sunny Slope Road
- Calhoun Road
- 124th Street

The following intersections have experienced significant increases in traffic volumes:

- Moorland Road (CTH O) and Grange Avenue
- Moorland Road (CTH O) and National Avenue (CTH ES)
- Moorland Road (CTH O) and Rogers Drive
- Moorland Road (CTH O) and Greenfield Avenue (STH 59)
- Calhoun Road and National Avenue (CTH ES)
- Calhoun Road and Coffee Road
- Calhoun Road and Cleveland Avenue (CTH D)
- Calhoun Road and Lincoln Avenue
- National Avenue (CTH ES) and Sunny Slope Road
- Cleveland Avenue (CTH D) and Sunny Slope Road
- Greenfield Avenue (STH 59) and Sunny Slope Road
- Beloit Road (CTH I) and Sunny Slope Road
- Greenfield Avenue (STH 59) and 124th Street

The reason for AADT increase has been regional population and employment growth and associated vitality in residential and commercial development. Specifically, thru-traffic caused by new development outside the City has a cumulative effect on increasing traffic within the City. Although these increases in AADT reflect the region's vitality, these increases must be

considered in street and intersection planning. As traffic starts to exceed street and intersection capacity, New Berlin will need to determine what types of improvements are needed to improve traffic flow and safety in cooperation with WisDOT and Waukesha County for state and county highways, respectively. These improvements may include, but are not limited to, constructing exclusive turn lanes, roundabouts or installing traffic signals. For existing traffic signals, phasing, timing or coordination improvements should be considered. Widening roads should be used at the last resort; after all other options have been exhausted.

Intersection Crash Rates

The 25 intersections with the highest number of crashes over a three year period (2012-2015) are shown in Figure 6.7. For comparison purposes, crash rates are calculated in units of crashes per million entering vehicles (MEV) to account for traffic volumes.

Intersection	Total Crashes (2012-2015)	Crash Rate per MEV
Greenfield Ave & Moorland Rd	100	1.53
I-43 & Moorland Rd	86	1.37
Moorland Rd & National Ave	68	1.65
Beloit Rd & Moorland Rd	56	1.33
I-43 & Racine Ave	51	1.82
Cleveland Ave & Moorland Rd	41	0.94
Coffee Rd & Moorland Rd	39	1.09
Calhoun Rd & Greenfield Ave	38	1.06
Greenfield Ave & Sunny Slope Rd	32	0.88
National Ave & Sunny Slope Rd	27	0.81
Moorland Rd & Rock Ridge Rd	26	0.99
Howard Ave & Moorland Rd	24	0.76
Calhoun Rd & Cleveland Ave*	20	0.88
Lincoln Ave & Moorland Rd	20	0.54
124th St & Greenfield Ave	15	0.66
Churchview Dr & Moorland Rd	15	0.61
Beloit Rd & Sunny Slope Rd	13	0.76
Calhoun Rd & National Ave	13	0.83
Moorland Rd & Rogers Dr	12	0.32
124th St & National Ave	11	0.38
Greenfield Ave & Johnson Rd	11	0.50
Lawnsdale Rd & Racine Ave	11	0.69
Moorland Rd & Ryerson Rd	11	0.34
124th St & I-43	10	0.54
College Ave & Racine Ave	10	0.51

Notes: The crash rate is calculated in units of million entering vehicles (MEV)

* represents intersections under construction during the time period

PAGE INTENTIONALLY LEFT BLANK

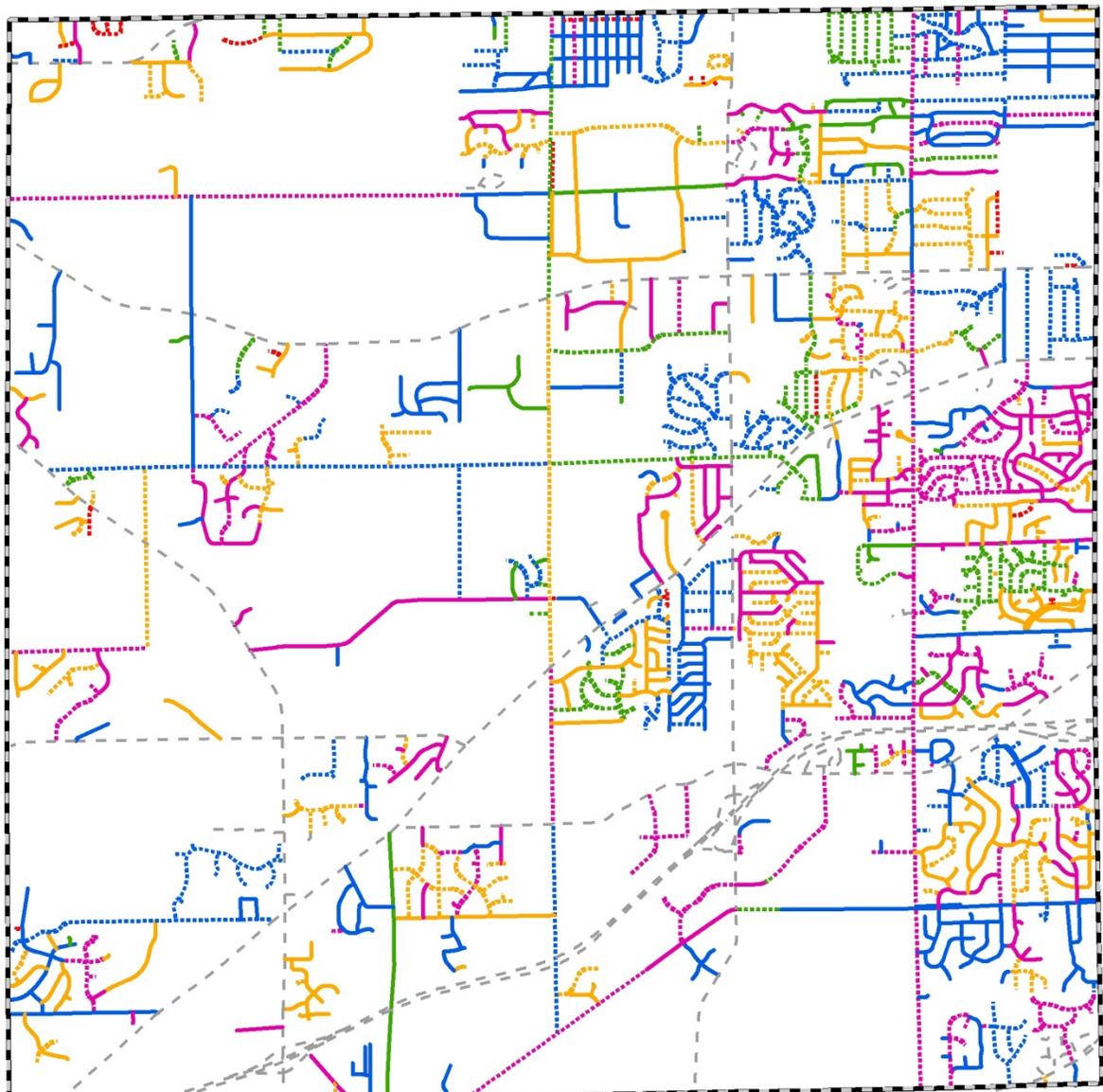
Needs Assessment for Streets and Highways

The growing amount of thru-traffic, and the City's continued development pattern underscore the importance of assessing street conditions to determine the need for improvements. Street conditions are assessed on the basis of such factors as pavement conditions, drainage, level of service at peak and non-peak hours (which takes into account traffic volume and flow at the design speed versus road capacity), lighting and signage. The WisDOT uses a road condition rating system known as Pavement Surface Evaluation Rating (PASER) to assess the quality of road surface condition and the need for preventative maintenance or reconstruction. Under the PASER system, road segments are assigned an index between 100 and 0 to provide a measurement of their existing condition and paving needs. A rating of 100 indicates excellent condition and a rating of 0 indicates a very poor condition. The index for PASER ratings appears in Figure 6.8.

Rating	Significance
100-90	Like New
80-70	Preventative Maintenance
60-50	Overlay / Sealcoat
40-30	Rehabilitation
20-0	Reconstruct

The Year 2015 PASER ratings for the City are shown on Figure 6.9. The citywide average PASER rating was 60.7 in the Year 2015. It is important to maintain the streets as it adds value to adjacent properties. Maintain funding for road improvements is needed to reach the City's goal of an average PASER rating higher than 60.0 citywide.

In general combining curb and gutter installation with road reconstruction is appropriate east of Calhoun Road because of the urban and suburban character of the eastern part of the City. Therefore, any reconstruction of roads and streets east of Calhoun Road will consider the use of curb and gutter when designing the road.



New Berlin Comprehensive Plan
Figure 6.9: Year 2015 PASER
Condition Rating

February 2016

COMPREHENSIVE PLAN 2020

City of New Berlin, Wisconsin

Intersections Needing Improvements

The City has determined that, as a result of inadequate road widths and higher traffic levels, certain intersections will need major improvements, including exclusive turn lanes and traffic control improvements. Among these are the following:

- **Cleveland Avenue's Intersections with Calhoun Road, Moorland Road and Sunny Slope Road**

Cleveland Avenue's intersection with Sunny Slope Road was rehabilitated in 2014 to add right turn lanes. The Cleveland Avenue intersection with Calhoun Road was reconstructed in 2015 to increase the capacity and improve the level of service. Waukesha County will address the Cleveland Avenue and Moorland road intersection along with the Moorland Road improvements. Cleveland Avenue widening between Calhoun Road and Moorland Road would decrease peak hour back-ups for turning movements onto Moorland Road. A resolution should be a priority.

Moorland Road and Beloit Road intersection

Waukesha County is planning to reconstruct and increase the capacity of the intersection by including dual left and right turn lanes at the approaches. An additional through lane for Beloit Road is also planned.

Section 35 TIA

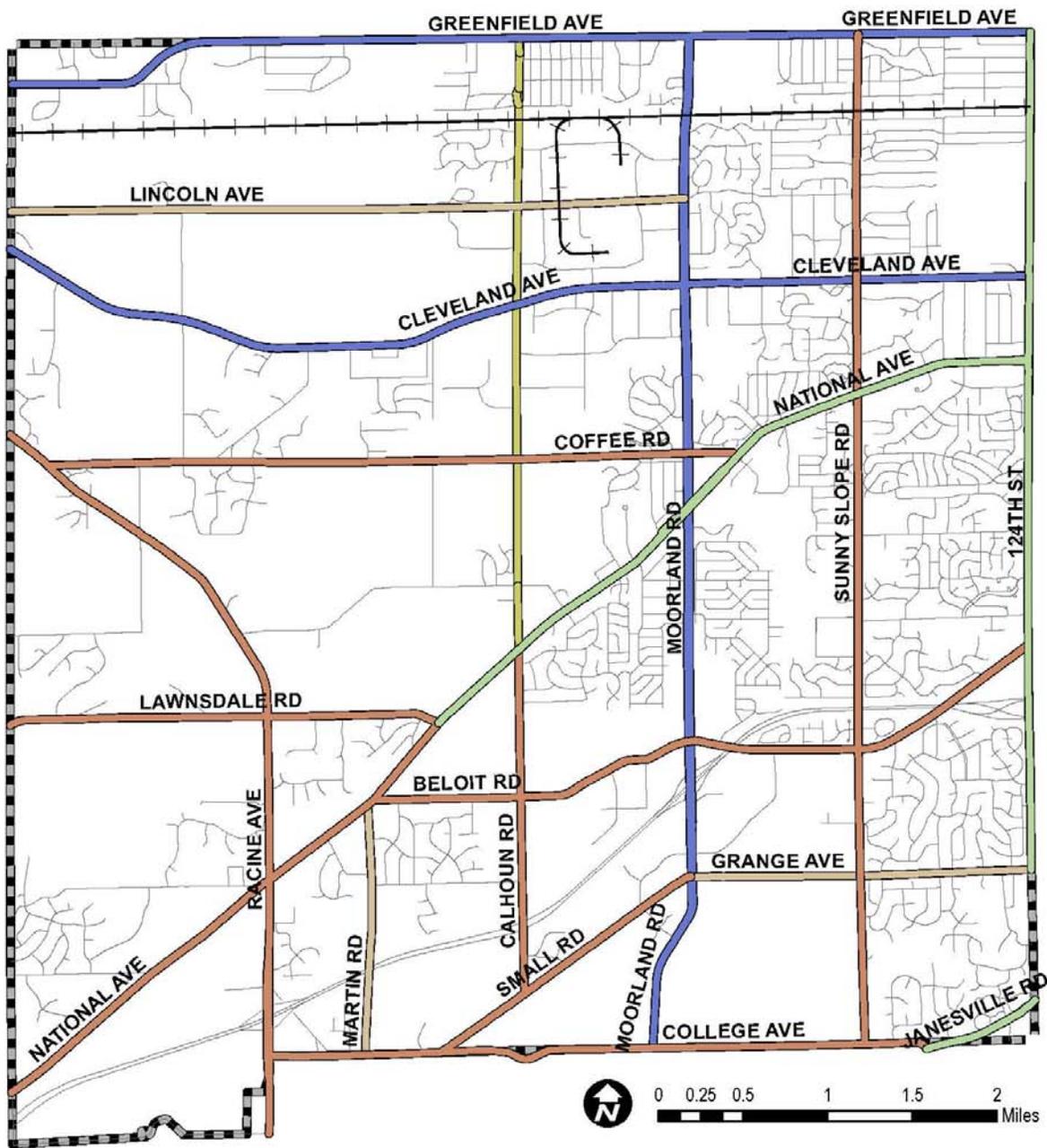
Based on the 2016 TIA results these intersections may be improved as development occurs. Please refer to the most current version of this TIA –Appendix L.

- Grange Avenue & Sunny Slope Road
- Grange Avenue/Small Road & Moorland Road
- Grange Avenue & Costco
- Moorland Road & future road connections
- Sunny Slope Road & College Avenue
- Tess Corners & College Avenue
- Moorland Road and College Avenue
- Moorland Road and Westridge Drive
- Janesville Road and College Avenue

Needs Assessment for Ultimate Right-of-Way Widths

The ultimate right-of-way widths were carefully designated based on projected road capacity requirements and desired levels of service to ensure safe, adequate traffic flow and circulation. Figure 6.10 lists the streets and their ultimate right-of-ways. For easier recognition, the roads are listed by their actual names, rather than by their numeric and alphabetic STH or CTH designations. The streets and their ultimate right-of-way widths are depicted on Figure 6.11. (This map was not update as part of the 2016 review).

The ultimate widths are a very useful tool to insure that the right-of-way is available for planned road widening. The City has the ability to enforce the ultimate widths, and even request dedication of additional right-of-way through ordinances and policies implemented with land divisions, rezonings, conditional use permits and other land development approvals.



**New Berlin Comprehensive Plan
Figure 6.11: Ultimate Right-Of-Way Widths**

- Legend**
- 130 feet
 - 120 feet
 - 110 feet
 - 100 feet
 - 80 feet
 - Municipal Boundaries

Source: 2004 New Berlin Transportation Plan

Street	Ultimate Right-of-Way
Greenfield Avenue	130 feet
Moorland Road (2,000 feet north of College Avenue to Greenfield Avenue)	130 feet
Cleveland Avenue	130 feet
Janesville Road	120 feet
National Avenue (Lawnsdale Road to eastern City border)	120 feet
124th Street	120 feet
Calhoun Road (northern City border to Beloit Road)	110 feet
Calhoun Road (Beloit Road to Small Road)	100 feet
Beloit Road (National Avenue to the eastern City border)	100 feet
Small Road (College Avenue to Moorland Road)	100 feet
Racine Avenue (between Lawnsdale Road and National Avenue)	100 feet
Racine Avenue	100 feet
Coffee Road	100 feet
National Avenue (western City border to Lawnsdale Road)	100 feet
Sunny Slope Road	100 feet
College Avenue	100 feet
Grange Avenue	100 feet
Lincoln Avenue	80 feet
Martin Road	80 feet
All Industrial Park Streets	80 feet
Johnson Road	66 feet
All other residential streets	60/66 feet*

**The ultimate ROW for existing residential streets is 60 or 66 feet depending on the existing ROW. All new residential streets are to have a 66 foot ROW.*

Figure 6.10 Ultimate Right-of-Way Widths.
The City contemplates Grange Avenue as 100' and will review as development projects come in within this area.

Public Transit

Bus Systems –

The City of New Berlin does not operate or maintain a bus system, but several Milwaukee Metropolitan area commuter bus lines provide service in and around New Berlin. The main bus systems are operated by the Milwaukee County Transit System (MCTS), the Waukesha Metro Transit (WMT) and the Waukesha County Transit System (WCTS).

The WCTS provides weekday round trip bus service between New Berlin and downtown Milwaukee via the Mukwonago/Milwaukee Express Route 906. As shown on Figure 6.13, the **WCTS Route 906** has one stop in New Berlin at the bus transit center located at the Valley View Park & Ride Lot. The Park & Ride Lots are discussed further below. Route 906 also stops at the Big Bend and Mukwonago Park & Ride Lots located at the IH-43 interchanges with STH 164 and STH 83, respectively.



Figure 6.12: MCTS Route 906



Figure 6.13: WCTS Route 906

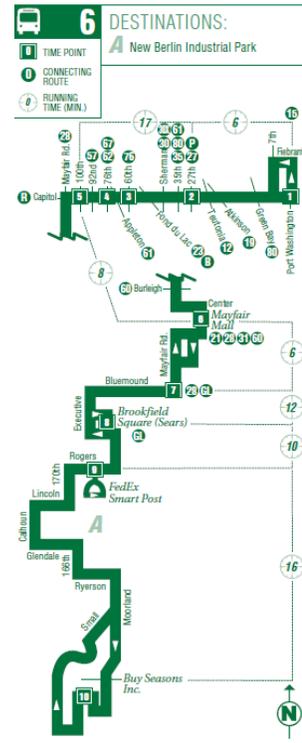




Figure 6.14: Valley View Park & Ride Lot



Figure 6.15: Sunnyside Park & Ride Lot

Public Transit – Update 2015

Currently, the local transit systems (MCTS, WMT, and WCTS) provide limited bus service to one large business in Neighborhood H which is across Moorland Road. As shown on Figure 6.12, MCTS Route 6 New Berlin Industrial Park Express services this area. In general the service begins in the City of Milwaukee heads to Brookfield Square Mall, then onto the New Berlin Industrial Park with a few stops along Moorland Road and then ending at Buy Seasons just off Small Road. There is funding for approximately 4 years. Service started approximately August 2014.

Park & Ride Lots

Park & Ride Lots provide shelter, park and ride for ridesharing, overnight parking and bicycle parking facilities. Two Park & Ride Lots are located in the City of New Berlin near IH-43 at the following locations:

- **Valley View Park & Ride Lot (Lot 67-05)** is located just north of the IH-43 and Moorland Road interchange, as shown in Figure 6.14. The WisDOT recently expanded and improved this lot in 2002. This park & ride lot also serves as a commuter bus transit station.
- **Sunnyside Park & Ride Lot (Lot 67-10)** is located just north of the IH-43 and Racine Avenue (CTH Y) interchange, as shown in Figure 6.15.

School Busing

School busing is provided for the public, private and parochial schools in the City.

Systems for Persons with Disabilities

The City of New Berlin does not operate or maintain a transportation system for persons with disabilities.

Systems for Senior Citizens

A fee-based taxi service is available for senior citizens and persons with disabilities. It is operated by a not-for-profit agency. This service will become increasingly important as the City population ages.

Transit System Needs Assessment

The City of New Berlin is in general agreement with the recommendations contained in the adopted "A Regional Transportation System Plan for Southeastern Wisconsin: 2035" prepared for the region by Southeastern Wisconsin Regional Planning Commission. The plan does not predict significant increases in transit ridership in New Berlin. However, the plan recognizes the need for a continuation of current levels of transit service. Therefore, in assessing its transit needs, the City has determined the following:

- There is a need to continue the fixed route transit service in the northeastern quadrant of New Berlin because this area contains the highest concentration of employment and residential densities.
- New Berlin's commuter bus transit station at the Valley View Park & Ride lot must remain operational to meet current and anticipated transit demand.
- The New Berlin Economic Development Plan Element referenced the need to expand fixed route bus service in the employment concentration areas of the New Berlin Industrial Park, Moorland Industrial Park, Westridge Industrial Park, Moorland East Business Park and City Center. The bus providers and the City must work together to identify when the need is reached to expand bus service.
- As New Berlin grows, the need for paratransit facilities and options for the disabled or those with mobility problems will likely increase. At some point, it may benefit the City to contract with public or private providers for more continuous and comprehensive paratransit service, rather than relying more or less exclusively on the current taxi-based system.

BICYCLE AND PEDESTRIAN FACILITIES

Types of Bicycle and Pedestrian Facilities

Both on road and off road bicycle and pedestrian facilities are provided within the City. Bicycle and pedestrian facilities should be designed in accordance with the American Association of State and Highway Officials (AASHTO) standards. A description of the types of facilities is included below. Ordinance #2403 sets forth the sidepath and trail inspection and maintenance policy for the City.

On Road Facilities

Bicycle lanes and shoulder paths are considered on road facilities.

- **Bicycle lanes** are a paved shoulder with designated pavement marking and signage.
- **Shoulder paths** are paved shoulders to accommodate pedestrian and bicycles.

Off Road Facilities

The City of New Berlin and its park system have more than 30 miles of off road facilities comprised of either sidepaths or trails.

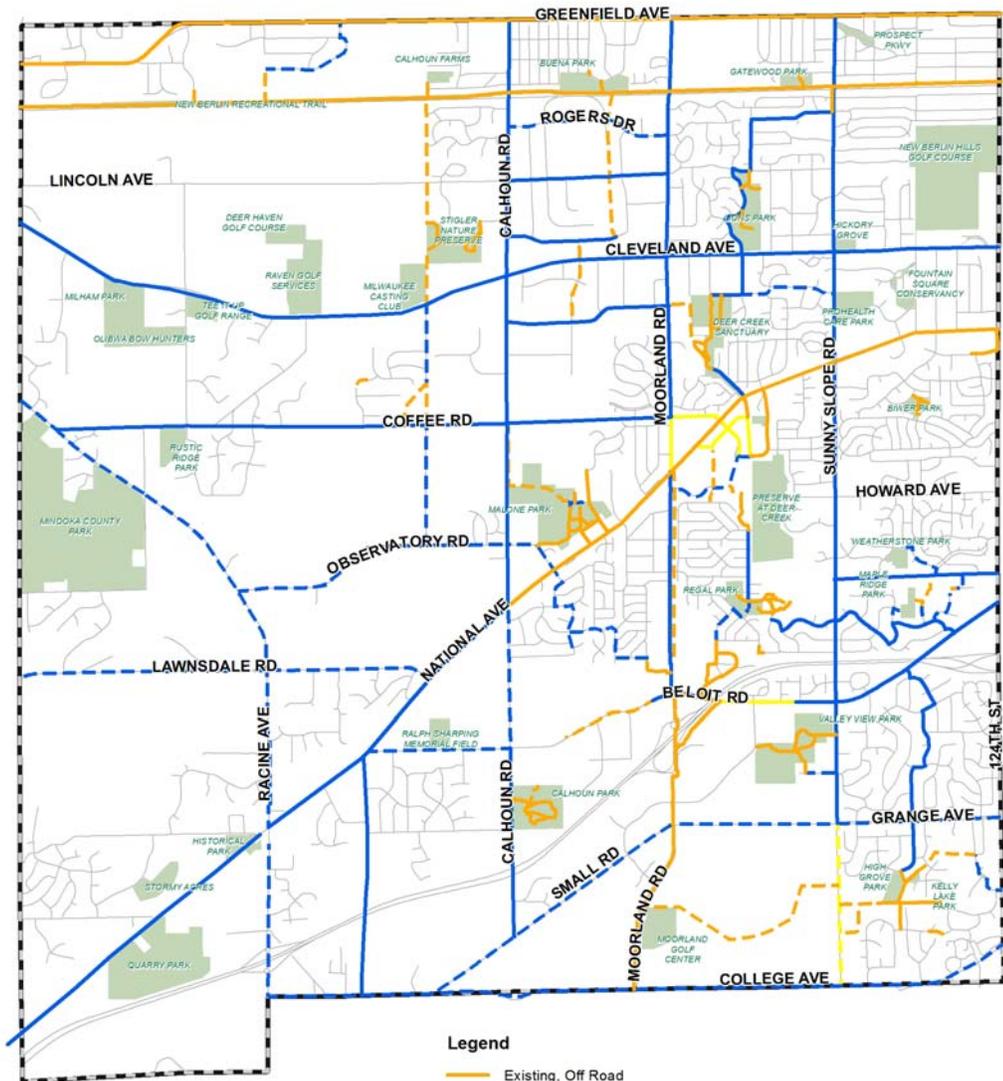
- **Sidepaths** are pathways within highway right-of-way. Sidewalks are considered side paths. Sidepaths may be used by pedestrians, skaters, wheelchair users, joggers, bicycles and non-motorized users in accordance with the City of New Berlin Code 184-18. Sidepaths are maintained by property owner per City of New Berlin Code 230-2. Sidepaths are not desired in the rural areas.
- A **trail** is a pathway within a public access easement, community park, environmental corridor or neighborhood link. These facilities tend to connect parks to other city facilities such as schools, residential subdivisions or other trail systems such as the New Berlin Recreational Trail. Trails may be used

by pedestrians, skaters, wheelchair users, joggers, bicycles and other non-motorized users. Trails are constructed of a variety of materials including mowed grass, wood chips, wood or recycled wood products (i.e. Boardwalks), stone or asphalt.

Local Facilities

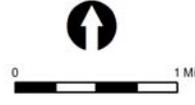
The major bicycle and pedestrian facilities in New Berlin are shown on Figure 6.16 and described below:

- The **New Berlin Recreation Trail**, on a former railroad bed (maintained by Waukesha County) in an east/west direction one-half mile south of Greenfield Avenue, connects from Greenfield Park in West Allis, through the entire six mile width of New Berlin, into the City of Waukesha, where it splits in north and south directions and both lead to the Fox River corridor.
- **National Avenue** provides an off road facility from Calhoun Road to 124th Street. West of Calhoun Road, National Avenue provides an on road facility to the western city limits.



New Berlin Comprehensive Plan
Figure 6.16: Bicycle and Pedestrian
Facility Plan

- Legend**
- Existing, Off Road
 - Existing, On Road
 - Existing, On Road and Off Road
 - Proposed, On Road and Off Road
 - Proposed, Off Road
 - Proposed, On Road
 - Park



October 2016

COMPREHENSIVE PLAN 2020
 City of New Berlin, Wisconsin

Note: The above map may change slightly as the City is currently updating the City of New Berlin Park and Open Space Plan, which is part of the overall Comprehensive Plan. This document would be updated if necessary once the work is completed with the Park and Open Space Plan.

- **Greenfield Avenue** provides off road facilities through the city limits.
- **Cleveland Avenue** provides on road facility through the city limits.
- **Sunny Slope Road** provides on road facility between Greenfield Avenue and Grange Avenue. As residential development occurs along Sunny Slope Road south of Grange Avenue incorporate both on road and off road facilities.
- **Moorland Road** provides on road and some off road facilities through the City of New Berlin. An off road facility is provided along Moorland Road from south of IH-43 to College Avenue and extends further south into the City of Muskego. At the time Waukesha County reconstructs Moorland Road the City will investigate adding off road segments from the intersection of National Avenue and Moorland Road south to the Target / Moorland Reserve Development to complete a pedestrian connection.
- **Section 35 Recreational Trail**–
Future Possible Connection: An east/west facility connecting Sunny Slope Road to Moorland Road to be located between Grange Avenue and College Avenue. A utility easement is available and in place over the interceptor and water main. As development occurs the trail will transition to a public use trail.
- **City Center South Connection.** Provide a connection from Howard Avenue to Library Lane.
- **Spruce Road Connection.** Provide a connection from Howard Avenue to Spruce Road.

Connections to Regional Trails

New Berlin's bicycle and pedestrian routes connect into a 250-mile network of bicycle and pedestrian routes outside the City limits that serves the Milwaukee metropolitan area.

- The **Oak Leaf Trail** is over 100 miles of off-road paved trails, park drives and municipal streets that wind through the Milwaukee County park system, portions of the City of Milwaukee and surrounding suburbs.
- The **Glacial Drumlin State Trail** is a 52-mile long facility that runs from Waukesha County west to Cottage Grove in Dane County.
- A six-mile portion of the **Waukesha County Trail** (also known as the New Berlin Recreational Trail) runs through the northern part of New Berlin parallel to the Union Pacific Railroad line and links the Glacial Drumlin Trail at Springdale Road with the Oak Leaf Trail at Greenfield Park in West Allis.

Needs Assessment for Bicycle and Pedestrian Routes

New Berlin's existing bicycle and pedestrian network provide good linkages between well-established, larger trails. However, as noted in prior studies and reports, the system could greatly benefit from the provision of better bicycle and pedestrian trail linkages between residential subdivisions and other subdivisions, parks, schools, libraries and commercial nodes. These needs were detailed in the *Bicycle and Pedestrian Facility Plan* (November 1999, Amended July 2002) prepared by the New Berlin Alternative Transportation Committee. This study also noted the need for improved bicycle and pedestrian signage and route information. Also noted were the following needs:

- Develop design criteria for bicycle facilities.
- Establish safe bicycle and pedestrian routes along streets that currently lack such facilities.
- Develop a bicycle transportation map for short and long-range land use and transportation planning.
- Develop safety sign / lights for notification.
- Develop policy for paint striping on roadways.

OTHER TRANSPORTATION AND TRANSIT SYSTEMS

Taxi Service

There is no licensed taxi service based in the City of New Berlin and the City does not require any taxi licenses. However, New Berlin Senior Taxi, a not-for-profit agency, provides fee-based taxi service to senior citizens and adults with disabilities who are able to enter and exit taxis with little or no assistance. The agency, which operates weekdays and Saturdays, was founded with the help of local businesses, churches, organizations, interested citizens and a Waukesha County Economic Development Block Grant. Its primary service area is within New Berlin but it also provides trips to Brookfield Square, Mayfair Mall and medical centers west of 84th Street. Reservations are first come – first served. Shared rides can be arranged to accommodate more riders.

Rail Service – Union Pacific

The **Union Pacific** freight rail line runs through the northern portion of the City of New Berlin between, and parallel to, Lincoln Avenue and Greenfield Avenue. Spurs from this line serve the New Berlin Industrial Park.

Trucking

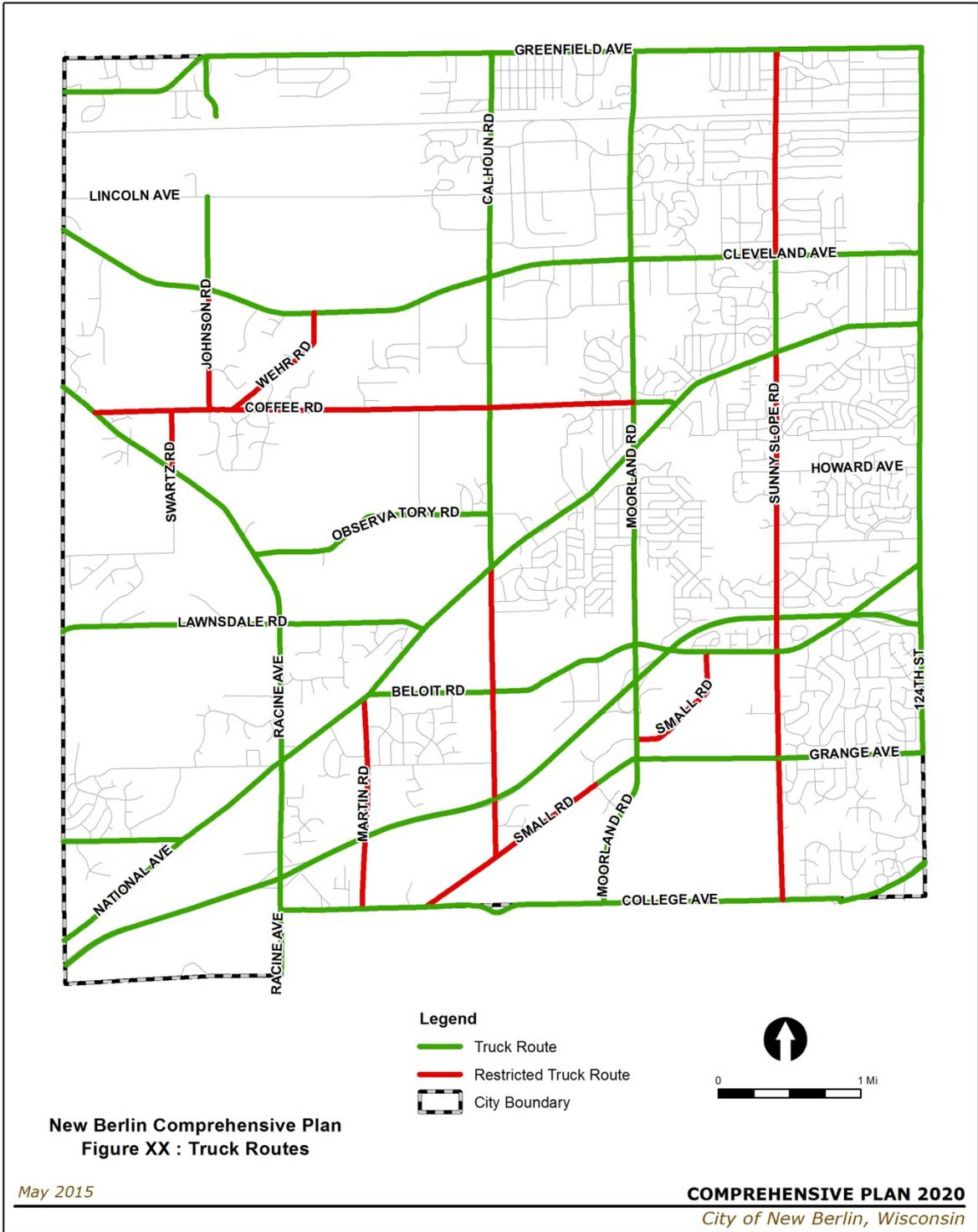
Trucking is essential to the industrial parks and businesses within the City.

The WisDOT has designated IH-43 and IH-94 as long truck routes. Greenfield Avenue (STH 59) is a designated 75 foot restricted truck route. The state and county highways through the City of New Berlin should be designated as truck routes.

As shown on Figure 6.17, trucks are prohibited on Wehr Road and Martin Road, as well as sections of Sunny Slope Road, Calhoun Road, Coffee Road, Small Road, Swartz Road, and Johnson Road. Nonetheless, there is significant truck traffic on National Avenue, Moorland Road and the other arterials and collectors in New Berlin. Some of this truck traffic is through traffic and some of it is generated by the activity in the City's industrial parks. Truck traffic is considerable enough to create problems with traffic flow and conflicts between cars and trucks, especially during peak hours. During springtime of the year, many agencies prohibit trucking on local streets to protect the street condition during thawing of the sub-base. The City should implement official truck routes to funnel the truck traffic to the arterial streets, and away from the collector and local streets that are not designed for the heavy truck traffic.

Ferry

The Lake Express high speed ferry transports passengers and cars across Lake Michigan between the Port of Milwaukee and Muskegon, Michigan. It is a convenient alternative to driving, as the ferry crosses Lake Michigan in 2 ½ hours. Please refer to the website at <http://www.lake-express.com/>.



Airports

Although no airports are located in the City of New Berlin, it is well served by the following regional air transportation facilities:

- **General Mitchell International Airport** is located 14 miles east of New Berlin and is readily accessible via IH-43 and IH-94. This airport is served by nine major commercial carriers and nine regional carriers and is the primary hub for Midwest Airlines. General Mitchell operates two jet runways and three additional runways, 3,500 feet to 5,800 feet in length.
- Chicago's **O'Hare International Airport**, one of the busiest airports in the world and a major international gateway, is located 80 miles to the southeast. It is easily accessible via IH-94.
- Waukesha County's **Crites Field Airport** is located four miles northwest of New Berlin. It is a commercial airport that accommodates twin-engine propeller airplanes and corporate jets. Crites Field operates two paved runways and the maximum runway length is 5,850 feet. The airport functions as a reliever airport for General Mitchell International Airport.
- **Lawrence J. Timmerman Airport**, another commercial airport, is located 11 miles northeast of New Berlin. It is Milwaukee's primary general aviation field. Timmerman Airport operates two paved runways with a maximum length of 4,100 feet and two turf runways with a maximum length of 3,250 feet.
- **Capitol Drive Airport** is located 6 miles north of New Berlin. It is a small commercial airport operating one paved runway with a length of 3,500 feet and two turf runways with a maximum length of 3,400 feet.
- Also, the **East Troy Airport** is located 20 miles to the southwest via IH-43. It is a small recreational airport operating one paved runway with a length of 3,900 feet and one turf runway with a length of 2,440 feet.

Water Transportation

New Berlin contains a number of small lakes and there are several drainageways, which do not serve as water transportation routes. The **Port of Milwaukee** is located 19 miles east of New Berlin. The port handles over two million tons of commercial freight per year that serves 350 cities in 31 states. The man-made outer harbor covers 1,200 acres and has a channel depth of 27.5 feet.

Needs Assessment for the Other Transportation Systems and Modes

A review of the above data suggests the following:

- The regional airport network, which includes General Mitchell International Airport, Crites Field, Timmerman Field and O'Hare International Airport, is more than adequate to meet the needs of New Berlin residents and businesses.
- Water transportation needs are adequately met through the Port of Milwaukee.
- Rail transportation needs are adequately met through the existing rail line and industrial park spurs.
- With the large volume of truck traffic, the City must investigate the need to designate official truck routes through the City.
- Following a regional trend, the City has many senior citizen housing complexes and other senior-related centers, which shows a need for senior transportation.

RELATIONSHIP BETWEEN GENERAL LAND USE PATTERNS AND TRANSPORTATION

To this point in the plan, background information has been presented and analyzed that lays the groundwork for the plan goal, objectives and policies, plus the recommendation and implementation directives, all to be discussed in the later stages of this plan. The preliminary sections inventory conditions and discussed the use of vehicles and other modes of transportation, vehicle usage on City streets, the condition of City street and the functionality of all streets between state, county and local jurisdictions. Within the background sections, numerous references have been made to existing or proposed

City policy in regards to transportation planning and future decision making to show how the preliminary analysis goes forth toward the recommendation and implementation.

The relationship between general land use patterns and transportation system in New Berlin was summarized in the *City of New Berlin Growth and Development Master Plan* (GDMP) and is further refined in this Plan. Exhibiting necessary high level of dependence between land use and transportation, GDMP presents recommendations in correlation to transportation matters. GDMP, along with other City planning documents, recommends the use of alternative forms of transportation to alleviate the dependence upon the use of vehicle to travel in and around New Berlin.

While alternative forms of transportation must be part of the transportation policy, the fact remains that the vehicle is the predominant form of travel, mostly in single occupied vehicles. Therefore, this part of the plan begins to discuss the interrelationship between the land use of the City that causes demand on street usage relating to street capacity.

Developed East Side of New Berlin

The East Side of New Berlin is considered to be that portion of the City east of Calhoun Road. GDMP notes that the eastern half of the City consists primarily of single-family neighborhoods but also includes a mixture of condominium rental apartments and a full range of senior housing opportunities. Most of the east side has sewer and water and is largely built out. The majority of the City's residents live on the East Side, which contains some of the oldest and newest neighborhoods.

Despite the residential character, the East Side also contains significant commercial and light industrial development. The National Avenue commercial corridor divides the East Side and forms the City's retail and service business spine. In addition, the East Side contains over 1.5 square miles in the New Berlin and Moorland Industrial Parks and their mix of light industrial, warehousing and office facilities. The newer Westridge Industrial Park in the southern part of the East Side,

has exploded in the past ten years with quality light industrial, commercial and food and entertainment venues.

Less Developed West Side of New Berlin

As noted in GDMP, New Berlin values the largely rural character of its West Side. The West Side contains environmentally sensitive woodlands and wetlands and most of the land is either rural residential underdeveloped or in agricultural use. There is no public water or public sanitary sewer and GDMP does not anticipate public sanitary sewer for the foreseeable future. There are several large-lot residential subdivisions with septic fields and mound systems and derive drinking water from wells. In keeping with the West Side's level of infrastructure, and the desire to protect its rural character, GDMP anticipates that new development will be primarily residential with an overall density of one dwelling unit per five acres.

However, it is anticipated that two West Side areas may develop with business park/light industrial uses. One of these areas is the Lincoln Avenue corridor west of the current New Berlin Industrial Park. The other area is the southwest corner of IH-43 and Racine Avenue, currently a quarry site. As depicted in GDMP, any development along the Lincoln Avenue corridor will be designed to maintain the integrity of the most environmentally sensitive areas. Development of both areas may necessitate public sanitary sewer and a public water supply.

Land Use Impacts on Transportation in New Berlin

From a transportation standpoint, the primary impact of continued growth, infill development and redevelopment on the East Side would be the need to provide pedestrian connections between residential subdivisions within contiguous neighborhoods, between residential and non-residential development and between all forms of development and the City's recreational areas.

The GDMP recommends the creation of greenway corridors to connect the north and south sections of the East Side together with the developing mixed-use City Center. The City Center Plan includes internal bicycle and pedestrian facilities. The plan also includes a landscaped extension of Howard Avenue/Coffee Road with bicycle and pedestrian facilities that will connect northward to Coffee Road. Significantly, the Howard Avenue extension will also improve vehicular circulation and connectivity at the crucial convergence of National Avenue, Moorland Road and Coffee Road.

The GDMP also notes that improved pedestrian facilities between subdivisions, with or without sidepaths, can help tie subdivisions together to create more of a sense of community and lessen the isolation in already built-out areas. Specifically, GDMP recommends establishing a system of pedestrian and bicycle trails based on the plan prepared by the Alternative Transportation Plan Committee. It also recommends the creation of more pedestrian-friendly landscaping and lighting along the National Avenue Corridor and improved pedestrian connections between the corridor and the surrounding neighborhoods, particularly the City Center.

Since population growth on the West Side will be modest, the transportation impacts of new residential development on the West Side will be minimal and confined primarily to local and collector roads.

The transportation impacts of industrial park/light industrial development of the Lincoln Avenue corridor will be significant because increased employment produces an increase in commuter traffic. As well, the increase in employment engendered by development of the City's southwest corner with industrial park/light industrial uses would result in a significant increase in commuter traffic at the IH-43/Racine Avenue intersection and along Racine and National Avenues. Development of these employment centers might increase the demand for commuter bus service to New Berlin and create an opportunity to upgrade and expand the existing commuter bus routes.

Land Use, Demand and Street Capacity

A complete demand and capacity analysis would involve the collection of information beyond the depth of this plan. Up-to-date traffic counts beyond those provided in the early section and Appendix H of the plan, completed by WisDOT, would be necessary along with morning and evening peak hour traffic counts. Turning movements and the frequency of those movements at each major intersection must be collected and analyzed. Plus, origin destination studies that looks, at a sample basis, the coming and goings of vehicle trips would be part of a thorough analysis. In many respects, the Regional Transportation Plan for 2035 already completed much of the analysis, such as an origin destination study, so that each local transportation plan can use that information about additional study. Also, WisDOT requires any land division and flash or access point along a street under state jurisdiction to complete a thorough analysis under WisDOT administrative rule Trans 233. At the micro scale, definite land uses are proposed, the City is encouraged to require all developments to comply with Trans 233 requirements, even if the project is not adjacent to a state highway.

Another aspect of completing the demand and capacity analysis is that New Berlin is part of a larger transportation system, in conjunction with the surrounding communities. Factors beyond the City's control impact traffic flows within the City, even more so than decisions. The acceptance at a local level of regional traffic is not new and will continue as long as the vehicle remains the predominant mode of transportation within the region. New Berlin is not unique as neighboring communities accept traffic created by land uses near the City. Having a regional review of new development proposals under Trans 233 creates a system to complete a thorough demand and capacity analysis with up-to-date information; as such the information constantly changes with changing conditions outside of the City's control.

Nonetheless, basic analysis of demand and capacity can be drawn from information currently available. GDMP presents future growth scenarios in the main traffic generation categories of housing, retail office and industrial. The plan

projects that the City will reach its built out capacity in 2020 with a population of 41,682.

From 2000 to 2020, the GDMP plan forecasted the growth of housing units of 636, with 127 of those forecasted housing units as multi-family, representing 20% of the total forecasted housing growth. The plan also discusses the potential of housing units based on a carrying capacity of the land use plan, as discussed in previous pages for the east side and west side of New Berlin. With the carrying capacity scenario, the plan estimates that there could be 1,978 housing units built prior to 2020, which would definitely place the City in a built-out position. Based on current national standards, the additional 1,978 housing units could create an additional 19,780 daily vehicle trips on City streets. Although it is difficult to project where the bulk of the trips will occur with the location of the new residential construction, with the planned lower density on the west side of the City, the City can anticipate the traffic generated by the new housing units to be concentrated in the east part of the City via infill and redevelopment of older residential sites, especially along the arterials and continuing the recent trend of single-family subdivisions in the far southeast corner of the City.

U.S. Census Bureau and SEWRPC estimates there were approximately 21,039 employees working within the City in 2000, and the GDMP plan projected the employee base will increase by 9,200 in 2020 for a total employment base of 30,239. A safe assumption would be that the additional jobs will create 18,400 trips on City streets with one trip each for to and from the place of employment. At the same time, without specific origin destination data it is difficult to know exactly how many of those trips will already be on City streets from the additional housing units.

Within the total employment increase, GDMP projects commercial growth with retail office space, to generate about 7,300 of the additional employees. The retail office space would be on 118 acres with 1.25 million square feet of floor space. Industrial would create the remaining 2,900 jobs, on 598 acres with 9.1 million square feet of floor space.

The retail office components as part of the commercial category presents the wild cards in terms of anticipating demand and capacity from traffic vehicles trips standpoint. Within that component, it is unknown the mix between retail and office. Retail creates customer vehicle trips that is dependent upon the type of retail use. Some retail uses have a consistent pattern of customer vehicle trips throughout the day while other retail uses have concentrated customer traffic patterns at specific points throughout the day. For example, within the burgeoning retail district as part of the Westridge Industrial park, at the intersection of Moorland Road and Beloit Road, a department store creates a somewhat consistent vehicles trip pattern with peak trips during Saturday daylight hours while a nearby theatre has concentrated period of traffic on Friday and Saturday evenings. Within the office category, vehicle trips are more consistent with a consistent morning and evening peak hour. Office space generally creates very few customer vehicle trips although with a large concentration of office space, the number of customer vehicle trips created by office space could become a factor in the overall analysis.

Using GDMP and capacity projections, general assumptions can be made. A two-lane street can generally carry 13,000 to 15,000 vehicles per day. Whereas a four-lane facility can carry over 40,000 vehicles per day. Reaching this threshold means widening and or other capacity improvements, unless adjacent roads are improved to reduce the traffic levels. Following that criteria and utilizing the AADT information previously discussed in this plan, it appears the sections of City street that are approaching the threshold are as follows:

Moorland Road (Grange Avenue to College Avenue)

- 14,100 vehicles per day

Calhoun Road (Greenfield Avenue to Cleveland Avenue)

- 14,100 vehicles per day
- **Cleveland Avenue** (Calhoun Road to Sunny Slope Road)13,200 vehicle per day
- **Sunny Slope Road** (Howard Avenue to Greenfield Avenue)13,000 vehicles per day

-
- **Racine Avenue** (National Avenue to western city border) 12,300 vehicles per day

Given the land use plan and recent trends in land use, the following parts of the City must be closely monitored to make sure that the AADT threshold has not exceeded. Those sections are:

- Sections of Moorland Road, north of Cleveland Avenue, which could necessitate the utilization of the currently existing third emergency lane as a thru lane in each direction.
- All streets in the southeast part of the city, south and southeast of IH-43, with the single-family subdivisions and commercial growth within and nearby this area.

The 13,000 to 15,000 AADT threshold is a criterion that must be utilized with other criteria. For example, while the AADT threshold may not be reached, the peak hour capacity of certain sections of streets or major intersections may cause severe backups of vehicles causing detrimental situations to other aspects of the city functions, such as economic development. Therefore, each new development must be carefully analyzed in terms of traffic generation, the ability of adjacent street system to handle the additional traffic, and the design of the development to provide for connectivity and efficient traffic flow, both internally and externally. Of course, multi-modal and alternative modes of transportation to serve new developments could be part of the requirements for those new developments to alleviate traffic flow and costly public investment to improve the streets.

REGIONAL TRANSPORTATION PLANS

There are a number of recent, state, regional, county and municipal transportation planning documents concerning or referring to the City of New Berlin.

The Southeastern Wisconsin Regional Plan Commission's (SEWRPC's)

Year 2035 Recommended Functional Improvements to the Arterial Street and Highway System for Waukesha County is included in Appendix I. It should be noted that the City has not accepted all the recommendations included in SEWRPC's 2035 Plan per Resolution No. 07-29 (Appendix Q).

SEWRPC staff is currently preparing a major review and update of the regional land use and transportation plans for Southeastern Wisconsin. This effort, called VISION 2050, is expected to be completed in 2016. It was noted at meetings attended by DCD staff that the completion of Vision 2050 will replace the current year 2035 plans, extending the design year of the plans to 2050. It should be noted that the SEWRPC plans are advisory only. DCD Staff will continue to follow these meetings and documents put out by SEWRPC. A full update to the section below will occur at a later date.

Refer to the SEWRPC VISION 2050 plan for the most updated information related to their regional planning efforts and recommendations.

The SEWRPC Year 2035 Plan identifies the following improvements:

- Widen **Cleveland Avenue (CTH D)** to allow four travel lanes through the City of New Berlin from 124th Street to STH 164 in the City of Waukesha.
- Widen **Moorland Road (CTH O)** to allow four travel lanes between Grange Avenue and College Avenue in the City of New Berlin. As part of VISION 2050, a preliminary recommendation is to widen CTH O between Grange Avenue and IH 43 to six traffic lanes.
- Widen **Calhoun Road** to allow four travel lanes from Greenfield Avenue (STH 59) to National Avenue (CTH ES). In 2010, the City plans to rehabilitate the section of Calhoun Road between Greenfield Avenue and Cleveland Avenue as a two-lane roadway with intersection improvements. Ultimately, all of Calhoun Road north of National Avenue (CTH ES) is envisioned to have a change in jurisdiction to Waukesha County.

- Widen **Racine Avenue (CTH Y)** to allow four travel lanes from W. Pinewood Drive in New Berlin to STH 164 in the City of Waukesha.
- Widen **IH-43** to allow six travel lanes on the section from the Hale Interchange with IH-894 to Racine Avenue (CTH Y).
- **IH-94 Interchange at Calhoun Road** will provide an additional access to the freeway for the City of Brookfield and New Berlin.

This plan does not specifically approve any of the State, Regional, or County Plans, they are only included as reference documents.

TRANSPORTATION PLAN: GOALS, POLICIES AND OBJECTIVES

The City of New Berlin is an actively growing and multi-faceted community approaching a population of 40,000. Continued growth patterns are one factor, as foreseen by the Growth and Development Master Plan Update, which will have an impact upon the local transportation system. Other factors exist beyond the boundaries of New Berlin and outside the direct control of City officials and citizens. These factors create both opportunities and barriers for transportation planning within the City. Therefore, the City of New Berlin Transportation Plan supports a tiered thought process for making local land use and local transportation planning decisions. At the local level, land use and transportation are mutually dependant, therefore, land use and transportation must not be separated at any step in the community development process. Although the City has the ability to make land use and transportation decisions locally, those decisions must be determined with the full knowledge of state, regional and county plans, as those plans have the potential of impacting community development, both positively and negatively.

The triangular local decision making process, illustrated in Figure 6.18, provides the basis for local development decisions. Other factors also contribute in the actual decision equation, such as economic development, location and provision of utilities, and the protection of natural resources.

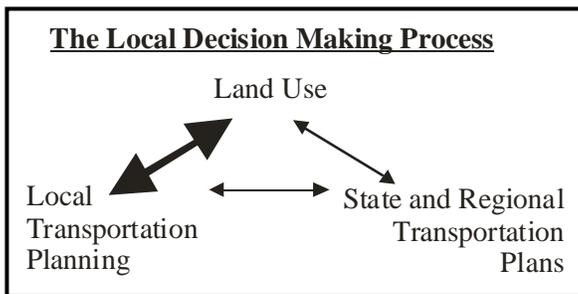


Figure 6.18: Local Decision Making Process

However, land use and local transportation are the most highly correlated factors in this equation.

The City of New Berlin Transportation Plan demonstrates sound planning principals by drawing together the many extensive planning efforts that have taken place in and relating to, New Berlin in recent years. Highlighted summaries have been presented for each of the relevant plans including those at the State, Regional, County and local levels. Most of the plans set forth goals, objectives, policies, design standards and recommendations, and they form a basis for the goals, objectives and policies included in this plan.

The following goals, objectives and policies for the City of New Berlin Transportation Plan, being an element of the Master Plan, were created to link the plans of other jurisdictions to community development at the local level. Although the goals, objectives and policies are specific to transportation in New Berlin, the use of these statements to assist in local decision-making must be in the context of the interrelationships between all elements of the Master Plan. Where conflicts may occur between the goals, objectives and policies of this plan and other jurisdictional plans, the conflict must be viewed as an opportunity for discussion, and not viewed as an impediment to serve the transportation needs of the general public.

Transportation Goal

The purpose of the transportation goal is to provide general guidance and to be used as a guide for the City in the decision making process.

The transportation goal of the City of New Berlin is to provide a safe and efficient multi-modal transportation network, through proper design, construction and maintenance that will effectively serve the travel needs in and through the City of New Berlin in balance with land uses, economic development and natural resource protection.

City of New Berlin's Transportation Objectives

The objectives are related to the goal by giving it a tangible condition or property. New Berlin's transportation goal is supported through the following objectives:

1. The citywide average PASER score should not decrease below 60.0.
2. The level of service rating should not fall below "D" to the maximum extent practicable.
3. Increase funding for local transportation improvements without increasing local property taxes.
4. Improve coordination with other jurisdictions.
5. Improve bicycle and pedestrian facilities.
6. Minimize the number of crashes.
7. Maintain a hierarchal and interconnected street network.
8. Minimize the environmental impact of transportation facilities.

CITY OF NEW BERLIN'S TRANSPORTATION POLICIES

Policies are specific steps to reach each objective, and ultimately the transportation goal. The transportation policies are listed for each objective.

Objective 1: The citywide average PASER score should not decrease below 60.0.

Policies:

- Biannually assess the PASER scores of locally maintained streets.
- Utilize a Capital Improvement Plan to plan for locally maintained street improvements. Priority is to be given to those streets with the lowest PASER scores.
- Create, implement and enforce designated truck routes through the City to remove heavy traffic from streets not designed for the heavy traffic. Coordinate the designation of truck routes with State and County highway representatives and with neighboring government jurisdictions.

-
- Direct construction traffic to use the streets having the capacity to handle the heavy traffic. When not possible, require the developer to provide financial support to improve the off-site local street system to handle the heavy construction traffic.

Objective 2: The level of service rating should not fall below a “D”.

Policies for Monitoring Conditions:

- Monitor traffic counts of all primary arterials, standard arterial and collector streets.
- Monitor intersection and street levels of service to ascertain needed changes to traffic control devices to improve flow, such as traffic signage and traffic signal timing and coordination.
- Monitor intersection and street turning movements and capacities to insure the intersections and streets are functioning properly, and recommend improvements as necessary.
- When the level of service rating falls below a “D” on State or County highways, work with the appropriate jurisdiction to take corrective measures.
- When the level of service rating falls below a “D” on City streets, determine the corrective action to cause an improvement.
- Review all development proposals to ensure LOC will not decrease. When practical, development can provide improvements to improve LOC through new development.

Policies for New Development and Redevelopment:

- All non-residential developments that exceed 100 peak-hour trips should have at least two public access points.
- All residential developments with 25 or more units should have at least two public access points.
- Encourage and improve pedestrian connections within and between neighborhoods and points of interest.

- The traffic flow from driveways, parking isles and lanes should not impede traffic flow on streets, such as adequate turning lanes, traffic controls and interior exit stacking.
- Periodically review the Subdivision of Land Ordinance, Zoning and Development Handbook for necessary amendments needed to provide for adequate levels of service.
- When designing a development, place access points to and from adjacent streets and parcels in locations that do not decrease the level of service. Consolidate access points whenever possible.
- Per the Development Handbook, require a Traffic Impact Analysis (TIA) for: Residential developments with 40 or more units; Non-residential developments that exceed 100 peak-hour trips; or any development that is likely to have an adverse impact on traffic.
- Require off-site improvements to the street systems when the TIA finds the new development necessitates the improvements.
- Rezonings should not decrease the level of service of the adjacent street system.
- Utilize Developer's Agreements to require off-site improvements needed to mitigate a decreased level-of-service caused by the development.
- When new public right-of-ways are proposed, the developer shall fund all initial traffic controls, such as traffic signals, signs and pavement markings.
- Consider instituting flex-time for major employers to eliminate high concentration of traffic volumes during morning and evening peak hours.

Policies for Multi-Modal Transportation:

- Compile or update a list of alternative transit providers doing business within the City, such as taxis or paratransit. Publicize the list on City communications with the public, such as the City's website or news release.
- Construct bicycle and pedestrian facilities as recommended by the Comprehensive Plan.

-
- Design roadways for the safety of pedestrians and bicycles at all points of interaction with motorized vehicles.
 - Promote the use of the bicycle and pedestrian facilities. The Plan Commission will establish the pedestrian and bicycle facility map (see Figure 6.16), while the Park, Recreation and Forestry Commission will establish the recreational trail plan and map, along with the Safe Routes to School.
 - Develop bicycle trail design criteria, including signage.
 - Promote park-and-ride or ridesharing.
 - Evaluate the provision of bicycle and/or pedestrian facilities as integral components of new development and redevelopment projects. Require connections with existing bicycle and pedestrian facilities.
 - Expand upon the system of bicycle and pedestrian facilities along arterial and collector streets and adjacent developments with new street construction or reconstruction projects. All new or existing Arterials shall have both on-road bicycle lanes and off-road sidepaths. Collector roadways shall have off-road sidepaths (preferable) or on-road bicycle lanes (minimum) or both. All other roadways shall be evaluated based on the City's existing and future planned segments (both pedestrian/bicycle facilities and recreational trails).
 - Interconnect adjacent developments and street reconstruction projects with bicycle and pedestrian facilities.
 - Install ADA compliant curb ramps at all necessary points during developments and street reconstruction projects.
 - Where new developments are not near existing side paths or recreational trails, require construction of new trails within the development with planned external points of interconnection.

Objective 3: Increase funding for local transportation improvements without raising local property taxes.

Policies:

- Utilize the Capital Improvement Plan to plan and pay for:
 - Road improvements
 - Equipment replacement
 - Additional equipment
- Seek street maintenance and improvement funding alternatives, such as Federal and State funding.
 - Seek funding for improvement projects that are of mutual interest to multi-jurisdictions.
 - Utilize grants to retrofit existing sidewalks with curb ramps.
 - Utilize grants for the construction of new side paths and recreational trails.
- Periodically review City staffing levels that are needed for proper maintenance, design, and design review.
- Provide focused improvements to internal streets in the industrial parks and business districts.
- Consider street maintenance and improvement funding alternatives, such as Transportation Impact Fees, to require development to pay for incremental off-site impacts.
- Encourage Federal and State Elected Officials to provide a financial support system for street maintenance and improvement to further enhance economic development opportunities for the state, county, region and city.

Objective 4: Improve coordination with other jurisdictions.

Policies:

- Establish a system where a city staff member(s) are responsible for:
 - Coordinating with the State of Wisconsin Department of Transportation and Waukesha County Department

-
- of Public Works regarding transportation issues affecting the City in and around New Berlin.
- Evaluating information gained from Wisconsin Department of Transportation, Waukesha County Department of Public Works and other neighboring jurisdictions to ascertain the impact upon the City, and report findings to the Common Council.
 - Coordination of planned road reconstruction projects for the following year so that the timing of those reconstruction projects do not close or restrict traffic flow on alternative and parallel routes.
- Coordinate with other jurisdictions about:
- Improvements of shared controlled streets and streets extending from jurisdiction to jurisdiction.
 - Improvements to State and County highways in and around the City.
 - The needs of intersection and street capacities; suggesting improvements as necessary.
 - Any improvements or extensions outside of the City that may have any street maintenance, street capacity, land use or economic development impacts upon the City.
 - Any land use changes or new development proposals that may affect other jurisdictions.
 - The use and extension of recreational trails.
 - The transfer of street jurisdictions as recommended in the Regional Transportation Plan. Streets transferred to the City should only be done so after the streets are in an acceptable condition according to City standards.
- Coordinate with the Milwaukee County, the Waukesha County and City of Waukesha transit systems regarding:
- Providing service in and around the City.
 - Monitoring ridership.
 - Reviewing potential new routes.
 - Promotion of the routes.

-
- Designate a City staff member to be the liaison between employment centers within the City and the providers of public bus transit.
 - Encourage ridesharing and the usage of the Park & Ride Lots.

Objective 5: Improve bicycle and pedestrian facilities.

Policies:

- Prioritize the proposed routes shown on Figure 6.16.
- Conduct feasibility studies for the top ten proposed facilities to identify any impacts.
- Initiate a Safe Routes to School program.
- Develop bicycle and pedestrian facility design guidelines and signage requirements.
- Incorporate bicycle and pedestrian facilities with any future roadway resurfacing or reconstruction project.
- Require developments to provide appropriate pedestrian and bicycle accommodations and connections.
- Develop a bicycle and pedestrian route map.

Objective 6: Minimize the number of crashes.

Policies:

- Annually review crash data and calculate the intersection and roadway crash rates.
- For intersections with crash rates exceeding 1.0, further evaluate the crash data to identify specific crash patterns. Recommend countermeasures to reduce the occurrence of crashes.
- The design and maintenance of recreational trails and sidewalks to incorporate safety features.
- Discourage the installation of traffic signals without meeting adequate warrants.
- Consider a roundabout as an alternate to installing traffic signals. Roundabouts are safer than traffic signals and result in fewer crashes of less severity

-
- Prohibit the use of stop signs as a method to reduce speed. Use traffic calming measures to control speed.

Objective 7: Maintain a hierarchal and interconnected street network

Policies:

- Encourage internal pedestrian interconnections between similar or compatible land uses and developments.
- When a new development proposes new public right-of-ways:
 - Require temporary stub streets and temporary cul-de-sacs to have signs posted giving notice of planned extension of such streets.
 - The need for multiple means of ingress/egress should be determined based on:
 - Police and Fire access requirements.
 - Impact on arterial and collector system.
 - Impact on local streets within adjacent developments.
 - Compatibility of adjacent land uses.
 - Collector streets shall be constructed when the City has determined that the public street layout necessitates a wider street due to the street design causing a higher through traffic volume, or a collector street is necessary to convey additional traffic to the benefit of the City.
- Periodically review the City's Subdivision, Zoning and Developer's Handbook to ascertain any necessary amendments to assist these transportation objectives and policies.
- Provide alternate routes (detours) and appropriate management of local traffic circulation at the time of any major roadway maintenance or reconstruction.

Objective 8: Minimize the Environmental Impact of Transportation Facilities.

Policies:

- New roads through wetlands, floodplain, conservancy or environmental corridors should be avoided. Any intrusion should be done as a last resort, and when done any impact is minimized to the most reasonable and practicable extent.
- Utilize road right-of-way for storm water control.
- Consider adding curb and gutter at the time of any widening/reconstruction of all highways and streets east of Calhoun Road.
- Promote the use of multi-modal transportation to minimize adverse impacts upon the environment.

RECOMMENDATIONS AND IMPLEMENTATION

As an element to the Comprehensive Plan under Wisconsin Smart Growth Law, this transportation plan must be consistent with the regional transportation plan. Consistency with the regional plan; however, does not preclude control over the transportation system nor eliminate the City's responsibility for sound transportation planning and implementation through incremental decision making. This plan lists numerous points in which the City has the opportunity and responsibility to its citizens and property owners for the implementation of sound transportation policy.

The statement of the goal, objectives and policies forms the strong understanding to set the course of action for the city in coordination with other stakeholders. The stakeholders are the state of Wisconsin through WisDOT, Waukesha County, neighboring governmental units including Milwaukee County, other agencies and organizations responsible for traffic concerns and the most important stakeholders being current and future citizens and property owners within the City.

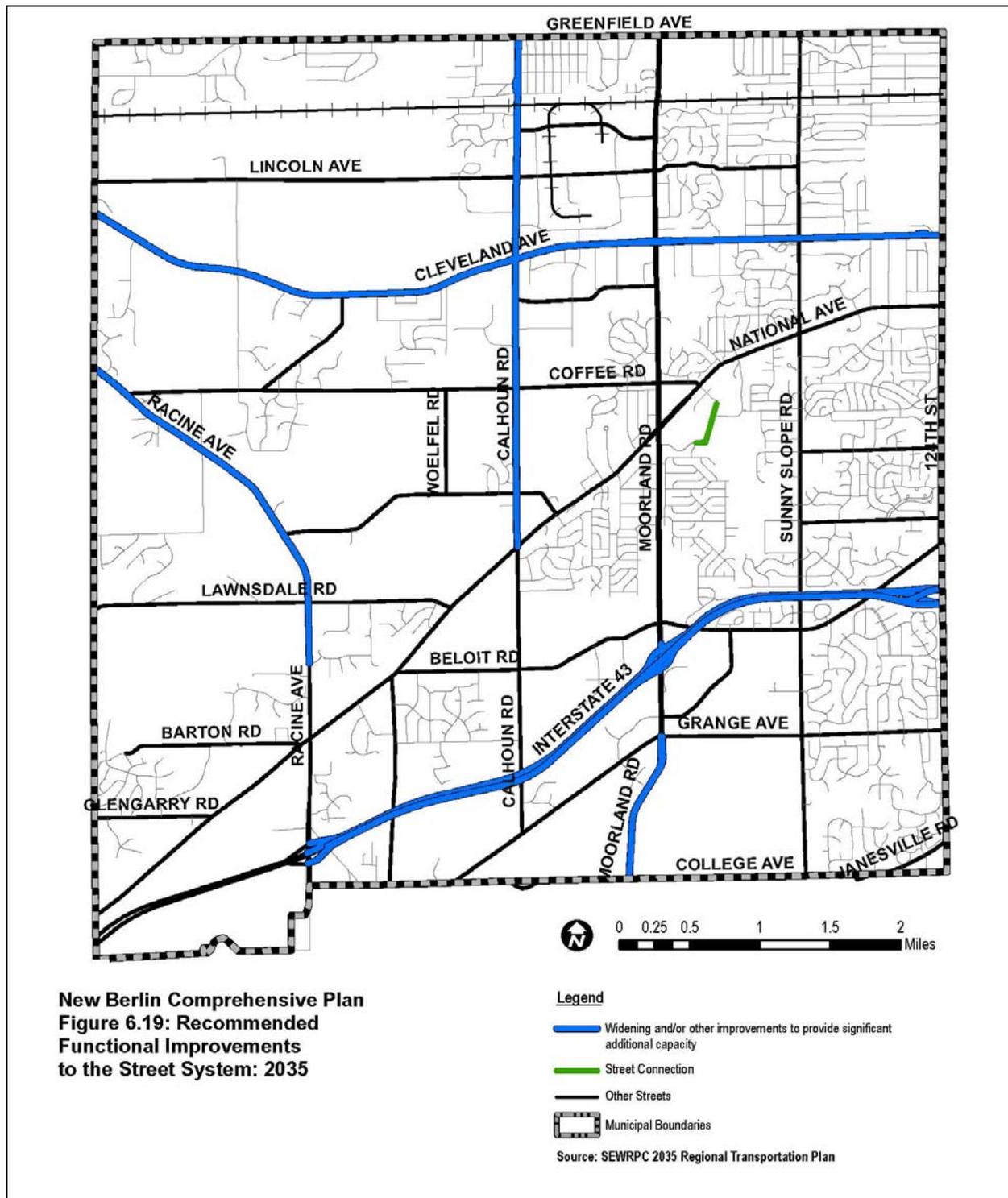
Figure 6.19 shows the following recommended widening and/or capacity improvements:

- Connect Michelle Witmer Drive to Howard Avenue. Several options may exist to accomplish a connection.
- Intersection capacity improvements along Cleveland Avenue (CTH D).
- Widen Racine Avenue (CTH Y) to four travel lanes from W. Pinewood Drive to the western city limits.
- Widen Moorland Road to four travel lanes from Grange Avenue to College Avenue.
- Support for widening IH-43 from 4 lanes to 6 lanes from Racine Avenue (CTH Y) to IH-894 (Hale Interchange), as long as additional right-of-way is not required.
- Support for widening IH-94 from 6 lanes to 8 lanes in Waukesha County. The SEWRPC plan recommends 8 lanes for the section of IH-94 from STH 16 to IH-43 in Milwaukee. Support for the IH-94 interchange at Calhoun Road.

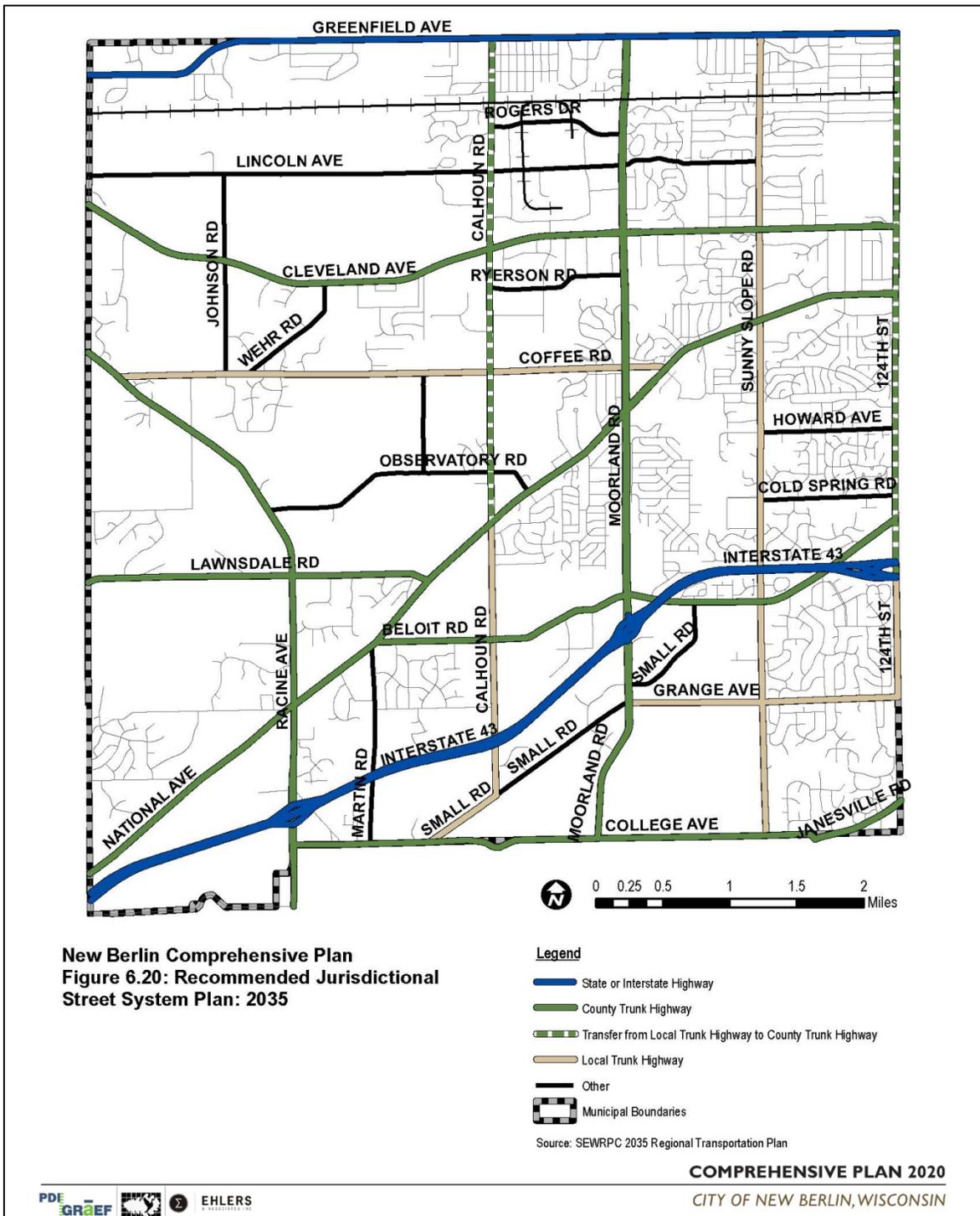
Figure 6.20 shows the recommended jurisdiction system plan for the City of New Berlin. Overall, the system plan retains the status quo for the continuous jurisdiction of arterials by either the state, Waukesha County or the City of New Berlin. Two exceptions exist where the regional plan recommended changing from local to county jurisdiction for the following arterials:

- 124th Street between Greenfield Avenue and IH-43 including the intersection with Layton Avenue (CTH Y) in Milwaukee County. As an example of regional cooperation, this jurisdiction transfer would be shared between Waukesha County and Milwaukee County.
- Calhoun Road between Greenfield Avenue and National Avenue is recommended to be transferred to the County if an interchange is constructed on IH-94 at Calhoun Road.

Note: This map was not updated at this time. Will be updated during a larger overall update after the Vision 2050 plans is approved by SEWRPC.



Note: This map was not updated at this time. Will be updated during a larger overall update after the Vision 2050 plan is approved by SEWRPC.



Locally, many activities can be initiated by the City to follow sound transportation policy. Nothing in this plan must discourage the City from its strong history of taking local control of local transportation matters. Continued implementation of the City Center plan with the extension of Howard Avenue and improvement of Coffee Road along with the City's assistance of construction of bicycle and pedestrian facilities in conjunction with roadway projects, are just two examples of the initiative City officials have taken to improve the quality of transportation within the City.

The detail policy statements listed under the overall goal and objective statements in this plan provide the basic roadmap toward action to maintain local control over the transportation system in New Berlin.

Therefore, in addition to the recommendation made part of this plan from the regional transportation plan, the following statements relate to local recommendation of this plan:

- Follow the states goals and objectives and policies road map.
- Continue to implement the directives related to transportation policies indicated in previous City plans, as referenced in this plan, and continually seek out local actions to alleviate traffic in the entire street system.
- Continue to review jurisdictional Highway Plan and Ultimate Width Map, and implement as necessary to adapt to the needs of the City.
- Continue to evaluate bicycle and pedestrian facilities with all roadway improvement projects.
- Continue sufficient and adequate funding levels to maintain streets of local jurisdiction to extend those streets useful life expectancies.
- Continue to improve streets of local jurisdiction that are identified in this plan or are identified by further review of traffic volumes, via annual review of a comprehensive capital improvement program.
- Continually seek out alternative sources of funding to assist the city in the maintenance and improvements of local jurisdictional streets and to assist in the funding of local share

of state and or county arterial improvements, such as transportation aids, grants and transportation impact fees.

- Continually search for cost effective measures to improve traffic flow and/or reduce traffic volumes, therefore, reducing the reliance upon the local property tax owner to pay for such improvements.

Implementation

The City of New Berlin shows great concern for the future of its community through careful deliberation decision making that implements its plans and policies. The expectation is that current and future City officials will follow the same tradition.

Nonetheless, the following points will assist implementation of this plan.

- Adoption of this plan in conjunction with other elements of smart growth comprehensive plan for the City as required by state law via ordinance adopted by the Common Council
- Periodic review by City officials of all plan and recommendations, especially stated policies. It is suggested that the periodic review occur with the formulating the annual operating budget and updating the capital improvement plan.
- Update this plan and other elements of the Smart Growth Comprehensive Plan for the City as the need arises due to changing conditions. Many of the changing conditions may occur outside the control of the City.
- Update City's Official Map to conform to plan and update when necessary.
- Update Traffic Control Inventory Map.

Lastly, the City of New Berlin is part of an overall regional transportation system. At times, decisions will occur outside of the purview of the City that may have a profound impact upon the City. It is only with extreme communication and cooperation with other entities that the City will reach consensus with the other jurisdictions so that it keeps in mind the regional system that has great benefits for the City.