

Purpose of and Need for the Project

This section describes the purpose of the project and why the project is needed. The purpose describes what the project is intended to accomplish, and the need explains the transportation concerns and/or deficiencies that the project would address.

1.1 Introduction

1.1.1 Project Background

The study area generally comprises the area between I-41 on the west to I-43 on the east, within the City of De Pere and the Towns of Rockland, Lawrence, and Ledgeview (see Exhibit 1-1).

The need for transportation system improvements was first identified in the 1968 Brown County Comprehensive Plan, which recommended a future Fox River Bridge south of De Pere in the vicinity of Rockland Road (Brown County 2007). Then in 1991, a study by the Brown County Planning Commission further evaluated a potential bridge location, comparing a crossing at Rockland and Red Maple roads to a crossing at Heritage Road and County F (Scheuring Road). The results of this study were incorporated into the Brown County 2020 Land Use and Transportation Plan (adopted in 1996) and recommended a crossing within a 0.5-mile corridor surrounding Rockland and Red Maple roads. The concept of building a new Fox River Bridge and connecting street system was then included in many local community plans and studies as an important component of future development patterns.

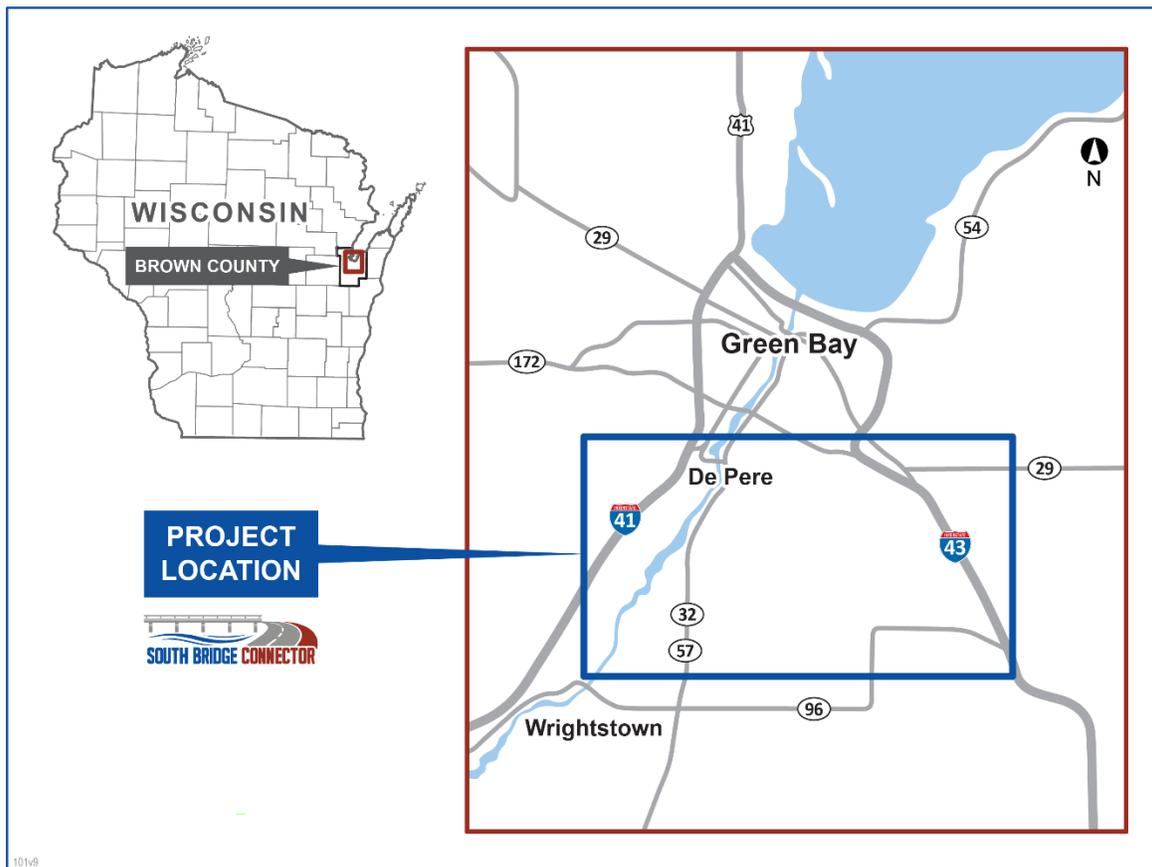


Exhibit 1-1. Project Location Map

In 2006, Brown County began early public involvement and agency coordination to explore the need for improved east-west travel in the southern Green Bay metropolitan area. In 2008, Brown County, Wisconsin Department of Transportation (WisDOT), and Federal Highway Administration (FHWA) (referred to as Lead Agencies) issued a Notice of Intent to prepare an Environmental Impact Statement (EIS) in compliance with the National Environmental Policy Act (NEPA) for a new Fox River crossing south of De Pere. The purpose of and need for the project were developed, alternatives were analyzed, and extensive public involvement was conducted to gather public input. The Lead Agencies held a number of meetings during project development to share information and gather feedback from the public, agencies, and tribes. These included two meetings with a project Stakeholder Committee, three public involvement meetings, and

numerous meetings with state and federal resource agencies and tribes. In 2011, agency coordination culminated in state and federal agencies concurring on the need for the project, the initial range of alternatives to be studied, and the alternatives to be retained for detailed analysis.

Beginning in 2012, Brown County began a Preliminary Engineering and Operations Review (PEOR) Traffic Analysis for existing and future traffic operations on I-41 and the interchanges at County S, County F, and County G/WIS 32 (Ashland Avenue) to assess whether a new interchange would affect traffic operations on US 41, now I-41. This analysis included, among other steps, a new traffic forecast for I-41 and connecting roads in this area and determined that traffic on I-41 would still flow smoothly if a new interchange were built just south of County F (the results of the PEOR are discussed in Section 2, Alternatives Considered). In 2012, FHWA evaluated the project considering available funding, in light of updated federal fiscal constraint requirements (see inset box). These requirements stipulate that funding sources must be identified before FHWA can provide final NEPA approval for a project that will lead directly to construction. The Lead Agencies determined that full funding for the project would not be immediately available. Instead, the project would likely be implemented in smaller sections over an extended timeframe as funds became available. Therefore, to continue and complete the study as a federally approved NEPA action, FHWA recommended that the study transition to a Tier 1 EIS.

On December 30, 2019, the Lead Agencies resumed the NEPA process and published a revised Notice of Intent to prepare a Tier 1 EIS in the *Federal Register* (FHWA 2019). This Tier 1 EIS evaluates transportation needs in the study area and analyzes broad corridors and conceptual transportation improvements rather than detailed alignments. This Tier 1 Final EIS and Record of Decision identifies a selected corridor for improvements. As funding becomes available to construct sections of the project, subsequent Tier 2 environmental documents will be prepared to evaluate the design, cost, and impacts of specific alignment alternatives. Appendix G contains an example South Bridge Connector schedule developed by Brown County. No construction activities will directly result from the completion of the Tier 1 EIS alone, since Tier 2 environmental document(s) will be required before construction occurs.

Tiered Environmental Documents and Fiscal Constraint

The *Code of Federal Regulations* (23 CFR 450), and FHWA guidance dated February 9, 2011 (*Supplement to January 28, 2008, Transportation Planning Requirements and their Relationship to NEPA Process Completion*) specifies that funding for a subsequent phase of the project (e.g., final design, right of way acquisition, or construction) must be identified in a fiscally constrained transportation plan, and full funding must be available, or reasonably expected to be available, to construct the project before FHWA can make a final project-level NEPA decision. However, a Tier 1 EIS and Record of Decision can proceed without full funding having been identified.

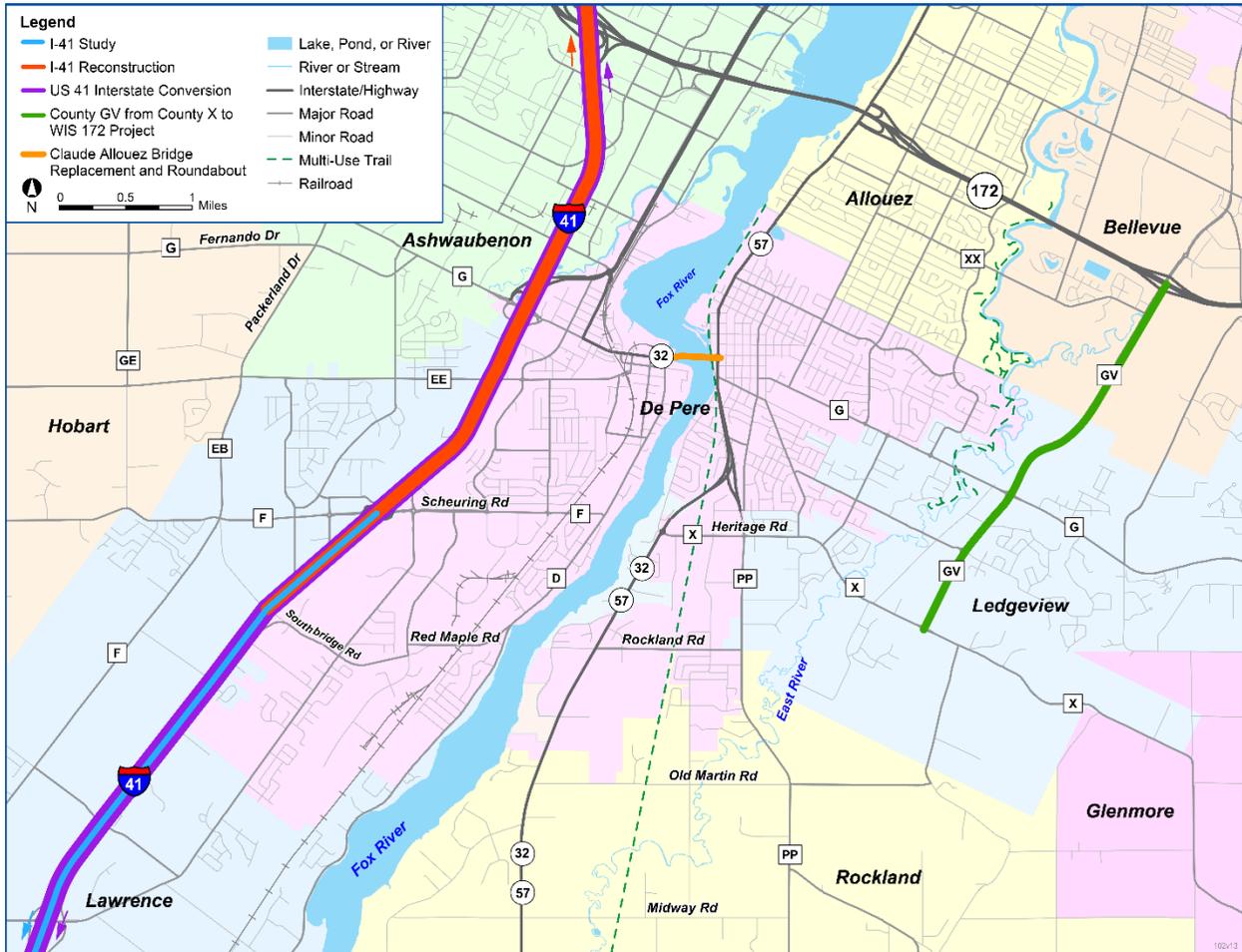


Exhibit 1-2. Related Projects

1.1.2 Related Projects

The following subsections detail recent roadway improvement projects implemented or initiated in the vicinity of the project (Exhibit 1-2).

Claude Allouez Bridge Replacement and Roundabout

In 2008, WisDOT replaced the former two-lane Claude Allouez Bridge with a four-lane bridge and reconstructed the approach roadways, including a roundabout at the bridge's eastern end. In 2012-2013, WisDOT modified the roundabout to address traffic delays and crashes that arose after the roundabout opened.

County GV from County X to WIS 172

County GV from County X to WIS 172 was widened from two to four lanes, and multimodal accommodations were added. Improvements were completed in 2014.

US 41 Interstate Conversion

In 2015, US Highway 41 from Milwaukee to Green Bay was converted to Interstate 41 (I-41) in response to the United States Congress designating US 41 as a high-priority corridor on the National Highway System and identifying it as a future Interstate route.

I-41 Reconstruction

WisDOT reconstructed and widened I-41 in Brown County from south of County F (including the County F interchange) to Lineville Road. Construction ended in 2016.

I-41 Study

In 2020, WisDOT began a study of I-41 between WIS 96 in Appleton and County F in De Pere. WisDOT anticipates completing NEPA documentation for the I-41 Study in early 2022. Any recommended improvements to I-41 included in the South Bridge Connector preferred alternative (for example, a new interchange) will be incorporated into the alternatives considered for the I-41 Study.

1.2 Project Purpose

The purpose of the project is to identify the most appropriate improvements for addressing existing east-west transportation demand and demand that will be generated by the planned development in the southern portion of the Green Bay metropolitan area.

1.3 Project Needs

The project is needed to:

- Address congestion in the vicinity of the existing Fox River bridges.
- Accommodate existing and planned land use and future travel demand generated by planned development.
- Reduce travel time by improving east-west connectivity.
- Address higher-than-average crash rates and safety issues in the vicinity of the existing Fox River bridges.

The following subsections discuss each need factor in more detail.

1.3.1 Address Congestion in the Vicinity of Existing Fox River Bridges

Several federal, state, and county highways provide relatively efficient north-south connections in the study area. However, there are few east-west connections, due mostly to the Fox River, which creates a natural barrier in the study area. Within the Green Bay metropolitan area, with more than 300,000 people, there are two freeway bridges (I-43 and WIS 172) and four local street bridges over the Fox River (Exhibit 1-3). Three of the four local street bridges are in downtown Green Bay. This system linkage gap leads to congestion on the Claude Allouez and WIS 172 bridges. In turn, the resulting high traffic volumes on the Claude Allouez Bridge create conflicts in downtown De Pere.

Congestion

Drivers currently experience congestion on the Claude Allouez and the WIS 172 bridges. Located in downtown De Pere, the Claude Allouez Bridge carries through and local traffic. While WIS 172 is a limited-access highway designed for longer trips, a large proportion of the traffic on the WIS 172 bridge is also local traffic. A 2011 origin-destination study found that 30 to 40 percent of peak-period traffic uses WIS 172 only to cross the Fox River, entering WIS 172 near the bridge and exiting shortly after crossing the river (Strand Associates 2014).

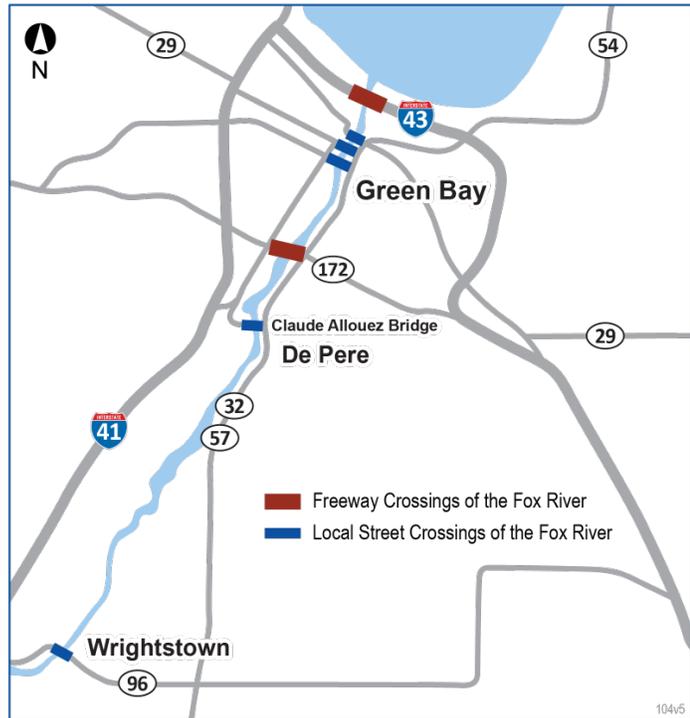


Exhibit 1-3. Fox River Bridges

The congestion is expected to worsen in the future on both bridges (see Appendix A for traffic analysis). Congestion occurs when travel demand exceeds the traffic-carrying capacity of a roadway. The ability of a roadway to serve travel demand is typically measured using an indicator called level of service, where level of service A represents the best driving conditions (free-flowing traffic), and level of service F represents the worst conditions (stop and go travel, reduced speed, delays) (Table 1-1 shows the definition for each level of service level). Level of service measures depend on the type of roadway (WisDOT 2019). For freeways, level of service is determined from the traffic speed, proximity to other vehicles, and the freedom to maneuver within the traffic stream. Level of service on urban arterials is defined by the average travel speed and the delays at controlled intersections. Table 1-2 shows traffic volumes and level of service on the Claude Allouez and WIS 172 bridges (see Appendix A for traffic volumes and level of service on all study area roadway segments).

As shown in Table 1-2 and in the exhibit in Appendix A, between 1998 and 2018, traffic volumes have increased 19 and 39 percent, respectively, on the Claude Allouez and WIS 172 bridges and are forecast to continue to increase due to growth in population and planned development (see Section 1.3.2). Between 2018 and 2045 (the planning horizon), traffic volumes are forecast to increase by 30 percent on the WIS 172 bridge; and between 2015 and 2045, traffic volumes are forecast to increase by 40 percent on the Claude Allouez Bridge.

Table 1-1. Level of Service Definitions

Level of Service	Definition
LOS A 	Excellent conditions
LOS B 	Very good conditions
LOS C 	Good conditions
LOS D 	Moderately congested conditions
LOS E 	Severely congested conditions
LOS F 	Extremely congested conditions

Table 1-2. Traffic Volumes and Level of Service

Location	1998 Average Daily Traffic (vehicles per day)	Existing (2018) Average Daily Traffic (vehicles per day)	Change from 1998 to Existing (2018)	Existing (2018) Level of Service	Forecast 2045 Average Daily Traffic (vehicles per day)	Change from Existing (2018) to 2045	2045 Level of Service
Claude Allouez Bridge	26,400	31,400 ^a	19%	C	44,000	40%	E
WIS 172 at Fox River Bridge	61,100	84,700	39%	D	110,000	30%	E

^a Year 2015 traffic volumes were used on the Claude Allouez Bridge as 2018 construction on Main Avenue in downtown De Pere affected bridge traffic volumes. The traffic volumes and level of service will be updated for Tier 2 environmental documents.

Source: SRF Consulting Group 2019 (Appendix A)

This increase in traffic volumes will cause congestion to worsen, deteriorating from level of service C in 2015 to E in 2045 on the Claude Allouez Bridge, and from level of service D in 2018 to E in 2045 on the WIS 172 bridge. As traffic increases and congestion worsens on the existing system, motorists will continue to experience less-desirable traveling conditions.

The future travel forecast year, also called the planning horizon year, for the project is 2045. This date incorporates the 20-year planning period often applied to transportation projects.

Because the bridges are close to one another, traffic conditions on one bridge can affect the other. In a 2019 meeting, local officials noted that a crash or lane closure on the WIS 172 bridge will often cause traffic to divert to the Claude Allouez Bridge in De Pere, increasing congestion at that crossing (Local Officials Meeting 2019; Appendix F). This effect was observed in 2009 and 2010 when traffic was detoured to the Claude Allouez Bridge during construction on WIS 172, resulting a 25 percent increase in traffic (DLZ 2011).

Downtown De Pere

On the west side of the river, through downtown De Pere, WIS 32/County G is split into a one-way roadway pair between Third Street and Sixth Street; westbound traffic flows directly west along Main Avenue, while eastbound traffic diverts south to Reid Street and then north again to the bridge. Residences and retail businesses line both sides of these streets. Speed limits on Main Avenue and Reid Street are 25 miles per hour (mph), and there are numerous cross streets and driveways. There is on-street parallel parking, an on-street bike lane, and a higher density of pedestrian crossings. The retail stores and St. Norbert College, which is just southeast of Main Avenue, generate pedestrian traffic through downtown De Pere. According to the City of De Pere, business owners on Main Avenue have noted the difficulty that customers experience with on-street parking on congested Main Avenue.

The high traffic volumes discussed in the previous section cause congestion in De Pere because of the roadway network in the vicinity of the Claude Allouez Bridge and the pedestrian-oriented nature of De Pere’s downtown, particularly west of the Fox River (Exhibit 1-4). Because of the one-way pair configuration on the west side of the river, vehicles on Reid Street are required to make multiple turns to access the bridge. The roadway network on the east side of the river experiences congestion as well. Northbound WIS 32 traffic approaching the roundabout on the east side of the Claude Allouez Bridge backs up to Cook Street, over 0.5 mile south of the roundabout.

An additional constraint to through traffic on Main Avenue is a railroad overpass just west of 6th Street that has a substandard vertical clearance of 14 feet (WisDOT guidance calls for a minimum 16-foot, 9-inch clearance on state highways like Main Avenue). The road also narrows to just one lane eastbound at the underpass with sidewalk only on one side of the road.

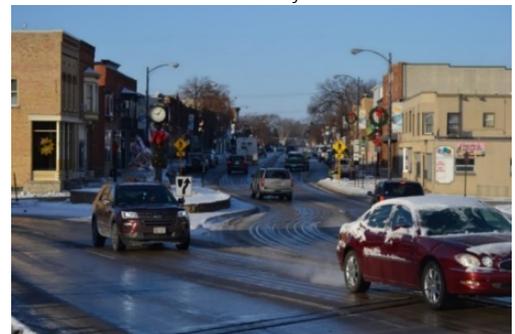
The City of De Pere Police patrol Main Avenue and Reid Street to enhance pedestrian safety during heavily traveled periods, and the City plans to install a mid-block pedestrian crossing to improve safety (Local Officials Meeting 2019; Appendix F).



Route to the Claude Allouez Bridge from Reid Street.



Main Avenue/WIS 32/County G, looking west. Note just one eastbound lane and the substandard 14-foot vertical clearance.



Main Avenue in downtown De Pere. Note on-street parallel parking, neighborhood retail, and pedestrian crossing.

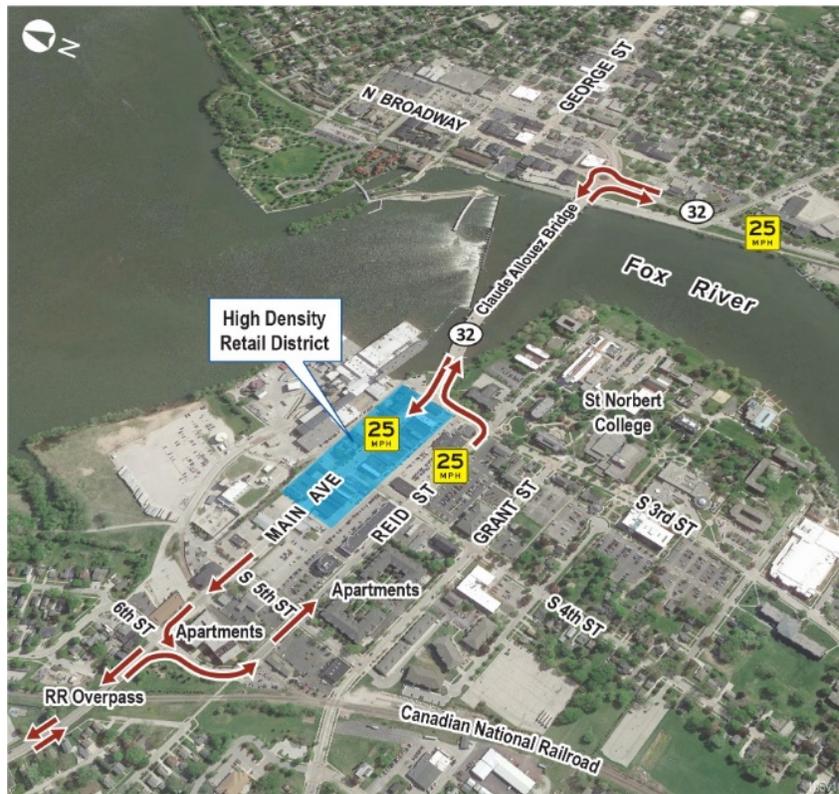


Exhibit 1-4. Travel to/from the Claude Allouez Bridge through Downtown De Pere

1.3.2 Accommodate Existing and Planned Land Use and Future Travel Demand Generated by Planned Development

Transportation system improvements are needed to efficiently accommodate the traffic demand generated by existing and planned development in De Pere, Lawrence, and Ledgeview. Growth in population and employment influences land use and transportation demand. Population in Brown County and study area communities has been growing steadily and is forecast to continue to increase (see Table 1-3). According to the U.S. Census, between 2000 and 2018, the County's population increased by 16.1 percent, from 226,778 to 263,378 (Table 1-3). This is the eighth-highest growth rate among Wisconsin's 72 counties over that period, and the second highest among counties with over 200,000 people (Wisconsin Department of Administration Demographic Services Center 2019). Communities in the study area grew by 17,675 (more than 22 percent) during that same time period, with Lawrence and Ledgeview experiencing the greatest population increases.

According to Wisconsin Department of Administration population projections, Brown County's population is expected to increase by 48,942 to 312,320 by 2040, an increase of more than 18 percent over the 2018 population. By 2040, the population of the communities in the study area is forecast to increase by 23,706 to 119,555, a 24.7 percent increase. Population growth in the area will lead to increased traffic on the Claude Allouez and WIS 172 bridges, as well as adjacent highways and streets on which these communities rely.

Table 1-3. Historic and Future (2040) Population

	2000 Population	2010 Population	2018 Population	2000-2018 Change	2040 Forecast	2018-2040 Change
City of De Pere	20,559	23,800	24,836	20.8%	31,280	25.9%
Village of Bellevue	11,828	14,570	15,515	31.2%	20,780	33.9%
Village of Hobart	5,090	6,182	8,606	69.1%	12,480	45.0%
Village of Ashwaubenon	17,634	16,963	17,181	-2.6%	17,440	1.5%
Town of Glenmore	1,187	1,135	1,144	-3.6%	1,160	1.4%
Town of Rockland	1,522	1,734	1,893	24.4%	2,370	25.2%
Town of Lawrence	1,548	4,284	5,044	225.8%	7,965	57.9%
Town of Ledgeview	3,363	6,555	7,739	130.1%	12,480	61.3%
Village of Allouez	15,443	13,975	13,891	-10.0%	13,600	-2.1%
Community Totals	78,174	89,198	95,849	22.6%	119,555	24.7%
Brown County	226,778	248,007	263,378	16.1%	312,320	18.6%

Sources:

2000 and 2010: U.S. Census

2018: 2014-2018 U.S. Census American Community Survey (ACS) 5-Year Estimates

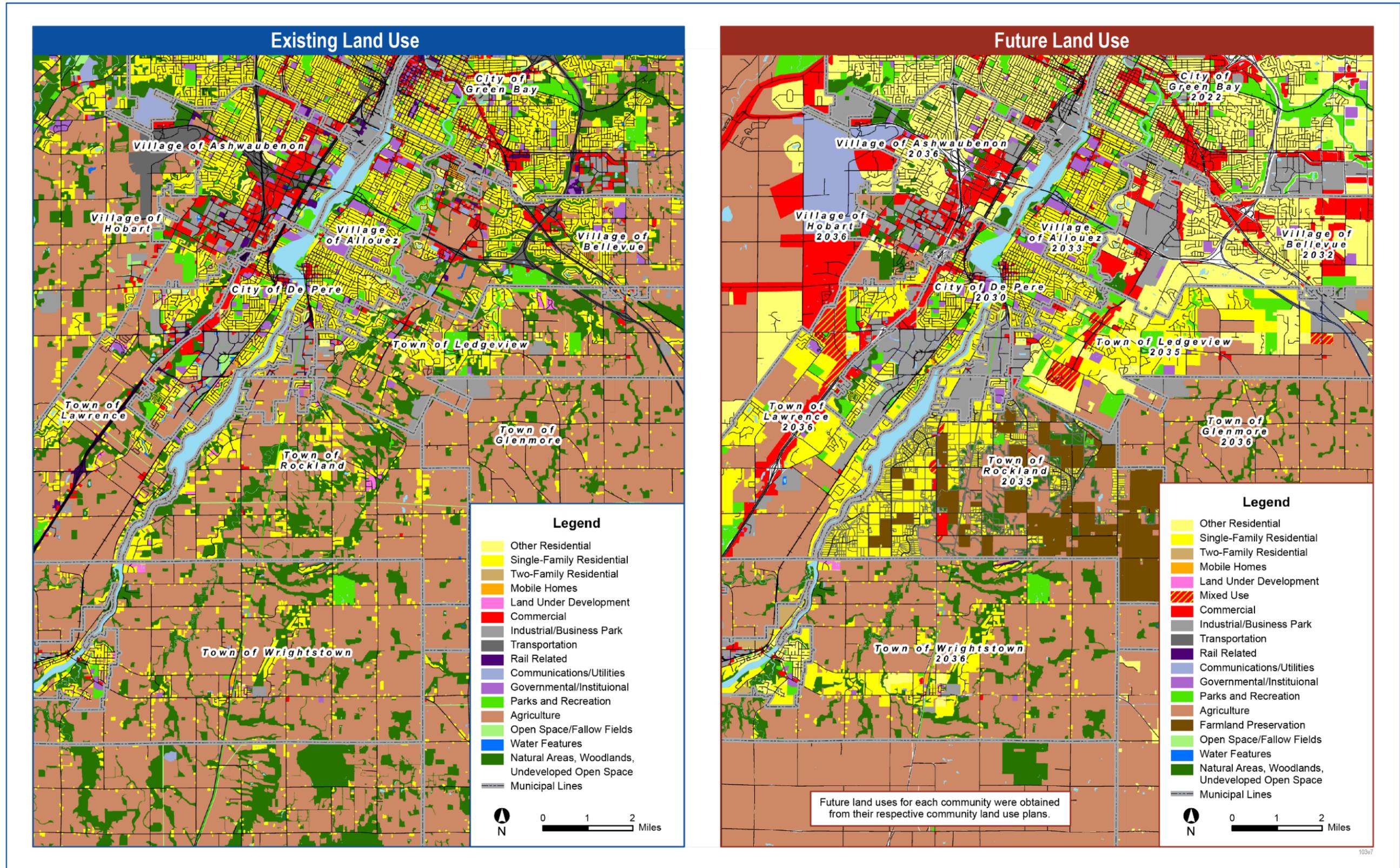
2040 Forecast: Wisconsin Department of Administration, *Population Projections, 2010 - 2040, Final Release (Vintage 2013)*

In Brown County, between 2010 and 2045, employment is forecast to increase to nearly 186,000, an increase of over 41,299 (a 29 percent increase). Within the area generally south of Claude Allouez Bridge and east of I-41, employment is forecast to increase by approximately 8,300 to over 27,000 (an increase of 44 percent) over the same period (WisDOT 2020). The anticipated growth in employment influences land use planning decisions and transportation demand in the study area communities.

Study area communities have adopted policies and developed future land use plans that emphasize the importance of accommodating population and employment growth, maintaining the area's contiguous growth patterns, and addressing travel demand in a way that complements planned land uses. In the study area, land use plans show future industrial/business park uses occurring in south De Pere, both east and west of the river. On the east side of the river, land use plans show future residential and agricultural uses extending southward, eventually extending to Wrightstown Road. On the west side of the river, residential and industrial/business park uses are planned to remain north of Midway Road, giving way to agricultural uses south of Midway Road (see Exhibit 1-5).

Study area communities recognize a new Fox River crossing as an important transportation system link to support future growth and travel demand. Including a new bridge in local comprehensive plans does not mean that construction is a foregone conclusion; however, its inclusion in local plans influences land use decisions being made by local governments. The communities of De Pere, Ledgeview, Lawrence, and Rockland each acknowledge a new Fox River crossing in stated goals and policy recommendations, and their land use plans reflect a potential future Fox River Bridge (see Appendix B for excerpts from each community's comprehensive plan describing a future new Fox River crossing). The plans also call for continued collaboration among surrounding communities, Brown County, and WisDOT to plan for a new bridge. In addition to local communities, the Brown County Comprehensive Plan (2007) identifies a new bridge as an important transportation project that is expected to occur during the long-range planning period.

Study area communities' plans (Appendix B) also call for expanding bicycle and pedestrian facilities in their overall goals and policies and recommend including bicycle lanes and providing trail connections as part of a new crossing. The County's transportation objectives also promote safe and continuous pedestrian and bicycle systems and recommend constructing sidewalks, multi-use trails, and bicycle lanes.



Source: Brown County 2019

Exhibit 1-5. Existing and Future Land Use

1.3.3 Reduce Travel Time by Improving East-West Connectivity

The limited number of Fox River crossings increases travel times, travel distances, and travel indirection. East-west travel time across the Fox River is affected by bridge congestion during peak hours, as discussed in the “Congestion” section above. The lack of a crossing between downtown De Pere and downtown Wrightstown (more than 10 miles) sends drivers several miles out of their way in order to cross the river. As population and employment growth continues on both sides of the river, travel demand, congestion and travel times will continue to increase on the existing bridges and the roadway network connecting to them.

The limited number of crossings can also hinder emergency response times due to longer trip lengths and congested conditions on existing bridges. Communities on both the east and west sides of the river have shared services agreements for police, fire, and ambulance services, so east-west access across the river is important in order to ensure efficient emergency response support among these communities. Depending on a location of an emergency, responders must travel out of their way in order to cross the river.

In addition to travel indirection that results from lack of a crossing over a 10-mile distance between De Pere and Wrightstown, emergency service providers experience delays and longer response times when bridges are congested (Local Officials Meeting 2019; see Appendix F). Representatives from De Pere and Ledgeview have both stated that emergency services can be hampered during rush hour when the bridges are congested, and the local emergency service providers have stated that the lack of river crossings in the area is a problem. The De Pere Fire Department response time goals are based on National Fire Protection Association Standard 1710 which calls for a 5-minute response time to 90 percent of emergency medical service calls. Currently, the De Pere Fire Department must divert north to WIS 172 or south to WIS 96 in Wrightstown if they cannot use the Claude Allouez Bridge, neither of which is a good alternative according to De Pere’s fire chief. Performance data for August 2018 to July 2019 show that the department met the Standard 1710 response times 48 percent of the time (Matzke 2020).

The Fox River Fire District has an automatic aid agreement¹ with the City of De Pere, the towns of Lawrence and Ledgeview, and the villages of Hobart, Bellevue, and Ashwaubenon, which span both sides of the Fox River, to ensure efficient emergency response support among these communities. A new fire station is planned in southwest De Pere at the intersection of Southbridge Road and American Boulevard, which is to be built in the future depending on construction of the South Bridge Connector and available funding.

1.3.4 Address Higher-than-Average Crash Rates and Safety Issues in the Vicinity of the Existing Fox River Bridges

Crash rates can increase with congestion and additional vehicle miles traveled, and as described above, the current limited availability of crossings in the study area results in congestion on the existing bridges and increased travel distances for east-west trips. WisDOT maintains a database of crashes that have occurred on state and county roadways. From this database, WisDOT develops statewide average crash rates for these types of roadways. The 2014-2019 crash rates on segments of Main Avenue in the vicinity of the Claude Allouez Bridge are 15 to 50 percent higher than the statewide average crash rate for similar roadways. The segment of Broadway Street between Greenleaf Road and Main Avenue also has a crash rate that is higher than the statewide average (see Appendix C—crash information for study area roadway segments). Crash rates on westbound WIS 172 in the vicinity of the Fox River are 34 percent higher than the statewide average.

¹ Automatic aid is assistance that is dispatched automatically by a contract agreement between two or more fire departments, communities, or fire districts.

A breakdown of crash types along WIS 172 between I-41 and Monroe Road and for WIS 32 at the Claude Allouez Bridge shows two types of crashes are most common: rear-end and single-vehicle/run-off-road crashes. Rear-end crashes are the most prevalent, composing about half of all crashes. The high percentage of rear-end crashes is indicative of congestion where traffic can come to an abrupt standstill. Single-vehicle/run-off-road crashes compose about one-third of all crashes. These crashes involve only one vehicle and include run-off-road crashes where the vehicle may have struck a fixed object. These crashes may represent loss of control under wet or snowy pavement conditions, avoidance maneuvers approaching stopped traffic, or leaving the travel lane. These crash types are consistent with the congestion described in Section 1.3.1.

As traffic volumes and congestion grow on the existing bridges, crash rates could increase on the existing roadway system. For example, a crash analysis of the roundabout at the east end of the Claude Allouez Bridge found an increased crash rate at the roundabout during February to August of 2009 and 2010, when construction on WIS 172 detoured traffic to the Claude Allouez Bridge (DLZ 2011).

1.4 Summary

The factors described in Section 1.3 are summarized below. These factors will be used to develop and evaluate alternatives. Environmental considerations and impacts will also be used in evaluating alternatives. This is discussed more in Section 2, Alternatives Considered.

- The limited number of Fox River crossings in the southern Green Bay metropolitan area causes congestion on the Claude Allouez and WIS 172 bridges that is expected to worsen in the future. Downtown De Pere is not suited to carry high volumes of traffic because of the 25-mph speed limit, on-street parking, pedestrian crossings, and high number of businesses and residences on Main Avenue/Reid Street.
- Population and employment in study area communities are forecast to increase, and communities have adopted land use plans to accommodate growth, designating future development to occur in the study area on both the east and west sides of the river. While it is not a foregone conclusion that a new Fox River crossing will be built, the comprehensive plans of study area communities include the construction of a new Fox River Bridge to support and accommodate traffic from future growth.
- The lack of a river crossing for more than 10 miles between downtown De Pere and downtown Wrightstown hinders east-west connectivity in the study area and causes increased congestion on existing bridges, travel times, travel distances, and travel indirection. Congestion and travel times will continue to increase as population and employment grows. The limited number of river crossings also affects emergency services as responders have to travel farther to get to destinations across the river and can experience longer response times when the bridges are congested.
- The crash rates on the WIS 172 bridge and on roadways in the vicinity of the Claude Allouez Bridge are higher than the statewide average. In addition, due to the lack of river crossings, drivers must travel out of their way to reach destinations, which provides the opportunity for more crashes.

1.5 References

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