

STH 64 / Pine Ridge Avenue Access Safety Study 2013



Project ID #:
0095-34-24

Prepared by:

**North Central Wisconsin
Regional Planning Commission**

**STH 64 / PINE RIDGE AVENUE
ACCESS SAFETY STUDY**

prepared for:

City of Merrill
and
Wisconsin Department of Transportation

by:

North Central Wisconsin Regional Planning Commission

August 27, 2014
Final Draft

This study was prepared at the request and under the supervision of the Wisconsin Department of Transportation for the City of Merrill by the North Central Wisconsin Regional Planning Commission (NCWRPC). For more information, contact:

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Photo Illustrations: NCWRPC; except page 25: WisDOT. **Sign Illustrations:** courtesy of MUTCD.

SECTION 1.0 BACKGROUND

1.1 STUDY PURPOSE

State Trunk Highway (STH) 64 (aka East Main Street) is one of the City of Merrill's two principal arterials and is the major east-west corridor through the city. The other principal arterial is the north-south Center Avenue/County K (Bus. 51) corridor. The STH 64 / East Main Street and Pine Ridge Avenue intersection area is one of four major areas of employment in the city.

Recent and proposed development on Pine Ridge Avenue have raised concerns about the effect of those changes on the operations and safety of STH 64 / E. Main Street and the interchange ramps from STH 64 to USH 51. The purpose of this study is to determine potential future mitigation measures and improvements on STH 64 as well as the local street network for safety and operations.

1.2 STUDY AREA LIMITS

This study centers around the intersection of STH 64/E. Main Street and Pine Ridge Avenue on the east side of the City of Merrill. The primary focus of the study is the segment of STH 64/E. Main Street that lays between Memorial Drive and the intersection of the USH 51 interchange southbound ramps.

The study area boundary is shown in Map 1. The study area is generally delineated by Memorial Drive to the west and STH 17 to the east, and extends north to County Highway G and south just beyond the interchange.

1.3 HIGHWAY 64 TRANSITION

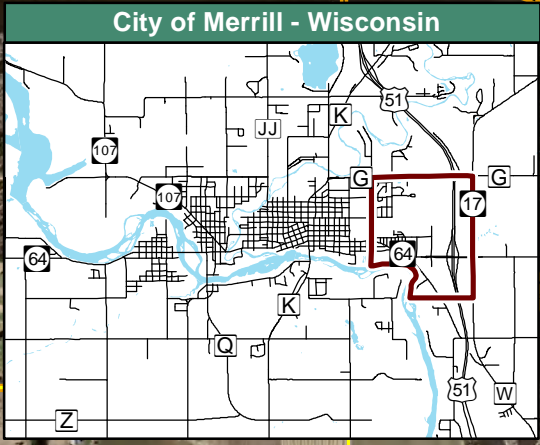
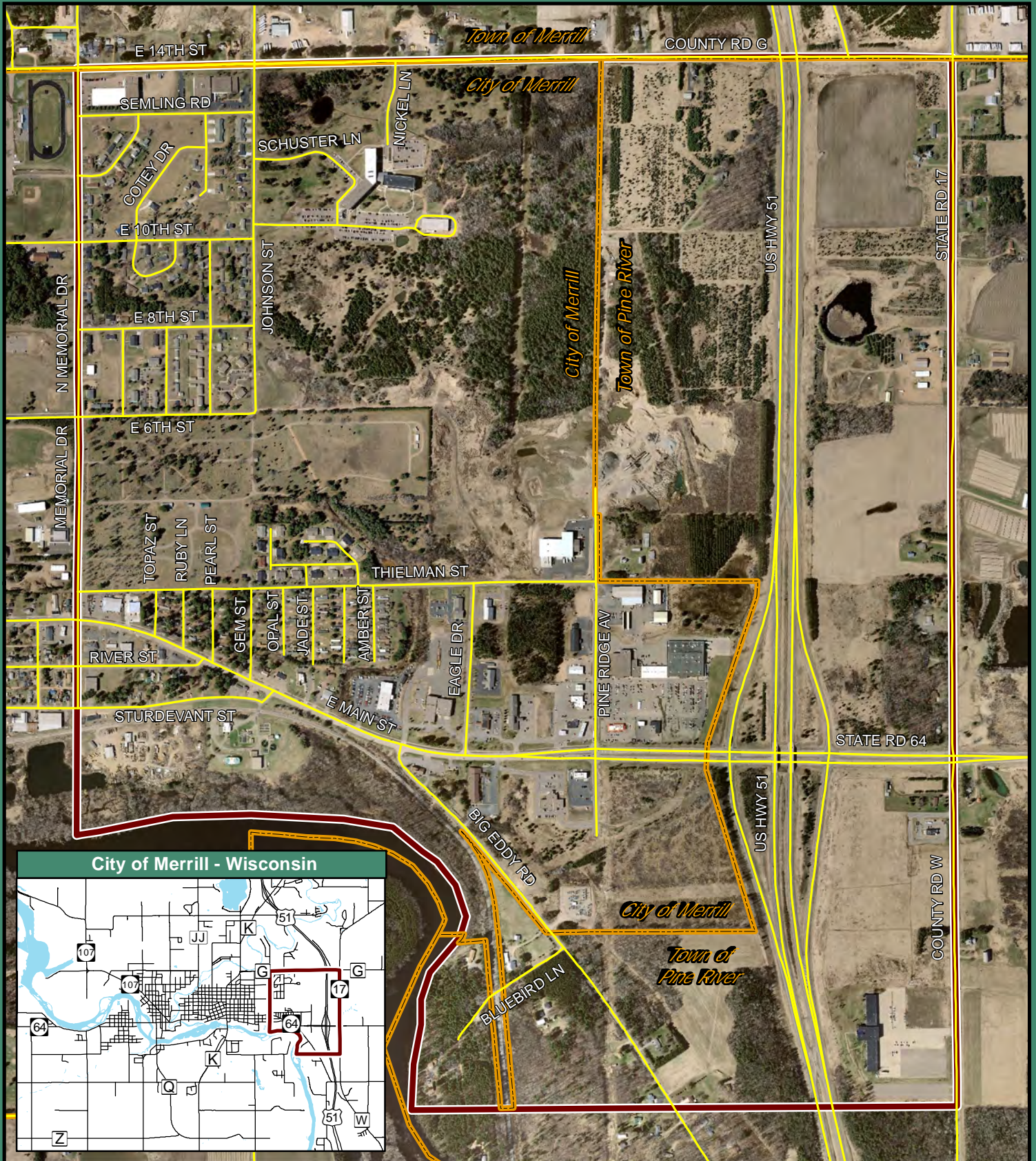
In 2012, a traffic impact analysis (TIA) was prepared for the planned development of a new Walmart Store and adjacent properties south of the STH 64 and Pine Ridge Avenue intersection. In order to accommodate the expected increase in traffic from this new development, the state and city planned improvements along STH 64 from Pine Ridge Avenue to STH 17/County W.

As part of the negotiation for the improvements on the highway, the state and city agreed to the extension of connecting highway status along STH 64 from Eagle Drive to the intersection of the USH 51 interchange southbound ramps, see Map 2. Connecting highway is defined as marked state highway routed over streets of municipalities for which the municipalities are responsible for maintenance and traffic control.

The terms of the agreement are summarized below:

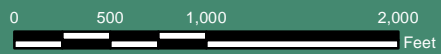
STH 64 - Pine Ridge Ave. Access Safety Study Project Boundary

Map 1



Legend

- Roads
- Minor Civil Divisions
- Project Boundary



This map is neither a legally recorded map nor a survey and is not intended to be used as one. This drawing is a compilation of records, information and data used for reference purposes only. NCWRPC is not responsible for any inaccuracies herein contained.

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State of Wisconsin

- Transfers the right-of-way property along STH 64 between Eagle Drive and Pine Ridge Avenue to the City.
- Maintains the current access control east of Pine Ridge.
- Conveys all access rights and permitting control authority over STH 64 between Eagle Drive and Pine Ridge Avenue to the City.
- Makes improvements to the intersection of STH 64 and the USH 51 northbound ramps to address future level of service issues.

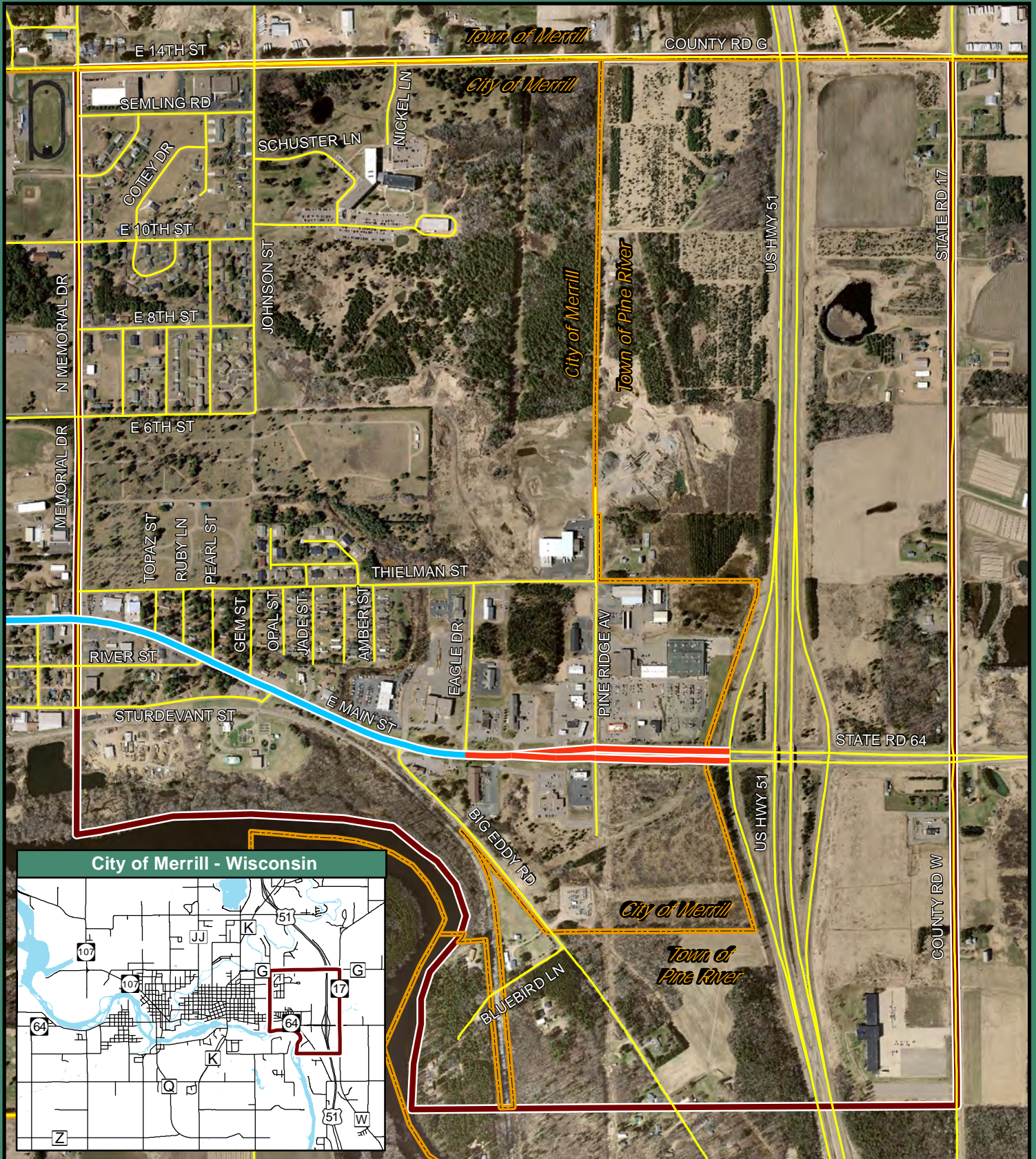
City of Merrill

- Accepts jurisdiction of STH 64 between Eagle Drive and the intersection of the USH 51 southbound ramps as a designated connecting highway.
- Accepts the right-of-way property along STH 64 between Eagle Drive and Pine Ridge Avenue. (Note: City has since annexed the right-of-way between Pine Ridge and the interchange.)
- Accepts maintenance authority for the new connecting highway segment.
- Accepts access rights and permitting control authority over STH 64 between Eagle Drive and Pine Ridge Avenue.
- Accepts ownership and maintenance responsibilities for the traffic signals at the intersection of STH 64 and Pine Ridge Avenue.



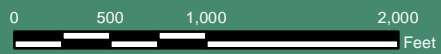
Bird's Eye View: Highway 64 and Pine Ridge Avenue showing proximity to USH 51 Interchange.

STH 64 - Pine Ridge Ave. Access Safety Study Connecting Highway Extension



Legend

- Minor Civil Divisions
- Project Boundary
- Roads
- Connecting Highway Extension
- Existing Connecting Highways



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SECTION 2.0 PROJECTED DEVELOPMENT

2.1 PLANNING CONTEXT

The City of Merrill is located at the confluence of the Wisconsin and Prairie Rivers in southern Lincoln County approximately 15 miles north of Wausau. The Wisconsin River dominates the surface water hydrology of the area with numerous tributaries. These two rivers divide the city into three distinct areas: two lie to the north of the Wisconsin River, east and west of the Prairie River, while the other area is south of the river.

The city is about a 7.5 square mile area running roughly three miles east to west and about one mile north to south. Commercial development runs along STH 64 from the USH 51 interchange to the west side of the city. There are numerous publicly owned parcels scattered throughout the city for schools, parks, county offices, city hall, library, and other community facilities. Industrial uses are concentrated along the railroad tracks that parallel the Wisconsin River, and the industrial park by the airport on the west side of Merrill. Scattered industrial properties exist among houses throughout the city.

There are about 5,020 acres of land within the city. According to the city's current Comprehensive Plan, the land use make-up of the city is about 28.2% residential, 19.4% woodland, 12% governmental / institutional, 5.1% outdoor recreation and 7.6% open land. Much of that "open land" is located on the east side of the city within the study area for this report and is anticipated for future commercial and residential development. Map 3 shows the land use in the study area (NCWRPC windshield survey).

That Comprehensive Plan identifies the area around the USH 51 / STH 64 interchange as one of the city's main growth areas. In recognition of this fact, the City of Merrill had economic development consultants prepare a "Highway 51 Economic Growth Strategy" in 2010. The study area for that Strategy project was similar to the study area for this STH 64/E. Main Street / Pine Ridge Avenue report. The Strategy presented "specific recommendations for leveraging the availability of land along Highway 51 to help catalyze economic growth". The Walmart development will act as drivers for further economic growth in the area.



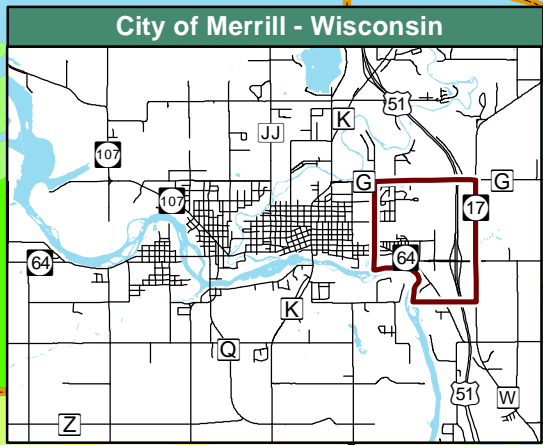
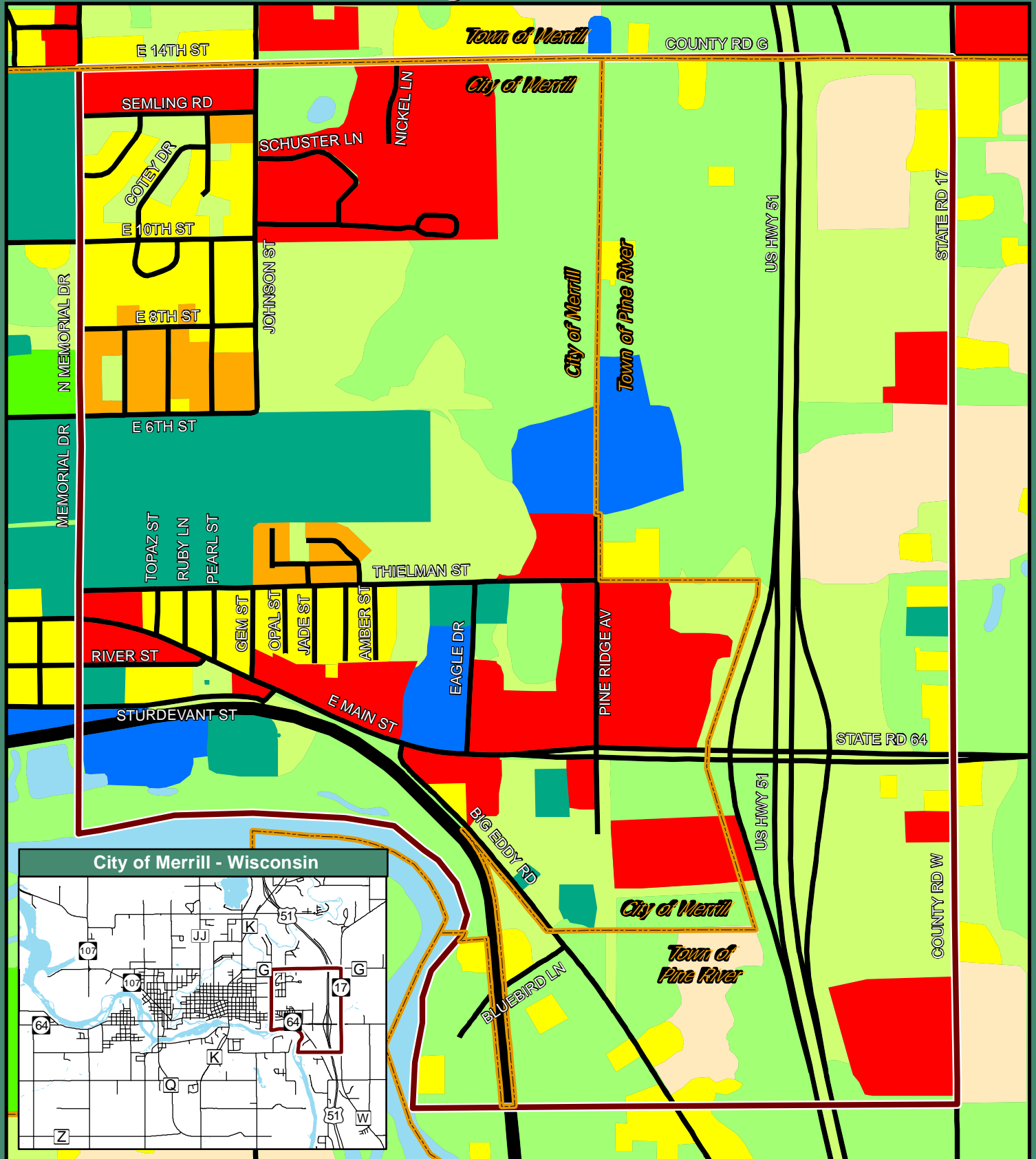
New Walmart Under Construction

In addition to facilitating development of a key growth area identified by these city plans, implementation of the recommendations of this study advance a number policies contained within Merrill's current Comprehensive Plan including (but not limited to):

- *Work with WisDOT to control access onto Highways 51, 64 & 107 to preserve capacity and movement of traffic. Encourage WisDOT to commission/fund highway corridor plans for these highways to address corridor development, intersection deficiencies, sight distances and turning movements.*
- *Plan for extension of major arterials and other roads as necessary to complete connections, provide for appropriate routes for trucks and emergency vehicles and serve planned development areas.*
- *Consider future road locations, extensions or connections when reviewing development plans and proposals.*
- *Work with county and towns to plan for a network of interconnected new roads in planned development areas to control highway access and improve access to these areas.*
- *Space roadway access according to minimum standards to increase safety and preserve capacity.*

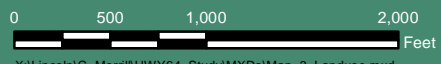
STH 64 - Pine Ridge Ave. Access Safety Study

Existing Land Use



Legend

- Minor Civil Divisions
- Project Boundary
- Agriculture
- Commercial
- Governmental / Institutional
- Industrial
- Residential
- Multi-Family
- Open Lands
- Outdoor Recreation
- Transportation
- Water
- Woodlands



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2.2 FUTURE DEVELOPMENT

Based on discussions with city officials, the following uses are assumed for future development in the study area (See Map 4):

Walmart Site

- Walmart Super Center - 119,500 square feet
- Sit-Down Restaurant - 5,000 square feet
- Drive-thru Bank - 2 drive-thru lanes
- Fast Food Restaurant - 3,500 square feet

Old Walmart

- Building Reuse

Future Road (Pine Ridge to Big Eddy)

- Office Commercial - 6 acres

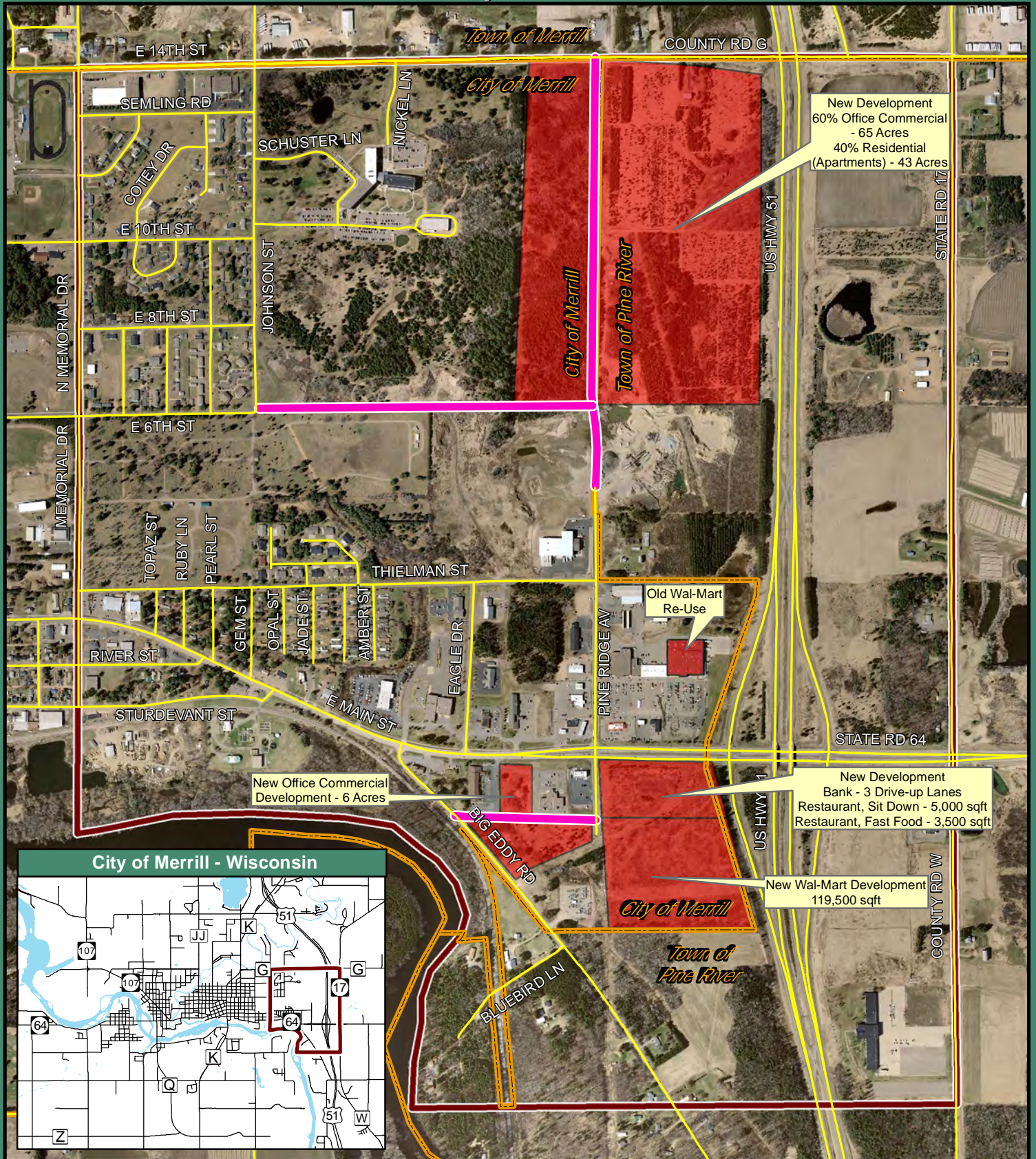
Pine Ridge Avenue Extension (to CTH G)

- Office Commercial - 65 acres
- Mixed Residential - 43 acres

After the initial build-out of the Walmart development, the remaining development is expected to build-out in phases, for purposes of traffic projection, (33% by 2023, 66% by 2033 and 100% by 2043) with full build-out by the year 2043.

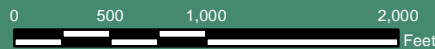
STH 64 - Pine Ridge Ave. Access Safety Study

Future Development Areas



Legend

- Roads
- Future Roads
- Minor Civil Divisions
- Future Development Areas
- Project Boundary



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SECTION 3.0 PROJECTED TRAFFIC

3.1 TRAFFIC FORECAST

Traffic projections were completed by WisDOT's Traffic Forecasting Section in Madison. Their forecasting work was based on the traffic analysis completed for the Walmart development TIA. Special traffic counts were completed in the area by WisDOT's North Central Region to aid in calibrating the expanded forecast work.

The TIA (dated June 19, 2012) performed for the proposed Walmart development showed that approximately 6,850 new trips will be generated between the on-site and off-site components on a typical weekday at build-out. With the additional development proposed between Big Eddy and South Pine Ridge (~ 6 acres office commercial) the forecast done for this study is slightly higher than the original TIA.

It should be noted that the TIA was performed at a more detailed engineering-level of analysis. Although based on the TIA work, a more basic, planning-level forecast was done for this study. The primary results are shown in Tables 1 and 2 with the forecasts at various locations on STH 64/E. Main Street and Pine Ridge Avenue, respectively. The forecasts with and without the proposed buildout are provided for comparison along with the most recent traffic counts. Figures 1A-B show the full WisDOT forecasting reports with the projections for other locations around the study area.

TABLE 1 STH 64 / E. Main Street Traffic Forecasts			
Location	2013 Count	2043 Forecast No Development	2043 Forecast Proposed Buildout
West of Divided Hwy Section	8,900	13,000	14,550
West of Big Eddy Road	8,900	13,200	14,500
West of Memorial Drive	10,400	14,200	15,550

Source: WisDOT, 2013.

TABLE 2 Pine Ridge Avenue Traffic Forecasts			
Location	2013 Count	2043 Forecast No Development	2043 Forecast Proposed Buildout
South of STH 64 Intersection	1,400	1,850	8,800
North of STH 64 Intersection	6,800	8,750	10,850
South of Thielman Street	2,900	3,700	8,250
South of E. 6 th Street	N/A	N/A	4,850
North of E. 6 th Street	N/A	N/A	4,600
South of County G	N/A	N/A	2,900

Source: WisDOT, 2013.

FIGURE 1A WisDOT TRAFFIC FORECAST REPORT

REGION/COUNTY(IES): NC/Lincoln



PROJECT ID(S): 0095-44-14

LOCATION: Pine Ridge Ave - CTH G to Thielman St
6th St - Johnson St to Pine Ridge Ave

ROUTE(S): Pine Ridge Avenue & 6th Street

SCENARIO: Existing Roadway Network, No Development

COMPLETED: December 11, 2013

Traffic Forecasting Section; Bureau of Planning and Economic Development; Division of Transportation Investment Management

Developed by: Vicki S. Haskell

Phone: (608) 266-2571

FAX #: (608) 267-0294

E-Mail: vicki.haskell@dot.wi.gov

XXXXXX = Site IDs

Design Values (%)

Sites	350650	350646
Routes	6th St	Pine Ridge Ave
Volume(s):	640	8,750
K250	23.1	12.0
K100	22.6	13.2
K30	25.8	14.4
P	27.9	18.6
D(Dsgn. Hr.)	59/41	59/41
T(DHV)	2.8	5.1
T(PHV)	2.5	4.4

Traffic Counts:

Forecasted Volumes:

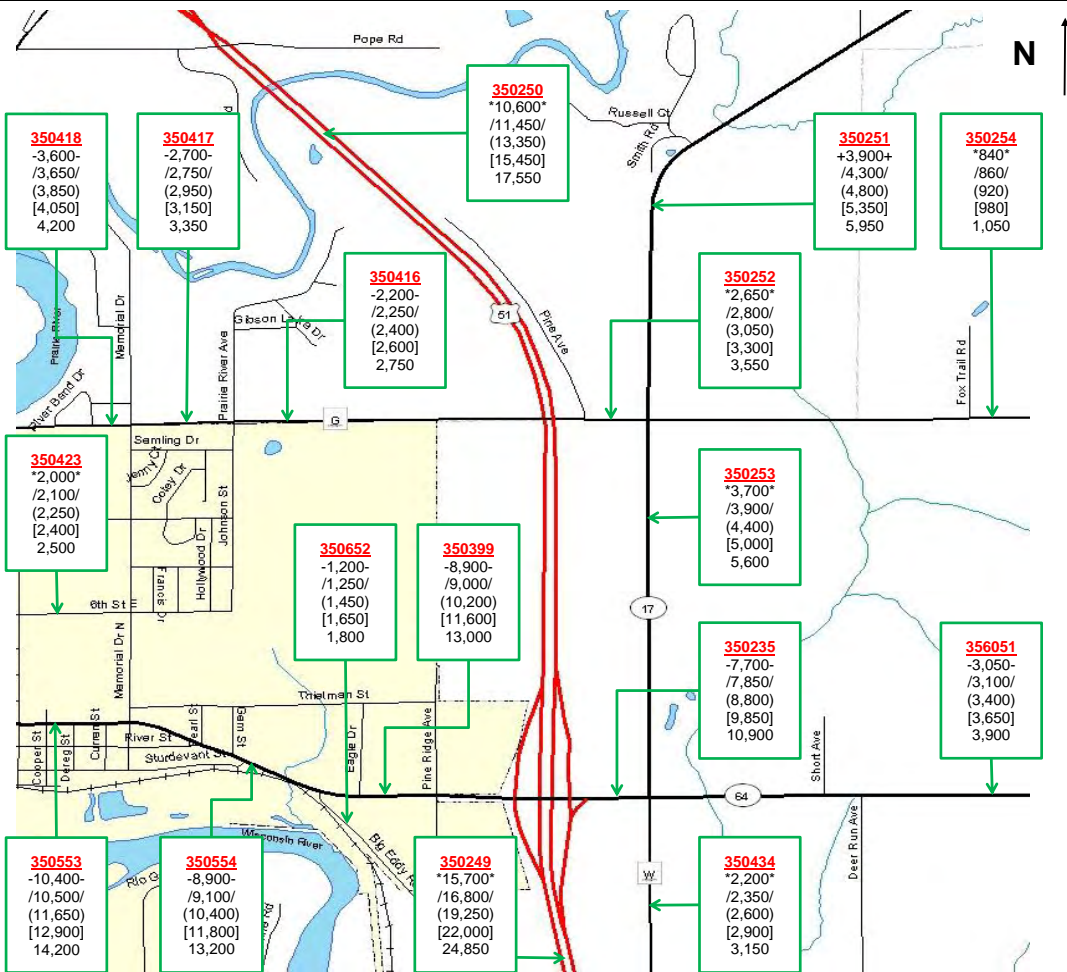
-000- 2013 AADT	/000/ 2014 AADT
000 2010 AADT	(000) 2023 AADT
+000+ 2007 AADT	[000] 2033 AADT
	000 2043 AADT

Truck Class Percents

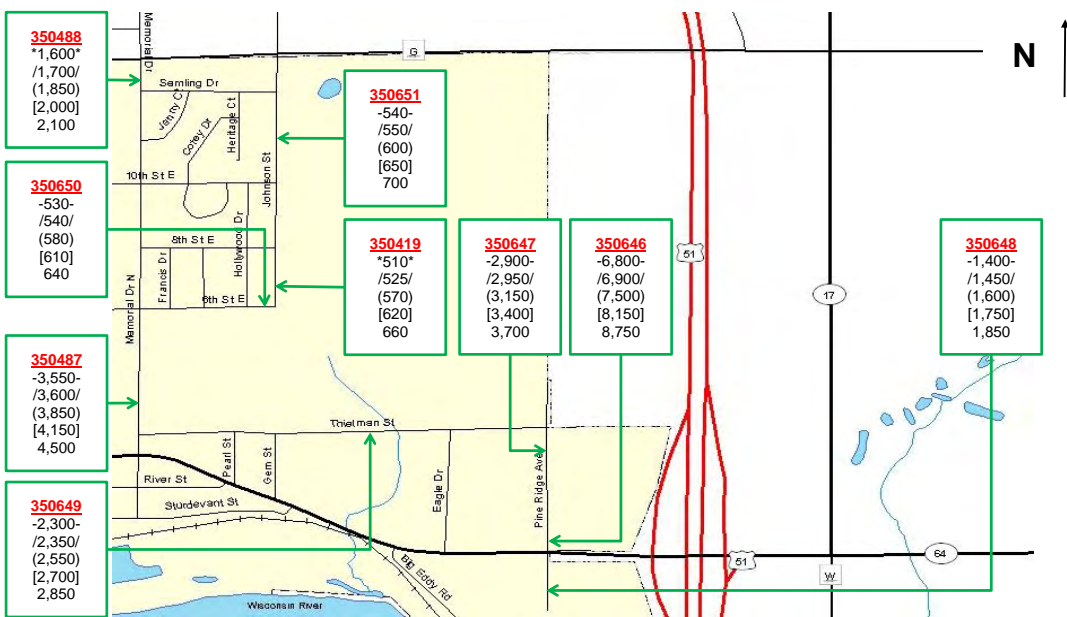
Class	350650	350646
2D	1.3	1.6
3AX	1.4	1.6
2S1+2S2	0.2	0.9
3-S2	0.3	1.5
DBL-BTM	0.1	0.3
TOTAL	3.3%	5.9%

NOTES ON THE FORECAST:

- This projection assumes that no major new traffic generators will be developed in the area served by the roadway or intersection over the course of the planning period.
- The historical traffic count trends will continue increasing at a decreasing rate. Box-Cox regression is used to project past count data.
- Truck classification percentages were taken from a table representative of similar facilities and locations throughout the state of Wisconsin.
- Pine Ridge Avenue and 6th Street are Factor Group II (Urban-Other) highways indicating low to moderate fluctuation in traffic from a seasonal perspective.
- For count purposes, Pine Ridge Avenue is functionally classified as an Urban Principal Arterial (14) while 6th Street is functionally classified as an Urban Collector (17).



City of Merrill - External Roadway Network



City of Merrill - Internal Roadway Network

FIGURE 1B WisDOT TRAFFIC FORECAST REPORT

REGION/COUNTY(IES): NC/Lincoln



PROJECT ID(S): 0095-44-14

LOCATION: Pine Ridge Ave - CTH G to Thielman St

ROUTE(S): Pine Ridge Avenue & 6th Street

6th St - Johnson St to Pine Ridge Ave

SCENARIO: Proposed Network With 6th St & Pine Ridge Ave Extensions, With Development

COMPLETED: December 11, 2013

Traffic Forecasting Section; Bureau of Planning and Economic Development; Division of Transportation Investment Management

Developed by: Vicki S. Haskell

Phone: (608) 266-2571

FAX #: (608) 267-0294

E-Mail: vicki.haskell@dot.wi.gov

XXXXXX = Site IDs

Design Values (%)

Sites	Site 2	350646
Routes	6th St	Pine Ridge Ave
Volume(s):	810	10,850
K250	23.1	12.0
K100	22.6	13.2
K30	25.8	14.4
P	27.9	18.6
D(Dsgn. Hr.)	59/41	59/41
T(DHV)	2.8	5.1
T(PHV)	2.5	4.4

Traffic Counts:

Forecasted Volumes:

-000- 2013 AADT	/000/ 2014 AADT
000 2010 AADT	(000) 2023 AADT
+000+ 2007 AADT	[000] 2033 AADT
	000 2043 AADT

Truck Class Percents

Class	Site 2	350646
2D	1.3	1.6
3AX	1.4	1.6
2S1+2S2	0.2	0.9
3-S2	0.3	1.5
DBL-BTM	0.1	0.3
TOTAL	3.3%	5.9%

NOTES ON THE FORECAST:

1. This projection assumes the completion of the New Wal-Mart Development (119,500 sqft Wal-Mart; 5,000 sqft sit-down restaurant; 3,500 sqft fast food restaurant; and a bank) at the southwest quadrant of the STH 64/USH 51 intersection by the year 2014. Additionally 65 acres of new office/commercial development and 43 acres of new residential apartments was assumed to be constructed along the west side of USH 51 between CTH G and 6th St (33.3% developed by 2023, 66.7% developed by 2033, 100% developed by 2043) and 6 acres of new office/commercial development was assumed to be constructed along the south side of STH 64 between Big Eddy Rd and Pine Ridge Ave (33.3% developed by 2023, 66.7% developed by 2033, 100% developed by 2043).

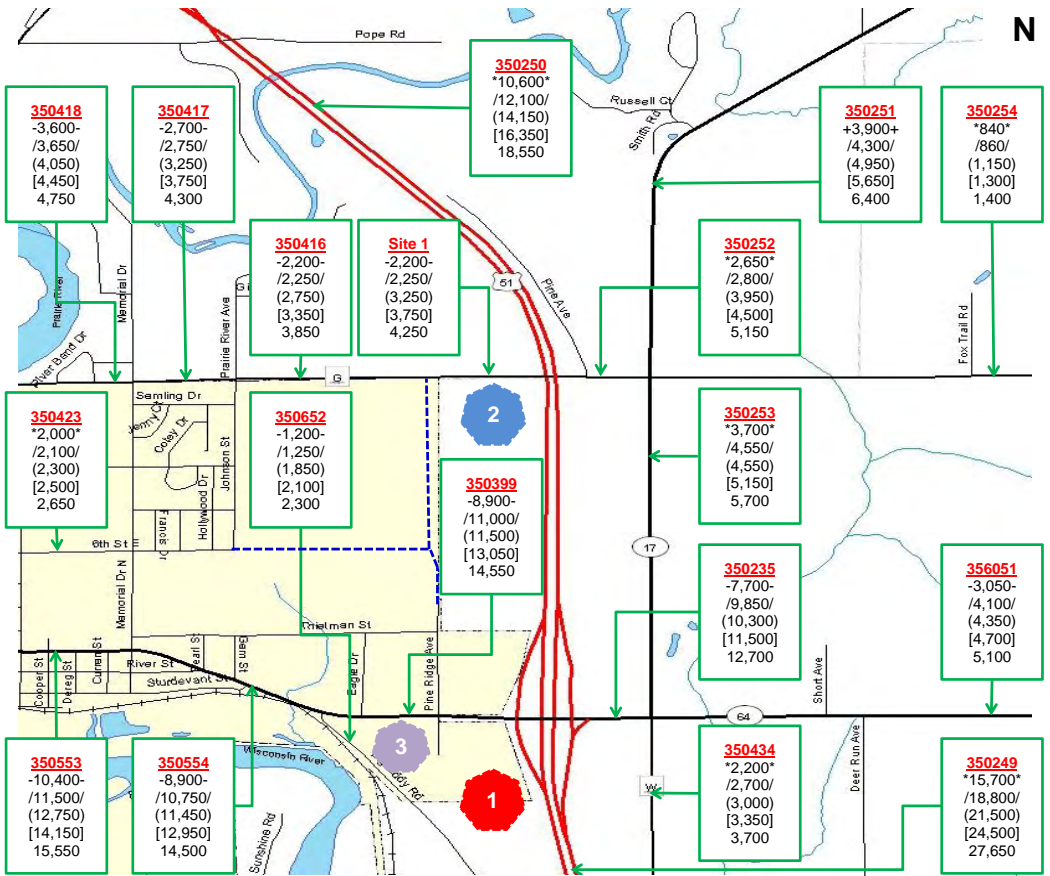
2. This projection assumes that Pine Ridge Ave was extended north to connect to CTH G and 6th St was extended east to connect with Pine Ridge Ave. Both extensions were assumed to be completed by 2023.

3. The historical traffic count trends will continue increasing at a decreasing rate. Box-Cox regression is used to project past count data.

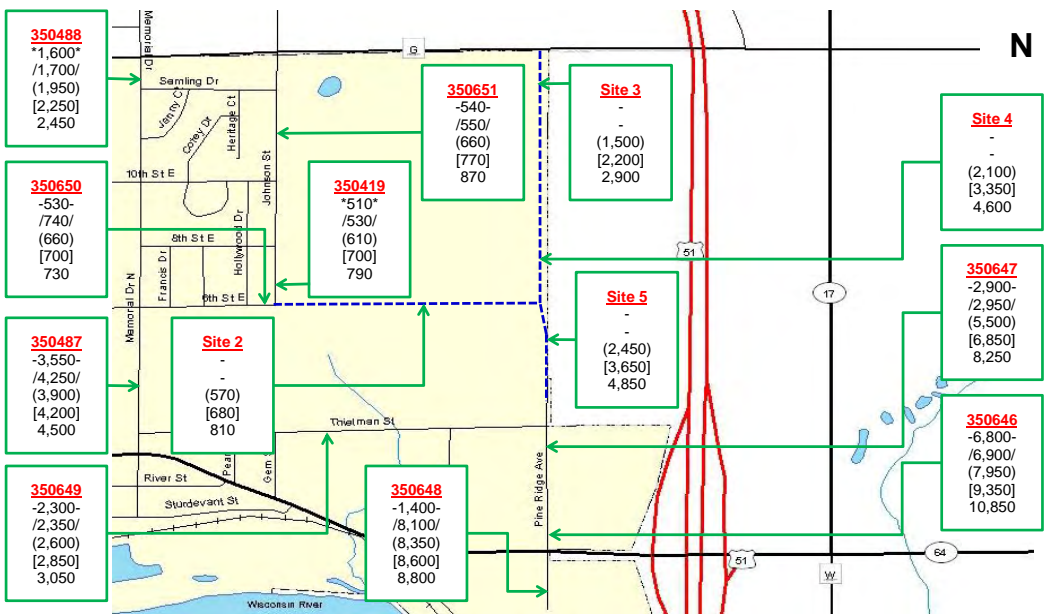
4. Truck classification percentages were taken from a table representative of similar facilities and locations throughout the state of Wisconsin.

5. Pine Ridge Avenue and 6th Street are Factor Group II (Urban-Other) highways indicating low to moderate fluctuation in traffic from a seasonal perspective.

6. For count purposes, Pine Ridge Avenue is functionally classified as an Urban Principal Arterial (14) while 6th Street is functionally classified as an Urban Collector (17).



City of Merrill - External Roadway Network



City of Merrill - Internal Roadway Network

The only other roadway in the study area to show a significant increase in the forecasts is County Highway G. For example between Pine Ridge Avenue and Johnson Street, 2043 buildout AADT (average annual daily traffic) is 1,100 higher than under 2043 no development conditions. Beyond this, traffic is shown to increase slightly at each of the other forecast points around the study area.

3.2 TRAFFIC TYPES

The traffic forecasts take into account the types of traffic in an area based, in part, on land use. In a commercial center like the STH 64/East Main Street and Pine Ridge Avenue intersection area this includes both customer and employee trips into and out of the area. With the proposed development on the north end of Pine Ridge Avenue, a residential component will also come into play.

For example, land use influences when the peak hour for trips occurs. Peak hour reflects the highest level of traffic volume the street network will have to handle on a typical day. Morning and evening peak periods correspond to the journey to and from work (& school). In the Walmart TIA, typical weekday evening and Saturday midday peak hours were determined to be 605 and 770 trips, respectively. The WisDOT traffic forecasts for the greater study area did not provide for this level of detail.

Other types of traffic in the study area include freight pickup & delivery (trucks) and bicycle & pedestrian, discussed below.

3.2.1 Trucks

For traffic forecasting purposes, assumptions are made regarding the percentage of the traffic flow comprised of trucks where site specific detail is not available. With the forecasting process for this study, WisDOT incorporated truck percentages taken from similar facilities and locations from around the state. The percentage of traffic expected to be trucks was identified as 5.9% on major streets that directly serve commercial uses such as Pine Ridge Avenue. On side streets without commercial development such as E. 6th Street, the percentage of traffic expected to be trucks was identified as 3.3%.



Delivery Trucks Operating off Pine Ridge Avenue

WisDOT also has commodity flow data available. See Figure 2 for an analysis of the truck traffic and commodity flow on Hwy 64 in the study area.

Figure 2
Commodity Flow Analysis for STH 64, west of US 51, Merrill

STH 64

WisDOT Data

- Segment being analyzed is west of USH 51 and east of Big Eddy Rd.
- Preliminary 2013 AADT of 8,900 (WisDOT traffic count)
- Truck percent estimated at 9.2% = approximately 819 trucks/day

2011 IHS Transearch Data

- In 2011, 64,000 tons of freight valued at \$40 million was shipped through the corridor.

STCC2 Commodity	SumOfTotal Truck Tons
Farm Products	36,980
Food or Kindred Products	6,907
Lumber or Wood Products	6,856
Nonmetallic Minerals	5,531
Fabricated Metal Products	2,146
Secondary Traffic	2,114
Primary Metal Products	1,563
Printed Matter	609
Rubber or Misc Plastics	240
Clay,concrete,glass or Stone	179
Pulp,paper or Allied Products	163
Transportation Equipment	141
Machinery	49
Waste or Scrap Materials	40
Mail or Contract Traffic	40
Misc Manufacturing Products	24
Chemicals or Allied Products	15
Electrical Equipment	8
Ordnance or Accessories	2
TOTAL	63,607

Source: WisDOT.

3.2.2 Bicycle and Pedestrian Modes

Most traffic forecasting efforts acknowledge alternative modes of transportation such as bicycle and pedestrian but discount them from the process as making up only a very small portion of the overall trips. However, alternative modes of transportation such as these are still important means of travel, especially for those without access to other options. The latest Census transportation data (2010 ACS) indicates that 3.6 % of all workers employed within the City of Merrill walk or ride bikes as their primary transportation to work. For those workers that also reside within the city, the ratio is even higher at 4.9%. This only accounts for work trips and does not include walking or biking to school or other purposes.

A 1998 study by the University of Wisconsin Survey Lab indicates that 37% of all Wisconsin households include someone taking at least one bicycle trip, weekly. According to the National Personal Transportation Survey taken in 2001, 1.2% of all trips made by Wisconsin residents are made by bicycle. These figures are supported by a 2009 study by the University of Wisconsin - Madison indicates that more than 49% of Wisconsin residents engage in bicycling.



Existing Sidewalk along North Side of STH 64 / E. Main Street

SECTION 4.0 REVIEW OF ALTERNATIVES

4.1 ALTERNATE ROUTES (NOT USING STH 64/E. MAIN STREET) TO CENTRAL CITY

The local street network in the study area was analyzed to identify connections that could serve as viable alternative routes to and from the city's Central Business District. Having multiple routes is desirable in that it provides drivers with choices and thereby diverts some of the traffic off of STH 64/E. Main Street, potentially relieving some of the congestion concern.

The following street connections were identified to create viable alternate routes to STH 64/E. Main Street (refer to Map 5):

1. Extending Pine Ridge Avenue north to County Highway G
2. Extending E. 6th Street east to the new extension of Pine Ridge Avenue
3. Connecting Pine Ridge Avenue (S.) with Big Eddy Road

In addition to providing route choices and diverting traffic from STH 64/E. Main Street, these new routes also provide alternative public safety access and detour options in the event of an emergency, as well as, opening up new areas for urban development.

Although traffic that would utilize the recommended connection between Pine Ridge and Big Eddy must also use STH 64/E. Main Street, it still provides a benefit in moving that traffic farther to the west away from the Pine Ridge Avenue intersection and USH 51. It also provides an opportunity to relocate some access points off of STH 64/E. Main Street. In addition, it provides for emergency access in and out of the busy Walmart area, particularly in the event of a blockage of Pine Ridge Avenue.

Currently, Big Eddy Road accounts for a minimal amount of traffic flow on and off of STH 64/E. Main Street. If the proposed connection between Pine Ridge Avenue and Big Eddy Road results in excessive traffic and safety concerns, the city could look at installing an island to restrict traffic flow to a right-turn exit only condition.

Although there are a number of issues that may need to be addressed (see Section 6, *Environmental Scan*) in establishing these alternate routes, the primary one in today's tight budget environment is cost. Urban section roads require curb and gutter, water mains, sanitary and storm sewer, street lighting, sidewalk and bicycle accommodations.

4.2 ALTERNATE ROUTES (NOT USING STH 64/E. MAIN STREET) TO USH 51

Alternatives for accessing USH 51 were also explored as part of this study. Unfortunately, within the study area no viable alternatives were identified. The alternate routes to the central city, discussed above, would be used by traffic making its way to USH 51, keeping off STH 64/E. Main Street to some degree, but ultimately funneling to 64 via Pine Ridge as the only access to the on-ramp.

Some drivers, and particularly trucking operations along County Highway G, may prefer to access USH 51 by taking G across to STH 17, south on 17 to STH 64/E. Main Street approaching the interchange from the east. Faster speeds, less stop-and-go and less traffic to deal with make this an option for those familiar with the area. The extension of Pine Ridge Avenue to County Highway G may encourage more use of this option.

STH 64/E. Main Street provides direct access between the Pine Ridge area, the Central Business District and the USH 51 interchange. The other Merrill interchanges at County Highway K, to the north, and County Highway Q, to the south, provide access to other parts of the city, but are located too far from the Pine Ridge area. In addition, both have environmental barriers (Prairie River and Wisconsin River) between them and the Pine Ridge area.

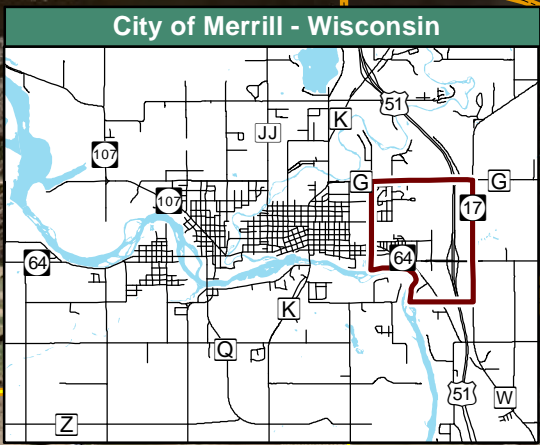
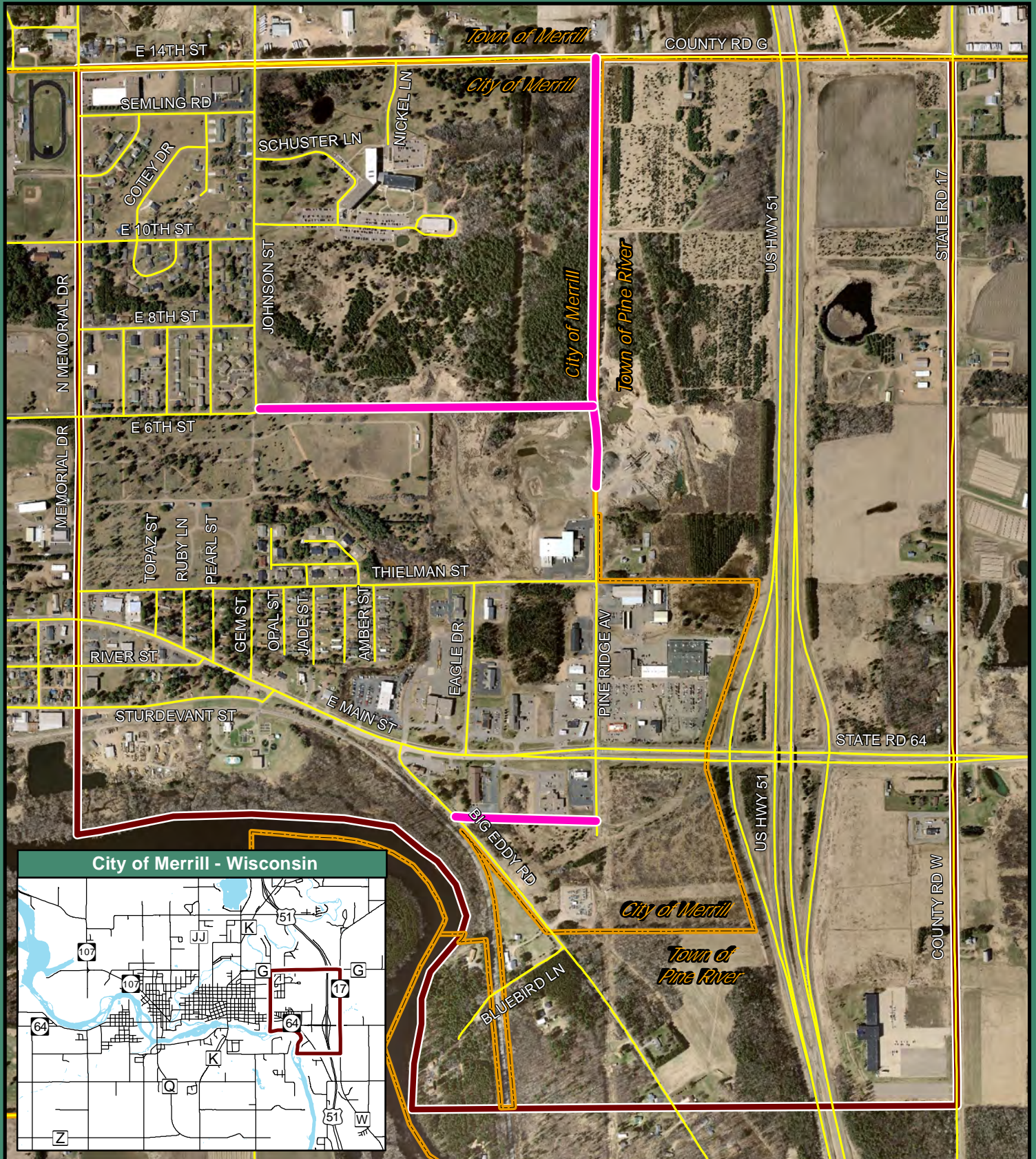
The concept of a future USH 51 interchange at County Highway G is a common topic discussed in past planning reports for the City of Merrill. However, the reality is that a new interchange at this location would need to meet all state standards and policies for interchange spacing, and the closeness of County G to STH 64/E. Main Street would make it extremely difficult to justify a new interchange.

4.3 ADEQUACY OF GEOMETRY AND PAVEMENT FOR TRUCKS

A significant number of trucks utilize STH 64/E. Main Street to move between USH 51 and the Pine Ridge or the Downtown business districts. In addition, there are several trucking, heavy transportation and other distribution/delivery firms located within the study area; such as Pioneer Trucking, Merrill Sand and Gravel, and Zastrow's.

The American Association of State Highway and Transportation Officials (AASHTO) has created a classification system that identifies trucks by their approximate height, width and length. The classifications range from the Su-30 Single Unit truck, which includes vehicles like cement trucks, large rental trucks, and local delivery trucks, to the WB-65/67 Interstate truck which is the large semi-trailer with sleeper cab equipped tractor. Figure 3 compares some of the typical design vehicles.

STH 64 - Pine Ridge Ave. Access Safety Study Recommended Street Extensions



Legend

- Minor Civil Divisions
- Roads
- Project Boundary
- Future Roads



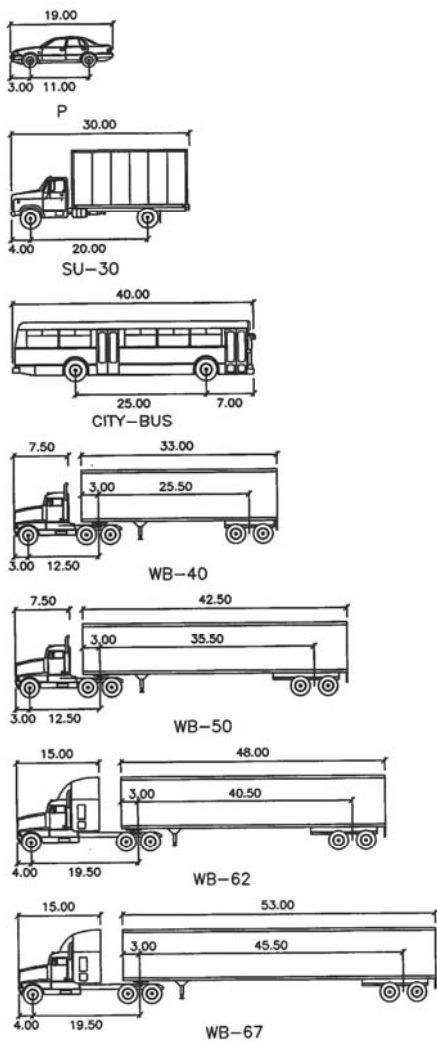
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In designing intersections it is critical to identify the type of trucks that will be using the intersection. Current and future use of adjacent property, street functional classification, truck route designation, and the need to turn at a particular intersection versus another are some of the factors in selecting the design vehicle. The selected design vehicle is used to evaluate the path followed by the corners of the vehicle body or trailer and the inside rear wheels. With a typical passenger vehicle, this path followed by the rear wheels is almost the same as the front wheels. With larger vehicles, the sweep area becomes much larger as the inside rear wheels track inside the path of the front wheels.

Figure 3
Typical Design Vehicle / Truck Types



Source: Oregon DOT.

The geometry of STH 64/E. Main Street through the study area and of the reconstructed Pine Ridge Avenue intersection is adequate for the large Interstate trucks. The design vehicle used for the intersection design was the WB-65/67.

In developing alternate routes for STH 64/E. Main Street, consideration should be given to accommodating trucks so that the routes achieve full potential to divert traffic from STH 64/E. Main Street. In addition, the city should monitor and evaluate resulting truck traffic patterns to identify constraints and bottlenecks that could be addressed with future projects.

Another important consideration for supporting truck traffic in an area is the adequacy of the pavement itself. Ensuring that the pavement designs utilized in the construction / reconstruction of these routes can hold up under the anticipated level of truck traffic is critical.

The city should maintain the geometry and pavement structure of STH 64/E. Main Street and any constructed alternate routes to continue to support truck traffic in the future.



Diverse Truck Types Serve Area

4.4 INFLUENCING PEAK TRAFFIC FLOW

One way to minimize the truck contribution to traffic congestion is to encourage delivery during off-peak periods. According to the Highway Capacity Manual, one semi tractor-trailer can occupy the same space equivalent of up to 8 cars, so any reduction in peak hour truck volumes can yield significant congestion relief benefits. It can also reduce environmental impacts by reducing the time trucks spend idling which translates into reduced fuel consumption and emissions.

Successful implementation of off-peak delivery scheduling requires freight carriers and recipients to come to an agreement about delivery times. Federal Highways research suggests that businesses most receptive to off-peak deliveries are those that would likely be open during off-peak hours anyway, such as restaurants, convenience stores, 24-hour supermarkets, big-box retailers and medical facilities. They also find that off-peak delivery is driven primarily by the receiver's preferences because the freight industry is fragmented and highly competitive making it difficult for carriers to unilaterally impose delivery times on customers.

The traffic forecasts prepared for this study do not allow for hourly precision to accurately identify specific peak traffic times, so additional observation may be useful. However, traffic counts done for this study indicate an AM Peak Hour of 11:00 and a PM Peak Hour of 4:00 in the area. Traffic volumes appear to pick up beginning at 7 am and taper off at 7 pm. The City should work with businesses in the study area as needed to adjust delivery schedules to avoid peak traffic periods.

4.5 BICYCLE AND PEDESTRIAN FACILITIES

Existing bicycle and pedestrian facilities on STH 64/E. Main Street include only sidewalk along the north side to Pine Ridge Avenue. On Pine Ridge, there is sidewalk on the east side extending from STH 64/E. Main Street to the Pine Ridge Mall. The only other sidewalk located within the study area is a short segment recently installed on Johnson Street near Church Mutual. There are no bicycle accommodations within the study area outside of the shared use of existing travel lanes.

With the STH 64 / Pine Ridge Avenue intersection improvements, new sidewalk will be installed to facilitate pedestrian access to the new Walmart and the other developments on the Walmart site. Sidewalk will be constructed on the east side of Pine Ridge Avenue between STH 64/E. Main Street and the Walmart site. On STH 64/E. Main Street sidewalk will be constructed on the south side from Pine Ridge Avenue to Eagle Drive where an uncontrolled crosswalk will connect it with the sidewalk running on the north side of STH 64/E. Main Street.

Bicycle and pedestrian accommodations should be incorporated into improvement projects along STH 64/E. Main Street and the existing and future street segments that are identified as part of the proposed alternate routes. These accommodations would provide safer movement for bicyclists and walkers between the Pine Ridge area and other parts of the city. Paved shoulders as little as 3 feet can be considered a bike accommodation. Sidewalks should be 5 feet with a minimum 5 foot terrace for snow storage. When planning and implementing accommodations on STH 64/E. Main Street, bike/ped movements through and east of the interchange area should be considered.

City officials are currently advocating for bike lanes (or striped urban shoulders) with sidewalk on one side of the street. Conceptual street cross sections for the a future STH 64/E. Main Street as well as the Pine Ridge Avenue and 6th Street extensions are shown in Figures 4A-C. Phasing in of the accommodations over time as shown in Figure 4C, may be one way to help make the projects more fiscally feasible or to accommodate development while waiting for grants to develop.

The long term goal for a facility like STH 64/E. Main Street should be to have bike lanes and sidewalks on both sides. As this street is reconstructed, the city should add these bike lanes and sidewalks. However, the street has undergone some major surface repairs relatively recently, and the lifespan before a rebuild might be necessary is likely 15 years or more. This timing issue makes the bike/ped accommodation on the alternate routes, particularly E. 6th Street, even more imperative.

Bicycle and pedestrian accommodations are now required as part of all new street construction, reconstruction and major pavement replacement projects which are funded in whole or in part by state or federal funds. These requirements are often referred to as *Complete Streets* and codified in State Statute 84.01(35), Administrative Code Trans. 75 and WisDOT Facilities Development Manual Chapter 11, Section 46.

Complete Streets are roadways designed and operated to enable safe, convenient, and comfortable access and travel for all users. Pedestrians, bicyclists, motorists and public transport users of all ages and abilities are able to safely and comfortably move along and across a complete street.

It should be noted that the City of Merrill will be developing a citywide Bicycle and Pedestrian Facilities Network Plan that will fully detail action or project recommendations for short-term goals as well as potential long-term goals to guide future development of an alternative transportation network of routes and trails within the City of Merrill. This report will also include background and supporting information to assist in Plan implementation. The Plan will consist of four components: a routes and trails Plan Map, the full Plan report, a summary report describing the process used to develop the Plan Map, and an educational brochure/poster promoting the Plan. The Plan Map will display existing and proposed routes and trails identified to comprise an alternative transportation system within the City of Merrill.

4.5.1 Signage

Signs should be posted to increase motorist awareness of bicycle usage of the roadway. The signs should be placed along STH 64/E. Main Street, Pine Ridge Avenue and E. 6th Street. The standard yellow bicycle warning sign, shown below, could be used. The city could also mark the routes with the standard green bike route sign even before the bike lanes are fully constructed / marked. The Manual on Uniform Traffic Control Devices or MUTCD is the national standard for signage and should be followed in implementing a sign program.



MUTCD # W11-1



MUTCD # D11-1

Another option is to use the “Share the Road” subplate with the standard warning sign. These signs reinforce the message that there are other users of the roadway.



4.5.2 High Visibility Crosswalks

High visibility crosswalks utilize the ladder or zebra style striping to be more visible to approaching drivers. This type of treatment should be considered at the STH 64/E. Main Street - Eagle Drive crossing as well as any other high traffic crossings. Additional pavement markings, signing and beacons / flashers should also be considered in the design of the crosswalk to enhance pedestrian safety.

4.6 ROAD DIET

A "road diet" involves converting an undivided four lane roadway into three lanes made up of two through lanes and a center two-way left turn lane. The reduction of lanes allows the roadway to be reallocated for other uses such as bike lane. Road diets have multiple safety and operational benefits for motor vehicles, bicycles and pedestrians, including:

Figure 4A Conceptual Street Cross Sections

Hwy 64 / E. Main Street

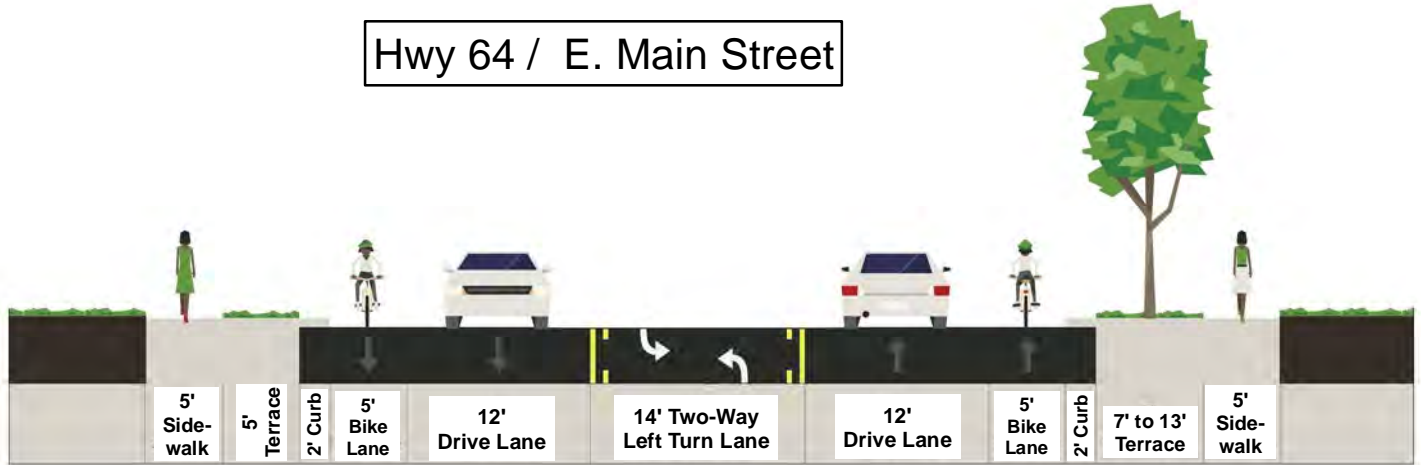


Figure 4B Conceptual Street Cross Sections

E. 6th Street

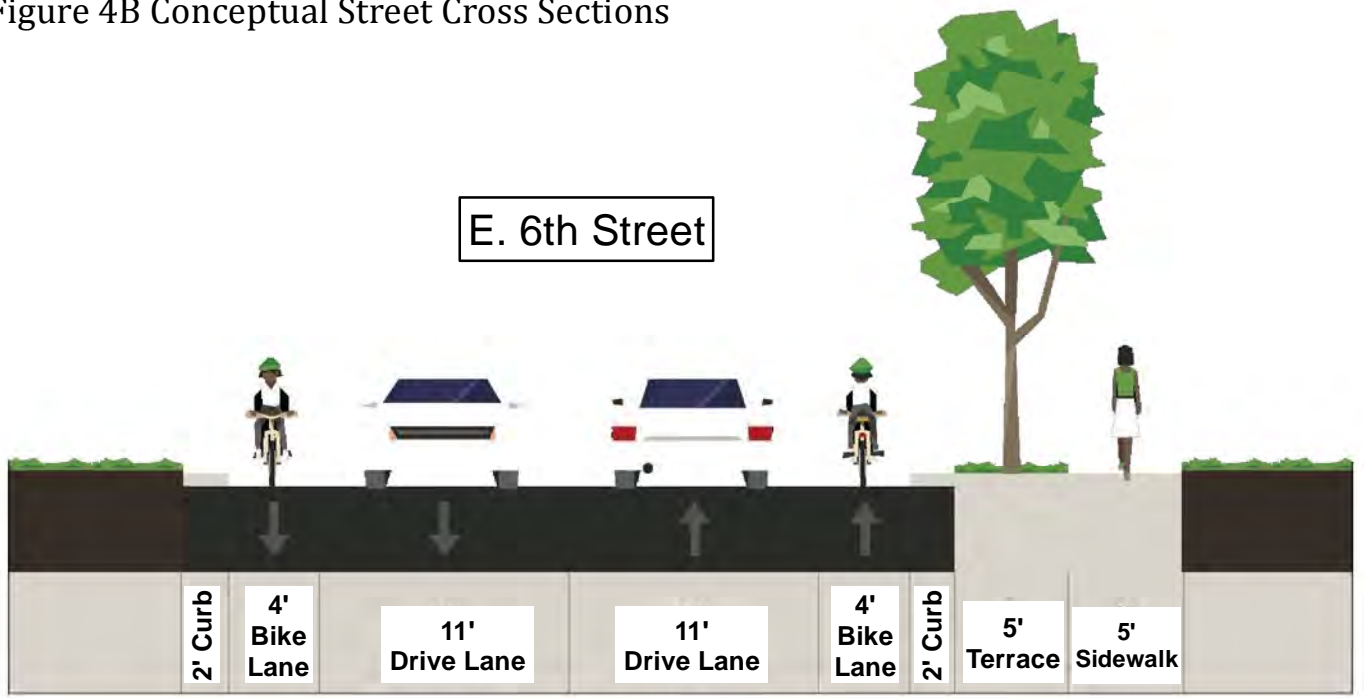
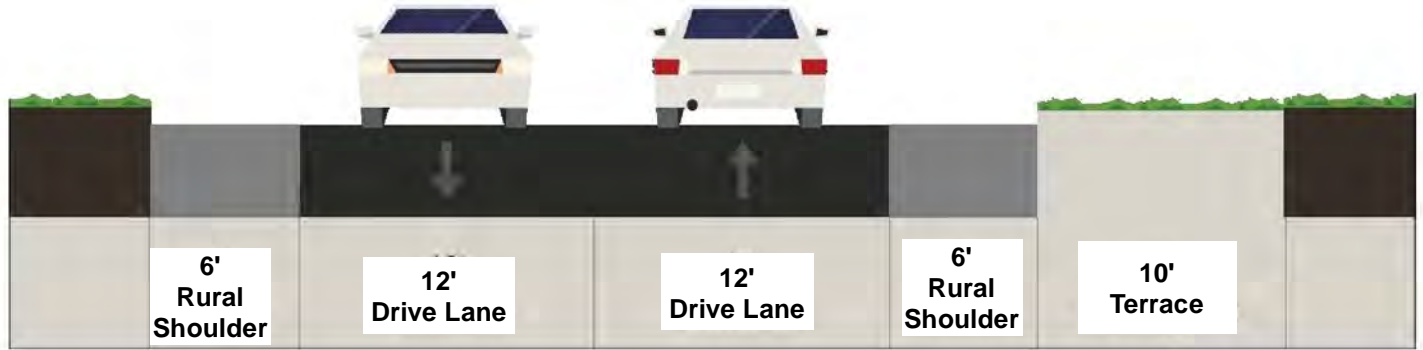


Figure 4C Conceptual Street Cross Sections

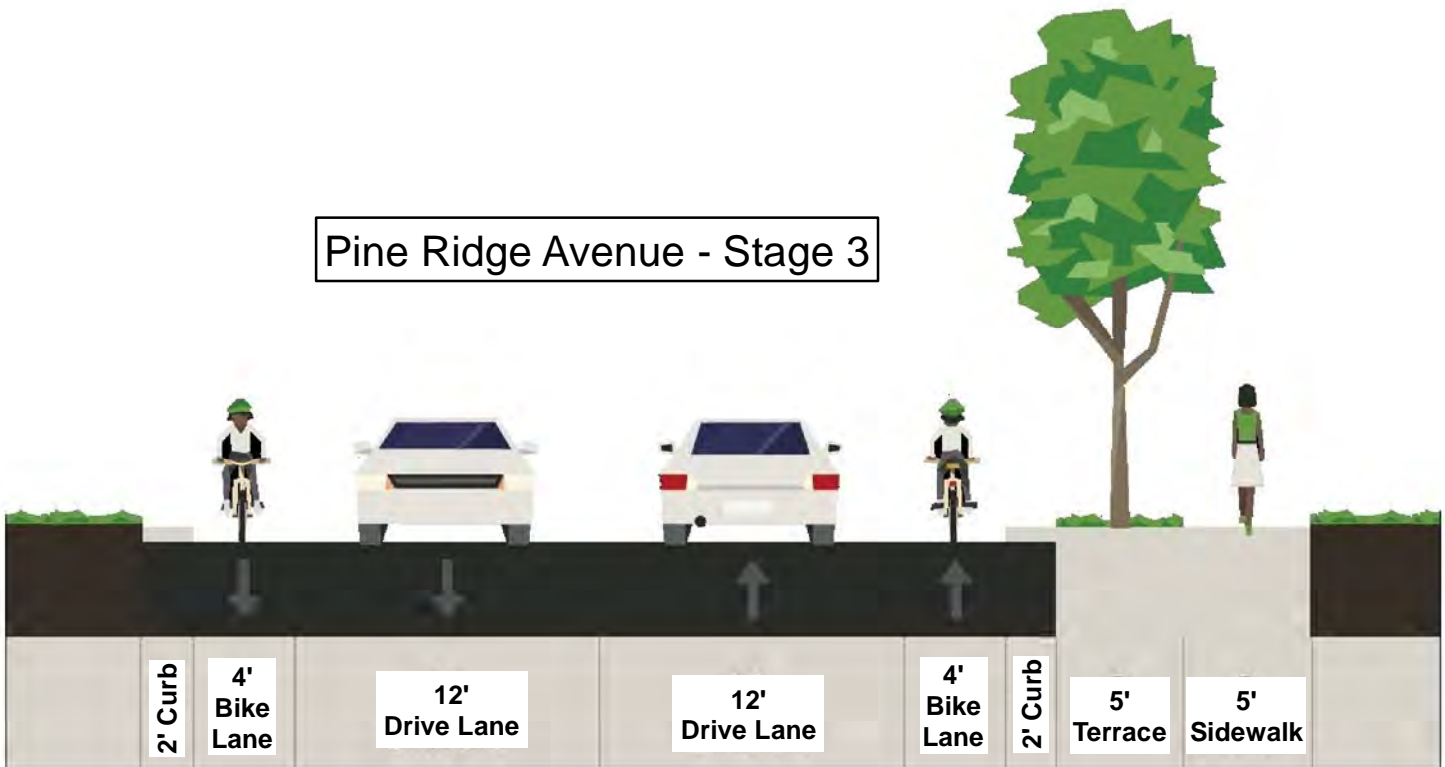
Pine Ridge Avenue - Stage 1



Pine Ridge Avenue - Stage 2

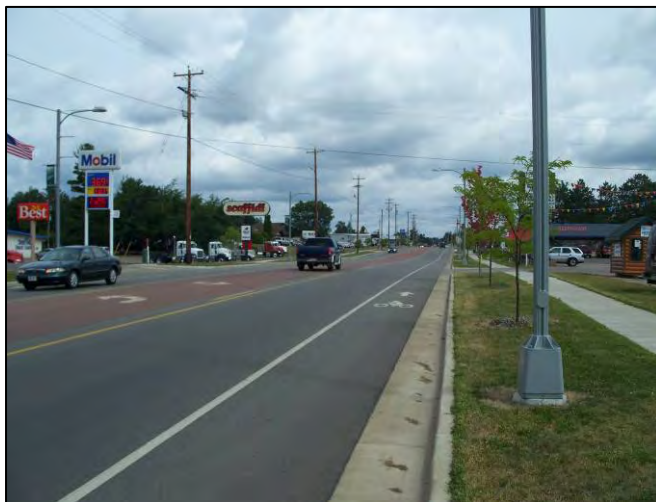


Pine Ridge Avenue - Stage 3



- Decreasing vehicle travel lanes for pedestrians to cross, therefore reducing the multiple-threat crash (when one vehicle stops for a pedestrian in a travel lane on a multi-lane road, but the motorist in the next lane does not, resulting in a crash) for pedestrians,
- Providing room for a pedestrian median refuge islands at crossings,
- Improving safety for bicyclists when bike lanes are added (such lanes also create a buffer space between pedestrians and vehicles),
- Providing the opportunity for on-street parking (also a buffer between pedestrians and vehicles),
- Reducing rear-end and side-swipe crashes, and
- Improving speed limit compliance and decreasing crash severity when crashes do occur.

Figure 5A shows a conceptual street cross section for a future STH 64/E. Main Street with a road diet applied. Since a road diet mostly consists of restriping, road diets can be low cost means of improving safety while maintaining good operational results. The road diet concept can be implemented immediately without waiting until a major improvement is needed. When appropriately applied, road diets have generated benefits to users of all modes of transportation, including bicyclists, pedestrians, and



Successful Road Diet Implementation: 4th Street, Tomahawk

motorists. The resulting benefits include reduced vehicle speeds, improved mobility and access, reduced collisions and injuries, and improved livability and quality of life. When modified from four travel lanes to two travel lanes with a two-way left-turn lane, Federal Highway Administration (FHWA) research has shown a 29 percent reduction in crashes. For more information on road diets, refer to the FHWA study, on the Internet at <http://www.fhwa.dot.gov/publications/research/safety/10053/>.

WisDOT indicates that road diets from four down to three lanes have been very successful around the country on roads with AADT less than 17,500 and even up to 25,000 AADT with an engineering study. The undivided four-lane segment of STH 64/E. Main Street between Stuyvesant Street and Eagle Drive with current traffic levels around 8,900 AADT (14,500-15,550 projected AADT for 2043) would be a good candidate for a road diet.

4.7 CORRIDOR PRESERVATION

Corridor preservation is defined as techniques that governments use to protect existing or planned transportation corridors from inconsistent development in an effort to:

- Minimize or avoid negative environmental, social, or economic impacts,
- Avoid right-of-way conflicts
- Prevent the loss of desirable location options,
- Allow for the orderly assessment of impacts,
- Permit orderly project development, and
- Reduce costs.

Although there are a number of corridor preservation techniques and tools the city might utilize in the STH 64/E. Main Street corridor, this report focuses on four: official mapping, planning for access management, development agreements and zoning.

4.7.1 Official Mapping

When planning for transportation facilities, communities have the statutory authority to prepare plans and maps showing the approximate location and width of future streets. The purpose of the map is to inform the public of land areas that may be required for future right-of-way to prevent development from taking place in the corridor.

An official map allows a community to protect the locations of future streets and reserve land for widening of existing streets. Officially mapping the location of future streets establishes a framework for future development.

The City of Merrill should officially map the proposed alternate route street connections described above (refer to Map 5):

1. Extension of Pine Ridge Avenue north to County Highway G
2. Extension of E. 6th Street east to the new extension of Pine Ridge Avenue
3. Connector between Pine Ridge Avenue (S.) and Big Eddy Road

4.7.2 Planning for Access Management

Managing access minimizes traffic conflicts and helps to regulate traffic capacity. Where driveway entrances are located too close to each other, vehicles going from one business to another will block or retard the flow of through traffic, creating congestion and safety hazards. The City of Merrill should plan to reduce and manage access points through development agreements, driveway permitting, zoning, land division control, and other means. Joint access should be required wherever feasible. For criteria to use in controlling access refer to the WisDOT Facilities Development Manual.

The city should evaluate its options for managing access on STH 64/E. Main Street to maintain operations and safety on STH 64/E. Main Street and the ramps at the USH 51/STH 64 interchange. This effort should begin with a freeze on new access followed by efforts to combine access points or route to side streets. For example, new development along the proposed connector between Pine Ridge Avenue and Big Eddy Road should be required to access off of that new connector street via development agreements. Existing developments should be encouraged to shift their access off of STH 64/E. Main Street to the new street or at least create an alternative access to that new street. The city should consider ways to facilitate this management of existing and new access; such as trading concessions on special assessments or development assistance like site preparation/earthwork.

4.7.3 Development Agreements

A development agreement is a contract between a local jurisdiction and a person who has ownership or control of property within the jurisdiction. The purpose of the agreement is to specify the standards and conditions that will govern development of the property. The development agreement provides assurance to the developer that they may proceed to develop the project subject to the regulations in effect at the time of approval - the development will not be subject to subsequent changes in regulations.

Development agreements should also benefit the local jurisdiction. They may include conditions (mitigation measures) that must be met to assure that a project at a specific location does not have unacceptable impacts on neighboring properties or community infrastructure. The agreement may clarify how the project will be phased, the required timing of public improvements, the developer's contribution toward funding system-wide community improvements, and other conditions. The agreement can also facilitate enforcement of requirements, since it is a contract that details the obligations of the developer and local jurisdiction.

With regard to STH 64/E. Main Street, development agreements should be pursued when a development adjacent to the highway is in the plan review stage. Conditions for development should seek to limit direct access to STH 64/E. Main Street and encourage access on alternate side streets wherever possible.

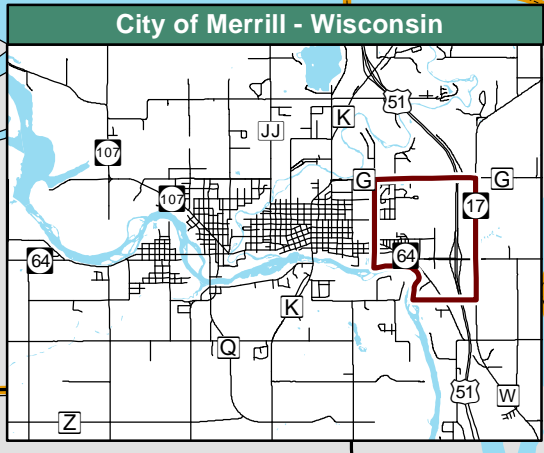
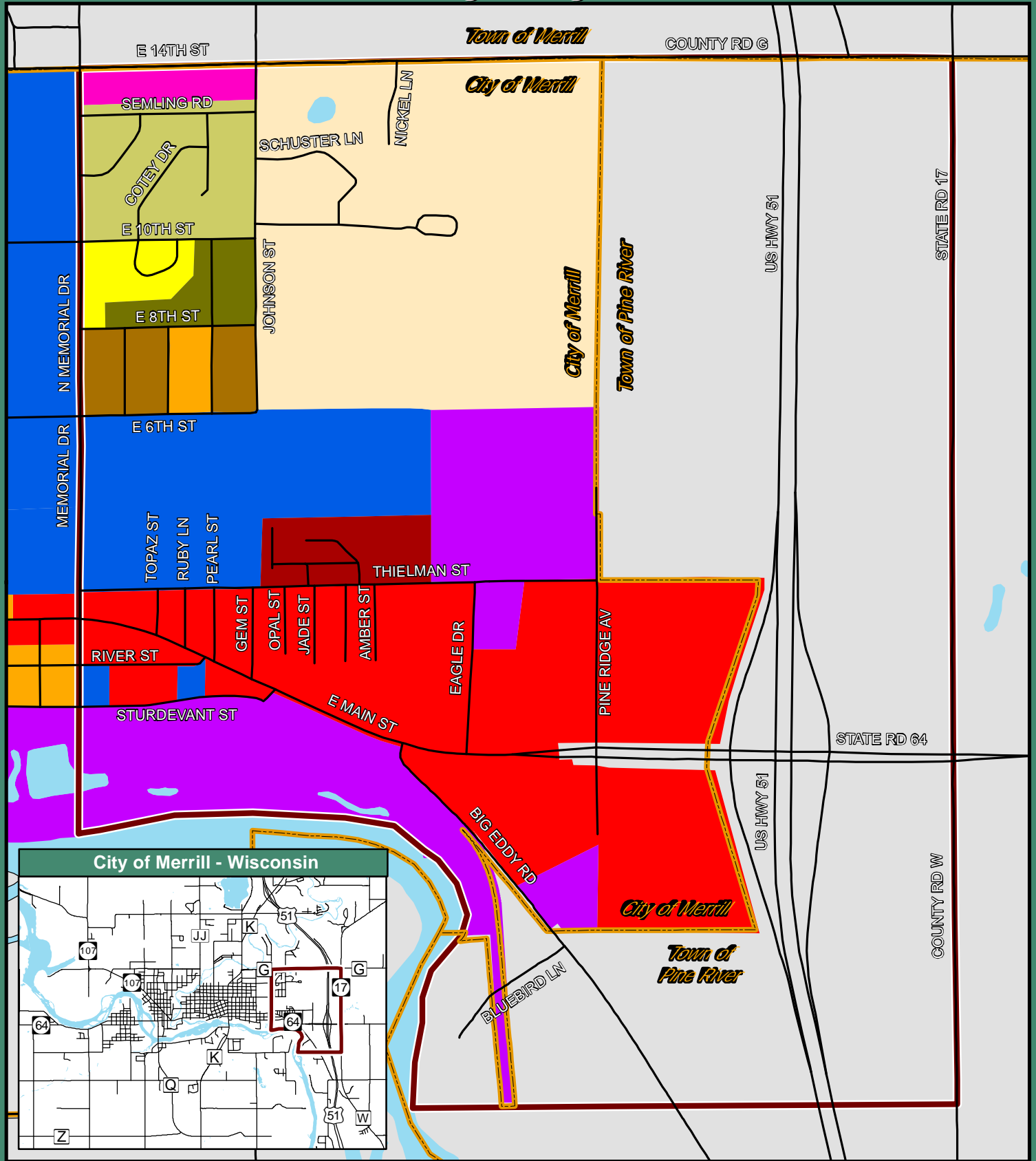
4.7.4 Zoning

Zoning is the process of dividing a community into districts for the purpose of regulating the type of land use, density of population, and the height, bulk, and placement of structures. Each district specifies permitted uses, conditional uses that require special scrutiny, and prohibited uses as well as rules for building height, yard, open space, and parking. These regulations are contained in an ordinance that sets forth the written regulations and an accompanying map shows the location of the districts to which they apply. Map 6 shows the zoning within the study area.

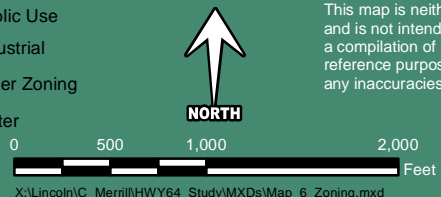
STH 64 - Pine Ridge Ave. Access Safety Study

Existing Zoning

Map 6



- Minor Civil Divisions
- Project Boundary
- Roads
- Low Density Residential
- High Density Residential
- Very High Density Residential
- Planned Low Density Residential
- Rural Development
- Planned Neighborhood Commercial
- Thoroughfare Commercial
- Planned Thoroughfare Commercial
- Public Use
- Industrial
- Other Zoning
- Water



This map is neither a legally recorded map nor a survey and is not intended to be used as one. This drawing is a compilation of records, information and data used for reference purposes only. NCRPC is not responsible for any inaccuracies herein contained.

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Zoning can help achieve orderly development in interchange / highway areas by:

- Setting up appropriate categories of compatible land uses;
- Designating within the interchange area the lands most suitable for each category of land use;
- Limiting the intensity of land use and the amount of traffic generated through minimum lot size and yard requirements to maintain the carrying capacity of the road system;
- Establishing adequate setback of structures from the road system;
- Ensuring adequate intersection sight distances are maintained through vision triangles and/or corners;
- Requiring adequate space for off-street parking and loading;
- Regulating the number, size, location and type of signs; and
- Limiting access to designated points.

Interchange / highway overlay districts can apply to multiple zoning districts in a specified area. Land within the target area first has its local zoning district(s) such as commercial, industrial, residential, conservancy, agriculture, etc. Additional access and land use controls in the form of an overlay district are then added to each zoning classification. These additional controls are more restrictive than those for a similar zoning category not located in an interchange area. Overlay districts can also be used for gateway corridors to require specific landscaping, signage, and materials.

A conditional use approach makes most types of land uses within an interchange / highway area a conditional use. This allows the City Plan Commission to have additional scrutiny of a proposal than would be followed for a permitted use. An application for a conditional use permit must be filed for consideration by the Plan Commission and the governing body. The Plan Commission investigates the effects of the proposed use and after a public hearing, the governing body decides whether to refuse, grant or conditionally grant the permit. A variety of conditions may be attached to the permit to ensure highway safety and compatible land use. Standards for the investigation and conditions that may be attached to the permit are spelled out in the zoning ordinance. Lack of enforcement for the conditions set in the development's approval is one common problem with conditional use permits.

A permit is required before any land use change would occur or structure built. No structure or land use within an area should be used, erected or structurally altered without a permit. Under the conditional use procedure, the permit is the means of ensuring proposal review by the City Plan Commission. The Plan Commission may suggest modifications in a site plan proposal, and condition the permit on the basis of conformance to the specified and enforceable conditions. Whereas, for permitted uses, if a proposal meets the specifications of the ordinance, a permit must be granted.

SECTION 5.0 REVIEW OF FUNDING SOURCES

5.1 STP-URBAN

Program Description: The Surface Transportation Program - Urban (STP-Urban) allocates funds to complete a variety of improvements to federal-aid eligible streets in urban areas. Communities are eligible for funding on roads functionally classified as collector or higher that are not on the state trunk highway system or connecting highways. Urban areas like Merrill receive an allocation based on population.

The state has \$72,238,000 budgeted in both 2014 and 2015.

Notes: WisDOT expects to review and update the functional classifications for the small urban areas in 2014. With the extension to County G, Pine Ridge Avenue would likely be classified as a "planned" collector based on land use and the projected AADT, which would make it eligible for STP-Urban funding. Existing 6th Street is already a collector, and the proposed extension would be justified as a planned collector based on system continuity. It would be part of a future collector connection (with Pine Ridge Ave.) between Memorial Drive and STH 64. The city does not currently have any STP allocation in reserve, but there has been discussion of a potential influx of additional funding in a future cycle.

Program Cycle: Odd numbered years - Next cycle anticipated in 2015 for the 2015 - 2020 cycle.

Funding Levels: \$72 Million annually.

Matching Requirement: 20%.

5.2 STP-FREIGHT

Program Description: The Surface Transportation Program - Freight (STP-Freight) allocates funds over two years to complete projects that improve freight connections. STP-Freight is a new pilot program that grew out of the Governor's Annual Freight Summit. Due to the state emphasis on economic development and the importance of moving freight as part of that this program will likely be continued and expanded.

Program rating criteria focus on projects associated with multi-modal and intermodal facilities, warehousing and distribution centers, projects that improve local freight connections to the state highway network and projects that provide many-to-one and one-to-many connections. Projects that were able to be completed quickly (within two years) received priority in the first cycle.

In September of 2013, the state awarded 7 projects totaling \$9.5 million.

Notes: The city should look at making the case that one or more of the area's trucking companies / transportation firms will utilize the proposed Pine Ridge Avenue extension as a way to get to the USH 51-interchange without disruption.

Program Cycle: Odd numbered years - Next cycle anticipated in 2015.

Funding Levels: \$10+ Million every two years.

Matching Requirement: 20%.

5.3 TEA

Program Description: The Transportation Economic Assistance (TEA) program provides grants up to \$1 million to governing bodies, private businesses, and consortiums for road, rail, harbor and airport projects that help attract employers to Wisconsin, or encourage business and industry to remain and expand in the state. Local communities must assure that the number of jobs anticipated from the proposed project will materialize within three years from the date of the project agreement and remain after another four years.

In 2011-2013, \$6,805,200 in state funds were awarded to 30 projects.

Notes: Businesses in the study area should be evaluated to determine if any may be candidates to retain jobs (ie avoid downsizing or completely moving from area) or add new jobs in conjunction with the proposed transportation improvements.

Program Cycle: None - projects are awarded on an on-going basis.

Funding Levels: \$6.8 Million every two years.

Matching Requirement: 50%.

5.4 TAP

Program Description: The Transportation Alternatives Program (TAP) is a new program that combines the previous Transportation Enhancements, Safe Routes to School and Bicycle and Pedestrian Facilities programs. A primary emphasis of this program is to expand travel choices through projects provide facilities for non-motorized transport, safe routes for non-drivers and safe routes to school, among other things.

Notes: N/A.

Program Cycle: Odd numbered years - Next cycle anticipated in 2015.

Funding Levels: \$4 Million annually.

Matching Requirement: 20%.

5.5 TID

Program Description: A Tax Incremental District (TID) is a financing tool that allows municipalities to invest in infrastructure and other improvements and pay for those investments by capturing property tax revenue from the newly developed property. The use of tax incremental financing provides the city with the means to stimulate new development and help pay for the infrastructure needed to support that development.

Notes: The city has its TID #4 located in the study area, see Figure 5. The TID plan identifies street improvements including construction of roadway, bike lanes and sidewalk. TID funding could be used to fund parts of the proposed Pine Ridge Avenue and E. Sixth Street extension.

Program Cycle: A TID has a maximum life of 20 years by statute. TID #4 must be closed out in the year 2027.

Funding Levels: \$5,428,000 anticipated for project expenditures over the life of the TID.

Matching Requirement: N/A.

5.6 CDBG-PF

Program Description: Under the State's Community Development Block Grant – Public Facilities Program (CDBG-PF), the Department of Administration can award grants of up to \$500,000 to eligible communities to support infrastructure and facility projects to benefit low/moderate-income areas. Some examples of eligible projects include streets, drainage systems, water and sewer systems, sidewalks, and community centers.

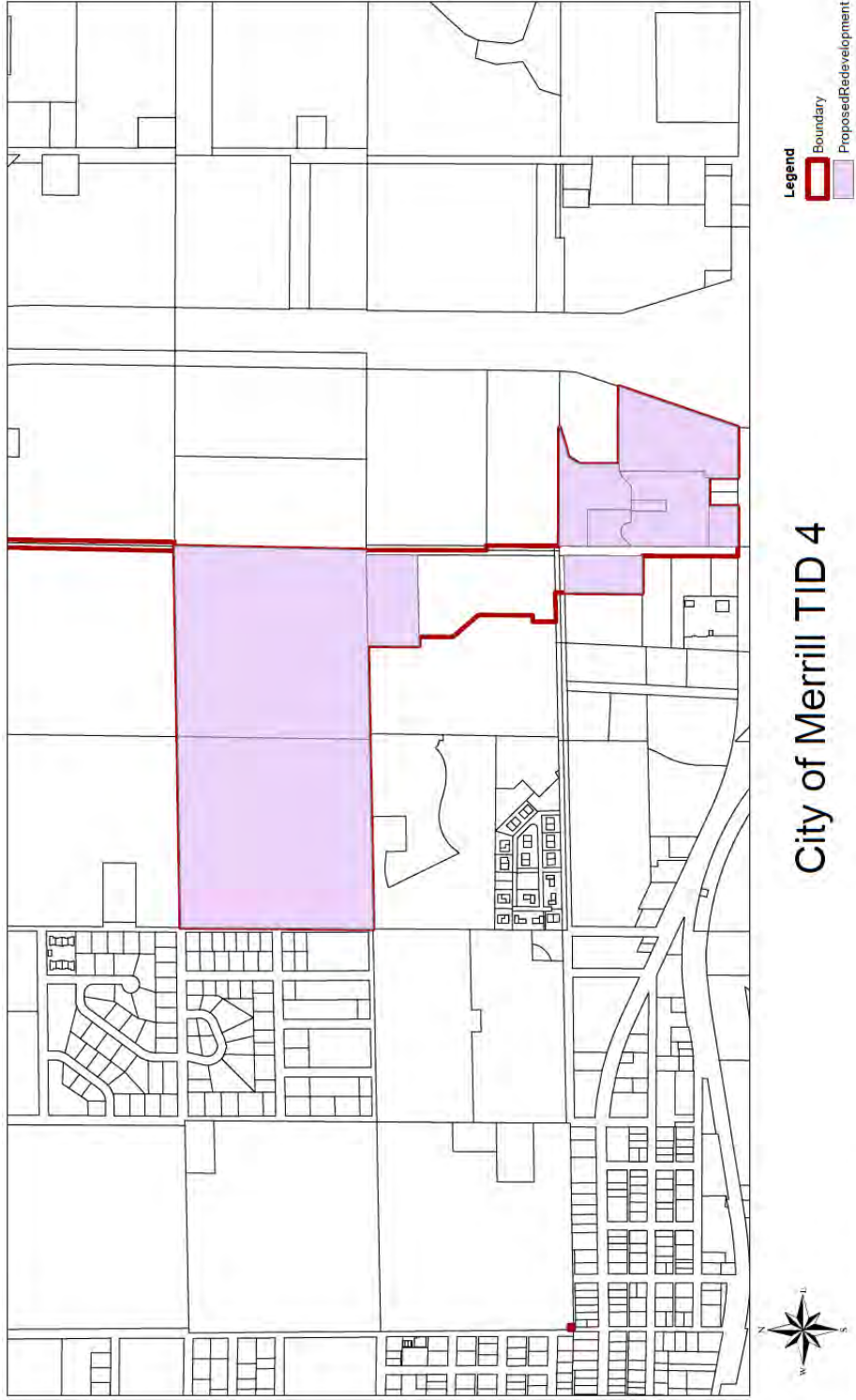
Notes: Under the CDBG-PF program, a project can meet the low- and moderate-income (LMI) national objective by serving an area in which at least 51 percent of the residents are LMI persons (area basis) or by providing services to a group of persons principally made up of LMI individuals (limited clientele).

Program Cycle: Annual.

Funding Levels: \$500,000 per community project.

Matching Requirement: 50%.

FIGURE 5: City of Merrill TID No. 4



Drawn By: Kate Drewek

Source: City of Merrill TID Plan

SECTION 6.0 ENVIRONMENTAL SCAN

6.1 MAPPED WETLANDS

There are DNR Wetland Inventory areas present in the study area, primarily associated with the portion of the Wisconsin River in the southwest corner, see Map 7. An area along STH 64/E.Main Street just west of Big Eddy Road may affect potential recommendations for that corridor. However, the accuracy or currency of the wetland maps may be in question.

6.2 WET AREAS

Outside of the mapped wetland areas there are other "wet" areas within the study area. Two such locations have been identified by city staff as shown in Map 7. These areas may not be developable and any development plans in the area would need to work around these sites.

6.3 WELLHEAD PROTECTION AREA

The study area encompasses part of the recharge area for the city's primary drinking water supply wells, see Map 7. There are wellhead protection regulations in place to protect the drinking water. These regulations limit the types of development that can take place in the protection area. The north end of the proposed future development area along Pine Ridge Avenue lies in the wellhead protection area.

6.4 STORMWATER RETENTION SITE

The city has purchased 5 acres for stormwater retention from new development in the study area, see Map 7.

6.5 FORMER MILL SLUDGE PIT

There is a former paper mill sludge pit east of the cemetery between Thielman Street and E. 6th Street, see Map 7. The limits of the fill area have been defined, and lab results indicate that the material composition is inert, so the area may not need to be excavated to be developable. A developer may need to make adjustments in foundations, but there does not appear to be a major risk from an environmental perspective.

6.6 EXCAVATION WASTE STOCKPILE

Excavation materials from the new Walmart site were stockpiled directly in the path of the proposed extension of Pine Ridge Avenue, see Map 7.



6.7 LAND DEPRESSIONS

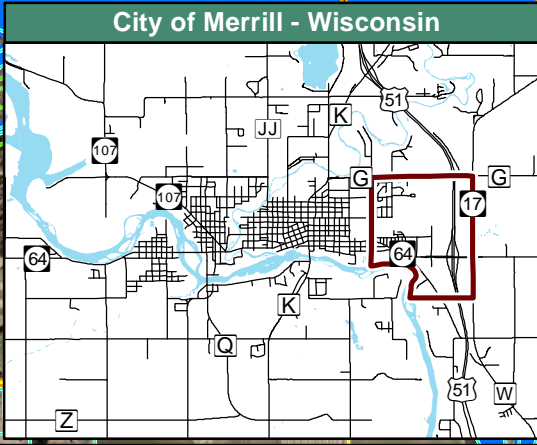
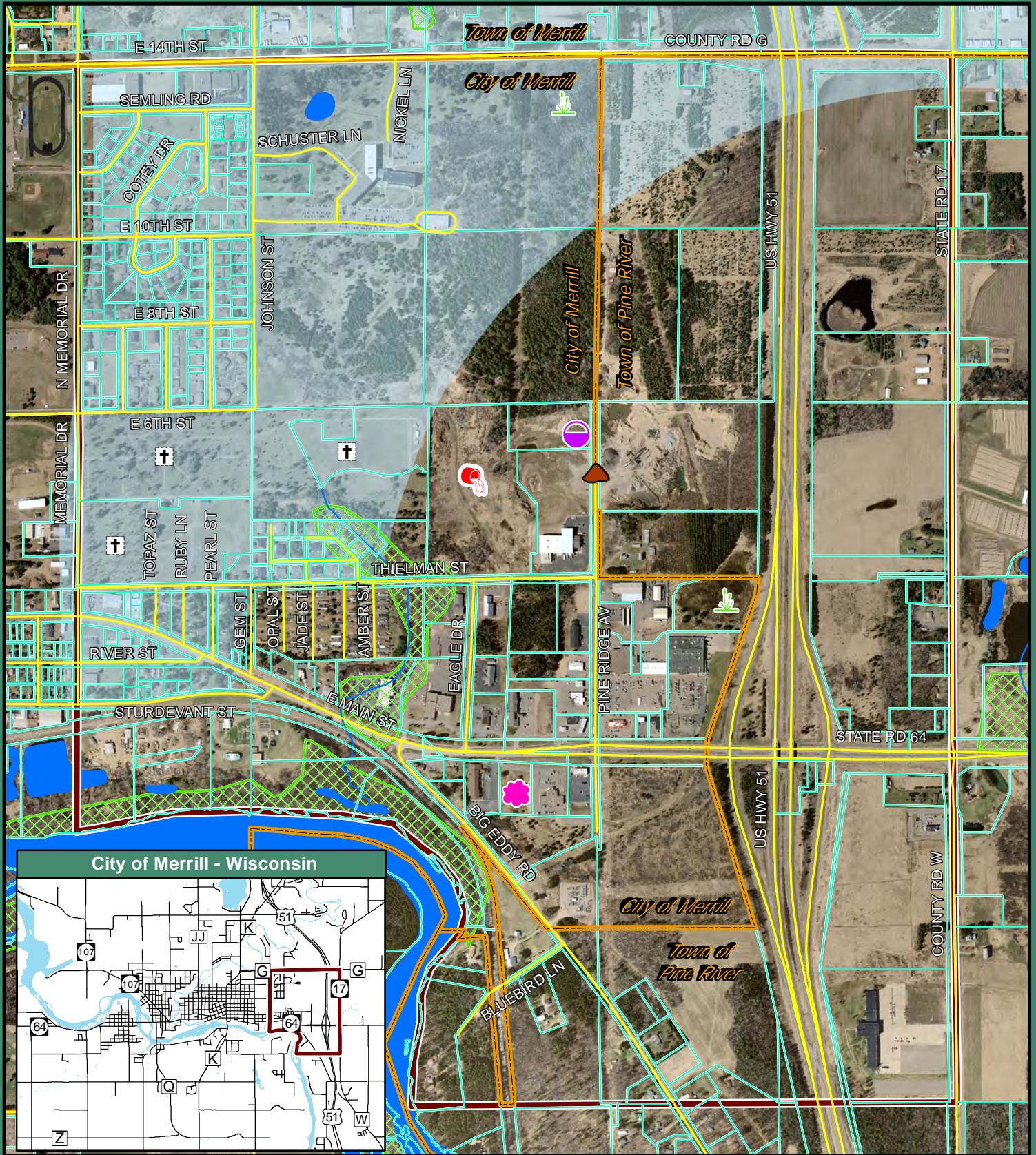
A depression in the landscape impedes the development of a parcel in the proposed future development area along the south side of STH 64/E. Main Street between Big Eddy Road and Pine Ridge Avenue, see Map 7.

6.8 CEMETERY

Grave sites in close proximity to the northern boundary of the cemetery may impede the extension of E. 6th Street or limit the width available for development of the recommended bike and/or pedestrian accommodations, see Map 7.

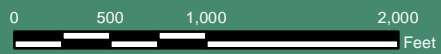
STH 64 - Pine Ridge Avenue Access Safety Study Map 7

Environmental Issues



- Minor Civil Divisions
- Project Boundary
- Parcels
- Roads
- Water
- Wetlands
- Wellhead Protection Area
- Stormwater Retention Site
- Former Sludge Pit
- Excavation Waste
- Land Depression
- Cemetery
- Wet Areas

This map is neither a legally recorded map nor a survey and is not intended to be used as one. This drawing is a compilation of records, information and data used for reference purposes only. NCRWPC is not responsible for any inaccuracies herein contained.



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SECTION 7.0 COMMUNITY INVOLVEMENT

7.1 Public Education and Information

Information regarding this project was made available through public meetings and interviews with local media as well as a web page at www.ncwrpc.org/lincoln/merrill64.html. Meetings were held with City Plan Commission, Board of Public Works and City Council. There was also a meeting with city officials for agency coordination. The meetings are described as follows:

7.1.1 City Plan Commission - August 6, 2013

This meeting was held at a regularly scheduled City Plan Commission meeting. The purpose of the meeting was to introduce the Plan Commission and members of the general public in attendance to the project scope and obtain input on perceived problems and issues early in the process. The main outcome was agreement on extending Pine Ridge Avenue and E. 6th Street to fill out the local street network / provide alternatives to STH 64 and on the need for bicycle and pedestrian accommodations.

7.1.2 Board of Public Works - August 28, 2013

This meeting was held at a regularly scheduled city Board of Public Works meeting. The purpose of the meeting was to introduce the Board of Public Works and members of the general public in attendance to the project scope and obtain input on perceived problems and issues early in the process. The Board of Public Works concurred with Plan Commission on extending Pine Ridge Avenue and E. 6th Street to fill out the local street network / provide alternatives to STH 64 and on the need for bicycle and pedestrian accommodations.

7.1.3 City Officials Meeting - September 10, 2013

This meeting was held with city department representatives including: Mayor Bill Bialecki, Administrator Dave Johnson, Street Commissioner Richard Lupton, City Attorney Tom Hayden, Public Works Superintendent Kim Kriewald, Engineer Tonia Speener and Finance Director Kathy Unertl. The purpose of the meeting was to coordinate on project recommendations including street extensions and bike/ped facilities, access management, environmental issues and potential funding sources.

7.1.4 Board of Public Works - July 23 and August 27, 2014

The report was presented and discussed. Members accepted the report stating it was a good starting point in the long-term effort to address future traffic flow and safety issues as the area around STH 64 and Pine Ridge Avenue continues to grow and develop.

SECTION 8.0 RECOMMENDATIONS

The NCWRPC recommends the following actions based on the findings of its study of the STH 64/E. Main Street - Pine Ridge Avenue intersection area:

- Work with WisDOT and Walmart to fully implement the recommended improvements from the Walmart Development Traffic Impact Analysis.
- Officially map proposed extensions of Pine Ridge Avenue, E. 6th Street and the proposed South Pine Ridge Avenue - Big Eddy Road connector street.
- Evaluate options for managing access on STH 64/E. Main Street to maintain operations and safety.
- Work with WisDOT Region Staff on the update of the functional classification system to functionally classify the extensions of Pine Ridge Avenue and E. 6th Street as Planned Collectors to qualify them for future STP-Urban funding.
- Begin making plans and preparations for improvements on STH 64/E. Main Street, Pine Ridge Avenue and E. 6th Street to coincide with grant cycles.
- Begin planning and design to implement proposed road diet on STH 64/E. Main Street.
- Begin planning and design of proposed extensions, including bicycle and pedestrian accommodations, of Pine Ridge Avenue and E. 6th Street and the proposed South Pine Ridge Avenue - Big Eddy Road connector street.
- Ensure that pavements and intersection designs are adequate for the anticipated truck traffic.
- Install bicycle awareness signs and high visibility crosswalk treatments where appropriate along bike/ped routes.
- Complete and implement city-wide bicycle and pedestrian plan.
- Maintain the geometry and pavement structure of STH 64/E. Main Street to continue to support truck traffic in the future.

ADDENDUM

Discussions between plan reviewers after August 27, 2014 revealed some questions regarding the bicycle and pedestrian accommodation recommendations, particularly on the east and west ends of STH 64/East Main Street. This section is added to the report to clarify this.

The primary safety improvement recommendation is the conversion of STH 64/East Main Street from four lanes down to three also known as a road diet. The recommendation includes bicycle and pedestrian accommodations as part of the design concept, see Figure 4A. Depending on the engineering studies, the three-lane conversion would likely run between Stuyvesant Street and somewhere near Eagle Drive as it merges into the divided four-lane section.

The area west of Stuyvesant is well outside the study area of this report, but the continuity of bike/ped accommodations at Stuyvesant will be addressed in the citywide bicycle and pedestrian plan currently underway.

On the east end, "sharrows" (see illustration, below) should be incorporated between Eagle Drive and Pine Ridge Avenue until a future project. The sharrows serve as a bicycle safety enhancement to complement the existing/planned sidewalk pedestrian accommodations. With the existing rural cross section east of Pine Ridge Avenue, shoulders could be restriped to ensure the minimum 3-feet. Shoulders should be extended to 5-feet in the next resurface.



Example of "Sharrow" Pavement Marking