Minnesota Department of Transportation
Moving Minnesota

Winona Minnesota

Edwards and Kelcey

Winona Intermodal Study

Final Report

June 2002

Winona Intermodal Study

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Section 1 The Study

The City of Winona serves as one of the region's principal transportation centers. Its relevance is due, in part, to the city's location and access to the Mississippi River navigation system, I-90 and US 61, the national rail system, the presence of over 100 diverse manufacturers and two nationally recognized universities. Additionally, with the possible introduction of high-speed rail service via the *Midwest Regional Rail Initiative*[1], the city's potential for serving as an intermodal passenger service destination for travelers connecting to Rochester, MN and beyond, is significant.

The City of Winona has reached a milestone in its growth process. The City understands the importance of developing a comprehensive transportation plan for its future (as a component of its comprehensive land use and other planning processes), so that existing and future residents and businesses will have the transportation infrastructure necessary to flourish now and in the future. These improvements must not only take into consideration factors such as improvements in the movement of goods and services, but must also address public safety and improvements to the quality of life for the citizens of Winona.

To help understand and address future transportation issues facing the City of Winona, a project team consisting of Mn/DOT's Office of Freight, Railroads and Waterways, Mn/DOT's District 6 (Rochester), the City of Winona, and the consulting firm of Edwards and Kelcey, initiated the Winona Intermodal Study in the spring of 2001. The study developed a multi-modal planning process designed to analyze the efficiency of intermodal rail, truck and barge activity into the Port and through the city while identifying strategic transportation improvements that can work in concert with one another.

1.1 Problem Statement

Winona is experiencing traffic congestion and delays within its transportation system. The congestion and delays are most severe where transportation modes meet or intersect. There are a number of factors with the potential to impact future rail, roadway and river traffic.

Rail Operations Expected increases in rail traffic by Canadian Pacific (CP), Union Pacific (UP), and Dakota, Minnesota & Eastern (DM&E) railroads present significant issues for the City of Winona. CP expects train volumes to increase 3 percent per year on its mainline track from Chicago, Illinois to Seattle, Washington via the Twin Cities. In addition, the recently approved DM&E "Powder River Basin Project" may substantially increase rail traffic beyond normal growth expectations and could have foreseeable impacts to the study area. The Surface Transportation Board's environmental analysis includes a threshold of 34 additional trains resulting in a projected additional 8 trains per day to Winona. Also, the Midwest Regional Rail Initiative could bring up to six round trip, high-speed passenger trains (12 trains total) through the City of Winona each day. With the potential for these significant rail traffic increases on the horizon, the City of Winona's

[1] A cooperative, multi-agency effort (since 1996) to develop an improved and expanded regional passenger rail system for the 21st century. It will feature increased operating speeds, additional train frequencies, modern technology and customer-friendly amenities with downtown-to-downtown connections to major Midwest urban centers.

existing grade crossing measures may be inadequate. Also, the increase in rail traffic will undoubtedly create an undesirable increase in vehicle to rail conflicts.

ESTIMATE OF DAILY RAIL VOLUMES THROUGH THE CITY OF WINONA BY 2020:

	# Trains
Baseline (2002)	30
3% Annual Increase	+ 14
DME Coal Trains	+ 8
Midwest Regional Rail Initiative	+ 12
Projected 2020 Train Volumes	64

Motorists in Winona are currently experiencing significant delays due to existing CP through-trains and switching operations by CP and UP. This is particularly a problem at Pelzer Street and Mankato Avenue. Projected increases in train traffic over the next 20 years will greatly exacerbate these problems unless steps are taken to accommodate projected traffic volumes.

A related problem is the storage of rail cars in or near downtown or in the vicinity of the city's numerous parks. For example, rail cars are stored and switched at Levee Park Yard, which is located directly south of the City of Winona's Levee Park. Levee Park serves as the city's main riverfront recreation area. The park features lookout vistas of the Mississippi River, multi-use paths, ample parking, and is a principal connection and focal point for the city's bikeway system. The current rail operations directly adjacent to Levee Park greatly limit access and obstruct the view of the park and the river from the downtown area. Operations also limit the linkage of the historic district to Levee Park (see Section 9.1.3 for further discussion).

Automobile and Truck Traffic Automobile and truck traffic has been increasing on the Minnesota Department of Transportation's (Mn/DOT) interregional corridors of TH 61 and TH 14, as well as TH 43, and has significantly impacted the local street system. Increased highway and rail traffic presents a plethora of transportation issues that not only affect the city's rail crossings, but could also impact state and local roadways.

The City of Winona is an important Regional Trade Center in the State of Minnesota. In the interest of industrial and economic development, the City of Winona and the Winona Port Authority would like to maximize the growth potential of the Port by making infrastructure improvements to the Port. If no improvements are made, delays at key arterial crossings will further increase shipment delays to and from the Port, as well as result in increased delays to the citizens of Winona, further impacting the quality of life in Winona.

The City of Winona is expanding the Riverbend Industrial Park on the southeast section of the city. The City has proposed a Bundy Boulevard extension to facilitate circulation, particularly for heavy commercial traffic, between the industrial park and TH 61. The City believes heavy commercial traffic will use the new route, which in turn will provide relief to Mankato Avenue traffic congestion. Full build-out of the proposed Riverbend Industrial Park is anticipated to add approximately 3100 peak-hour vehicle trips to the adjoining roadway network (see Section 8.5.2 for further discussion).

However, traffic projections and computer-assisted traffic simulations indicate that without additional access controls and intersection improvements on TH 61 and TH 43, and additional provisions for internal circulation to distribute traffic from the sites, significant traffic congestion will occur as Riverbend is developed. In particular, travel speeds on TH 61 and TH 43 could be reduced by up to 75%, with unacceptable gaps in traffic for safe and efficient access from intersecting roadways and driveways (see Section 8.5 for further discussion).

Pedestrians and Bicyclists As identified in the City of Winona Comprehensive Plan, providing safe and accessible routes for pedestrians and bicyclist is very important to the City. Winona currently benefits from a well-designed bike route network, as well as numerous sidewalk connections to major destinations in the city such as the downtown business area, the Riverbend Industrial Park, and local schools and universities. However, as is the case with automobile traffic, bicyclist and pedestrians also face delays and safety issues at the numerous rail crossings.

As a result of the Rail Relocation Study (1976) and the Winona County Grade Crossing Safety Study (2000), the City has made significant progress in enhancing the quality of life for its citizens by consolidating crossings, and installing improved grade crossing warning devices. Due to the increasing population and the reality that each year local universities attract new students who may be unfamiliar with the rail crossing challenges that exist in Winona, more safety improvements must be made to meet this need.

The current transportation system in the City of Winona contains a number of challenging elements. Projected increases in train volumes and highway volumes over the next 20 years will likely make this situation intolerable.

1.2 Goals

During the study process, the project team identified the following goals that represent broad ambitions, which will improve Winona's transportation system. The primary goals of the study are to:

- Relieve congestion and improve traffic flow into and through the City of Winona and the Port of Winona;
- Improve the quality of life for the citizens of Winona; and,
- Improve safety for the traveling public.

The project team then took a proactive approach of identifying and contacting potential stakeholders with an interest in this planning initiative. Issues identified by stakeholders allowed the project team to develop a set of objectives for the study.

1.3 Objectives

The project team identified a set of objectives by which the City and State might attain its goals of improving the transportation system in Winona. The objectives are as follows:

- Identify and understand rail, truck, vehicle and barge transportation issues impacting the Port and City of Winona;
- Understand how the transportation system works in the City of Winona;

- Develop a coordinated multi-modal planning process that analyzes the efficiency of intermodal rail, truck and barge activity into the Port of Winona and through the City of Winona;
- Understand existing and future issues as seen as most imperative (in need of action) to develop the appropriate infrastructure for the Port and the City of Winona;
- Develop a comprehensive, coordinated plan to guide specific investments in:
    - New railroad grade separations
    - Railroad operational improvements (switching, staging, storage, etc.) to minimize disruption to local street traffic
    - Intermodal transfer activities
    - Improved traffic access to Riverbend Industrial Park
    - TH 61 interregional corridor improvements
    - Railroad grade crossing safety projects
    - Improved rail access and service to Port facilities and existing/potential shippers, including new east end rail connection; and,
- Develop a prioritized list of projects designed to improve traffic flow in and through the City of Winona

Previous studies the project team consulted included:

- Railroad Relocation Study - 1976
- City of Winona Comprehensive Plan - 1995
- Midwest Regional Rail Initiative - 1996
- A Comprehensive Study of Housing and Industrial Development in Winona County, Minnesota - 1999
- Southern Minnesota Rail Corridor Safety Plan - 2000
- Railroad Grade Crossing Safety Review—Winona County - 2000
- Statewide Multimodal Freight Flows Study - 2000
- DM&E Environmental Impact Statement - 2001

Section 2 Background

2.1 Funding

- Mn/DOT's District 6 and Office of Freight Railroads and Waterways $200,000 (public)
- City of Winona – through the Port Authority of Winona $ 45,000 (public) and an additional $5,000 (private)

2.2 Study Stakeholder Descriptions

2.2.1 Mn/DOT's Office of Freight, Railroads and Waterways

Mn/DOT's Office of Freight, Railroads & Waterways (OFRW) is responsible for managing activities that impact multi-modal freight movements, and the use of private rail systems for passenger service in Minnesota. OFRW programs include activities that impact freight rail service and safety, commercial navigation and environmental impacts, truck size and weight policy, as well as, data and analysis to support multi-modal freight planning.

The Office administers a variety of programs and activities to support the safe, efficient movement of goods in Minnesota. These programs include the Minnesota Rail Service Improvement program, the Port Development Program, the Railroad - Highway Grade Crossing Safety Improvement Program, and The Minnesota Freight Advisory Committee. The OFRW is also responsible for a variety of planning activities such as the development of rail and waterway plans and freight movement studies.

2.2.2 The City of Winona, MN (Port of Winona)

Founded by a steamboat captain in 1851, Winona's location on an island in the Mississippi made it a transportation hub and one of the world's richest cities by 1900. This legacy remains in the form of historic buildings and in an ongoing harmony with the river.

Winona is a major terminal location for commerce in the State of Minnesota; TH 61, TH 43, TH 14 and I-90 serve the City and Port of Winona. The Canadian Pacific Railway (CPR), Union Pacific Railroad (UP), and Dakota, Minnesota & Eastern Railroad (DM&E), provide freight rail service within those same corridors. Winona is also a Mississippi River Port, accessing the Mississippi commercial navigation system. The City of Winona is an important regional trade center to the State of Minnesota.

2.2.3 Mn/DOT District 6

Mn/DOT is divided into eight regional areas – seven Greater Minnesota district offices and the Minneapolis - St. Paul Metropolitan Area. Most of the day-to-day operations are managed at the district level, including highway construction projects, maintenance and highway right-of-way issues.

District Six supports the transportation network of southeastern Minnesota, including Dodge, Fillmore, Freeborn, Goodview, Houston, Mower, Olmsted, Rice, Steele, Wabasha and Winona counties. With a district office in Rochester (6A), a sub-district office in Owatonna (6B), and 23 truck stations, the district manages the efficiency and safety of:

- 1,436 miles of state roadways
- 624 miles of bike "friendly" roadways
- 504 miles of rail lines
- 837 bridges
- 13 airports
- 17 operating transit systems

There are approximately 400 employees working throughout District Six. These employees have expertise in engineering, research, business, communications, planning and other technical support areas.

2.3 Previous Studies

A number of studies designed to examine the Southeastern Minnesota transportation network infrastructure have been conducted over the last several years. This planning effort is a continuation of the findings from previous studies. Materials and concepts presented from previous work are indexed in the appendices of this report. The studies include:

Study	Commissioned by:	Date	Scope of Work
Railroad Relocation Study	City of Winona	1976	Feasibility of relocation of mainline CPR tracks to the Winona Waterfront.
City of Winona Comprehensive Plan	City of Winona	1995	Identify long-range goals and serve as a guide for the physical, social and economic development of the City.
Midwest Regional Rail Initiative	Multi-Agency Effort	1996	Multi-state efforts to inventory, assess, and recommend improvements for High-Speed Rail (HSR) expansion in the Midwest.
A Comprehensive Study of Housing and Industrial Development in Winona County, Minnesota	The Winona Area Joint Coordination Committee, Winona County	1999	Studied county and regional employment, economic and industrial trends and forecasts through 2010
Southern Minnesota Rail Corridor Safety Plan	Mn/DOT's Office of Freight, Railroads and Waterways	2000	Inventory and assessment of grade crossings in southern MN, affected by the recently approved DM&E expansion.
Railroad Grade Crossing Safety Review—Winona County	Mn/DOT's Office of Freight, Railroads and Waterways	2000	Comprehensive corridor inventory and assessment of grade crossing characteristics and data.
Statewide Multimodal Freight Flows Study	Mn/DOT	2000	Identify how goods move through MN and identify key corridors for improvements.

Figure 2-1 Previous Studies

Rail Relocation Study – 1976

In response to an increase in grade crossing collisions, the City of Winona initiated a study to determine the feasibility of relocating the Milwaukee Road main track (now Canadian Pacific Railway [CPR]). At the time of the study, the Milwaukee Road mainline tracks crossed 33 public roadways within the City (many of which had only crossbucks and stop signs).

The study, while preliminary in nature, identified 5 possible alternatives:

- Relocation to the Riverfront along the proposed levee.
- Relocation to the east side of the river, using Chicago and North Western (C&NW) tracks.
- Consolidation of train operations along the riverfront parallel to Front Street.
- Development of a rail corridor parallel to TH 61.
- No relocation, with crossing closures and other improvements aimed at improving public safety.

Due to funding limitations, the study recommended the City undertake two major efforts:

- Develop a detailed engineering plan for a railroad corridor relocation to identify the right-of-way to be acquired, railroad service requirements, alignments and operating requirements; and,
- Initiate steps to minimize the impacts of the existing railroad location, including crossing closures and the construction of grade separations.

The City Council found the relocation alternative to be cost prohibitive, and was therefore not a viable option for pursuing detailed engineering plans. However, as a result of the study, the City of Winona, working with the railroad and Mn/DOT, eliminated half the crossings and improved the warning devices at the remaining crossings, which significantly improved public safety by reducing the number of grade crossing crashes.

City of Winona Comprehensive Plan – 1995

The City of Winona Comprehensive Plan represents a planning process, which involved extensive public involvement and comment. It established a model the City could then follow to reach its desired goals. As indicated at the introduction of the plan:

> *"The Winona Comprehensive Plan is a long-range plan for guiding conservation and development in the City of Winona for the next ten to fifteen years. The plan serves as a long-range policy guide and land use map that provides the basis for decisions on the physical, social and economic development of the City. The Plan recognizes the hard work and concerns of citizens, local and state officials, and professionals who worked diligently in its preparation.*
>
> *The citizens of Winona, City staff and City Council were instrumental in initiating the development of a new comprehensive plan...it was necessary to bring the citizens of the community together to produce a new plan which would more*

accurately reflect changes in the community, citizens' desires and a vision for the future.

…The purpose of this plan is to promote the efficient use and conservation of community resources, encourage citizen involvement, and provide foresight, balance and coordination of the inter-related physical, social and economic elements of the community."

The direction, public input and goals established within this portion of the City of Winona Comprehensive Plan served as the basis for considerations included within the scope of this study.

Examples of these considerations include:

Section IV K discusses the transportation element within the City of Winona:

Goal 1 Objective 4: Designate bike lanes on major streets, construct bike paths where necessary, and maintain both on a regular basis.

Goal 4

Objective 2: Review and modify the current truck route system which will allow access to all industrial areas within the City resulting in Winona companies having a competitive advantage because of lower shipping costs.

Objective 5: Work with the railroads to keep crossings open during peak travel hours and to move the switching now occurring within the city limits to a location outside the city.

Goal 5 Objective 1: Support the efforts of the Port Authority to relocate the railroad tracks along Levee Park. These tracks serve to isolate the river from the central business district. Industries such as Bay State should be served from the east end track system.

Goal 6 Objective 1: Encourage the development of a transportation center. This center would act as the Amtrak stop, the inner-city bus stop, a stop on the mass transit system, and a taxicab stop.

Goal 7 Objective 1: Support the policy of the Port Authority, which requires all barge fleeting to occur in the commercial harbor. This reduces the conflicts between commercial and recreational users.

Section IV B discusses the importance of the development Riverbend Industrial Park specifically:

Goal 1 Objective F: Develop the Riverbend Industrial Park

Section IV A discusses the importance of linking the Mississippi River visually and further utilizing the riverfront in downtown Winona:

Goal 2 Objective 1: Explore options for the rail storage area balancing the needs of all groups and consider/measure the demand of rail car storage; i.e., is there the same demand as 30 years ago?

Midwest Regional Rail Initiative – 1996

Recognizing the importance of maintaining a competitive alternative to other modes of transportation, the Midwest Regional Rail Initiative was developed in 1996 as part of a multi-agency partnership that has worked to develop a nine-state, 3,000-mile regional passenger rail system. Goals of this initiative include offering business and leisure travelers shorter travel times, and creating additional train frequencies and connections between urban centers and smaller communities (see Section 3.3 for further discussion).

A Comprehensive Study of Housing and Industrial Development in Winona County, Minnesota – 1999

This study examined County and regional employment, the area's economic base, and industrial development trends and concluded with an industrial development forecast through 2010. The study also included an identification and evaluation of potential industrial development areas in Winona County. As part of the data collection process, 27 of Winona County's largest industrial employers were interviewed in an effort to gain an understanding of their current and future business needs. The survey indicated that the area's "largest industrial employers plan to expand by a total of about 1,000 employees during the next five years…" and "several stated that they might require additional land for expansion over the next 10 years."

The results of the survey also found that some of the key social and business assets in Winona County included some of the following:

- High quality of life, desirable place to live and raise a family;
- High quality of labor pool (education level, work ethic);
- Ready access to business services and suppliers of most products; and,
- Convenient access to I-90 and US 61

Lastly, the study also found that in order for Winona County to meet the land needs for future industrial development, an additional 130 acres would be needed through 2010.

Southern Minnesota Rail Corridor Safety Plan – 2000

As a continuing effort of Mn/DOT's Office of Freight, Railroads and Waterways, Mn/DOT conducted an inventory and evaluation of all rail grade crossings on the Dakota, Minnesota and Eastern (DM&E) mainline which crosses southern Minnesota. In response to DM&E's application to the United States Surface Transportation Board (STB) to extend its rail line into the Powder River Basin of Wyoming, Mn/DOT conducted the study to examine how increased rail traffic and projected automobile traffic might impact each crossing. The analysis provided recommendations for the level of warning devices needed at each crossing in accordance with Mn/DOT guidelines for crossing

warning devices. The analysis provided Mn/DOT with the necessary information for these crossings to be able to accurately respond to the Draft Environmental Impact Statement prepared ss a requirement of the DM&E expansion project.

Railroad Grade Crossing Safety Review—Winona County – 2000

Sponsored by Mn/DOT's Office of Freight, Railroads and Waterways and Mn/DOT's District 6, the Winona County Railroad Grade Crossing Safety Review developed a corridor approach to inventory and analysis of grade crossings on the CPR mainline within Winona County. The CPR mainline stretches 34 miles across Winona County and has 33 public grade crossings. The study sought to:

- Develop a prioritized list of improvement projects to improve grade crossing safety;
- At a minimum, install stop signs at all unsignalized crossings;
- Test various methods of public participation for future crossing corridor studies;
- Ensure that all crossings are needed; and,
- Install street lighting at all corridor crossings.

Statewide Multimodal Freight Flows Study – 2000

Mn/DOT conducted the Statewide Freight Flows Study in an effort to better understand freight flows in the state and to actively engage the state's business community in planning and programming activities that lead to transportation investments, which support the economic vitality of the state. The Study provided data, recommendations and directions regarding Minnesota freight flows to the Minnesota Freight Advisory Committee (MFAC). The study used currently available freight flow data and stressed the importance of future data in freight planning in light of private company proprietary information.

Section 3 National Freight Rail Perspective

The City of Winona was developed on relatively flat land area bounded by the Mississippi River to the north and the River Bluffs to the south. Several railroads and rail entities serve the City. The **Canadian Pacific Railway (CPR)**, **Union Pacific Railroad (UP)**, **Dakota Minnesota & Eastern Railroad (DM&E)** and **Amtrak** all serve the City of Winona. Until the early 1980's, the Burlington Northern Railroad and the Green Bay and Western Railroad also served the city. Both of these carriers accessed the city from the eastern banks of the Mississippi River. Both river crossings have since been removed and the right-of-way sold off.

As evidenced over the last 25 years, the railroad industry has gone through significant consolidation and contraction. Mergers & acquisitions, line abandonment and trucking competition have created tremendous shifts in the operations of national Class I Railroads[2]. The effect can be seen in Winona with the reduction in the number of freight railroads serving industries in town as well as a decrease in local operations of the railroads.

Winona's role in the nation's rail make-up is currently facing the following issues:

- Winona's reliance on CPR's infrastructure to link Winona to the nation's rail network limits local shippers' choice of rail providers.
- The potential for greater traffic delays at rail crossings is escalated by the potential rail increases of both the recently approved DM&E expansion, as well as general rail growth. However, increased rail traffic also offers the potential for greater growth opportunities for the Commercial Port, and improved service for current and future rail customers within the City of Winona.
- The proposed Midwest Regional Rail Initiative includes CPR's mainline and is designated as a High-Speed Rail (HSR) corridor by the Federal Railroad Administration. Similar impacts, due to the increased traffic on this corridor, are possible with benefits of improved and more reliable passenger service in addition to establishing Winona as the hub for connecting commercial bus service to Rochester and Mankato.

3.1 Mergers and Acquisitions

The United States has experienced a great deal of Class I railroad consolidation in the last 30 years. As many as 35 Class I railroads have been reduced to just eight, two of which are Canadian railroads— Canadian National Railroad and Canadian Pacific Railway. Mergers and acquisitions have played a vital role in the survival of the rail industry that experienced numerous bankruptcies in the 1960's and 1970's. Mergers and consolidations have been reduced due to revised STB merger rules and the amounts of capital required for such a large acquisition.

With the merger application of the Canadian National and the Burlington Northern Santa Fe railroads in 1999, the STB revised the review procedure to include criteria related to

[2] The American Association of Railroads defines a Class I Railroad as a carrier with operating revenues of at least $261.9 million in the year 2000. There are 8 Class I railroads operating in the US. They include: BNSF, CSX, GTW, IC, KCS, NS, SOO Line (Owned by CPR) and UP.

non-rail related impacts to communities and industries. Any merger activity involving the Canadian Pacific Railway could have a significant impact on the City of Winona's rail infrastructure by affecting other rail-served entities that rely on its mainline.

3.1.1 Canadian Pacific Railway (CPR)

Canadian Pacific Railway (CPR) is a Class I North American railroad, providing freight transportation services over a 14,000-mile network in Canada and the United States. Based in Calgary, Alberta, CPR and its predecessors have been in operation since 1881.

CPR's mainline in Winona is the former Soo Line (Milwaukee Road) mainline from Chicago, IL to Seattle, WA via the Twin Cities. Amtrak, DM&E and UP rely on the CPR mainline to get to their physical assets in Winona. Many rail-served industries in Winona are on the west end of town accessed from the industrial spurs near CPR Tower CK Interlocking at Third Street. The Wall Street connection on the eastern part of town is accessed from the CPR mainline near Mankato Avenue.

3.1.2 Union Pacific Railroad (UP)

The Union Pacific Railroad (UP) is the successor to the Chicago & North Western Railroad that once accessed Winona via a Mississippi river crossing near downtown. Its trackage ran along the waterfront and connected to what is now the DM&E mainline at Minnesota City. Since the abandonment of the track from Tunnel City to Winona and removal of the crossing over the Mississippi River, UP freight is transported from the south via trackage rights over CPR. The UP maintains a yard on the west end of Winona near CPR Tower CK Interlocking. The yard is used for switching and blocking operations of the industries they serve. UP has access to some industries along the Mississippi River waterfront. UP is the sole rail operator at the Commercial Port of Winona.

3.1.3 DM&E Expansion

The Dakota, Minnesota and Eastern Railroad (DM&E) mainline was originally constructed by the Chicago & North Western Railroad (UP Predecessor) in the late 1800's [as a main track] serving the communities of southern Minnesota and southern South Dakota. The DM&E line originates in Minnesota City, Minnesota where it connects to the CPR mainline, and terminates in Rapid City, South Dakota. The DM&E operates by trackage rights to Winona over CPR. The DM&E track and right-of-way were constructed to the standard of a secondary mainline.

The DM&E submitted a proposal to the Federal Surface Transportation Board (STB) for the expansion of its rail line into the Powder River Basin (PRB) in eastern Wyoming. Additionally, the proposal called for right-of-way improvements needed to bring the track up to high-density mainline standards for reasons of operational efficiency and safety. On January 28, 2002, the STB approved the DM&E's PRB expansion project subject to certain conditions. It is expected the 3 trains per day of mixed freight along this corridor could increase to as many as 37 trains per day. Several railroads cross the DM&E line in southern Minnesota. All have been identified as potential interchange points for eastbound train movements.

On February 21, 2002, DM&E announced its intention to acquire the 1,700-mile I&M Rail Link (IMRL). The combined 2,800 mile DM&E and IMRL properties would provide direct access to the rail gateways of Chicago, the Twin Cities and Kansas City, with over 30 interchange points linking the combined property with virtually all Class I railroads and many Regional and Short Lines.

While it is difficult to identify the exact impacts of the proposed new rail access into the PRB and the acquisition of IMRL, we roughly estimate that as many as 8 additional train movements per day could reach Winona. The majority of the coal train movements in Winona are expected to be a combination of coal shipments bound for the Chicago rail gateway, Minnesota and Wisconsin utility plants and the Mississippi river ports and utilities. Winona Commercial Port is a potential destination for coal shipments. Neither the DM&E proposal to the STB, the Draft Environmental Impact Statement (DEIS), nor the STB's final decision addressed impacts to the City of Winona due to its location outside the DM&E corridor.

3.2 Swift Rail Act

The Swift Rail Development Act (Pub. L. 103-440, November 2, 1994) added Section 20153 to title 49, United States Code. That section requires regulations be established prescribing that a locomotive horn be sounded while each train is approaching and entering upon each public highway-rail grade crossing. In addition, 49 U.S.C. 20153 provides the Federal Railroad Administration (FRA) with the authority to except from this requirement, categories of rail operations or categories of grade crossings that: 1) are determined not to present significant risk with respect to loss of life or serious personal injury; 2) for which the use of a locomotive horn is impractical; or 3) for which supplementary safety measures fully compensate for the absence of the warning provided by the locomotive horn.

FRA's Notice of Proposed Rule Making (NPRM) describes the proposed rule, which would require that horns be sounded at virtually all public at-grade crossings in the United States. The proposed rule also contains provisions that set a maximum sound level for locomotive horns, limit sound directed to the side, prescribe when and how to sound the horn, and provide an opportunity to any community in the nation to establish a quiet zone. These provisions would apply to the use of locomotive horns at all public highway-rail grade crossings, including those currently subject to whistle bans established by local or state authorities.

As part of the regulatory process, FRA prepared a Draft Environmental Impact Statement (DEIS) to evaluate the proposed rule's potential for environmental impact. The public process included opportunities to make comments on both the NPRM and the DEIS. Hearings were held around the country for the purpose of taking oral comments from the public.

The City of Winona has a whistle ban in place that will be superceded by the FRA's new rules, once adopted. In addition, there are speed restrictions, which limit trains to 30-MPH maximum speed through town. It should be noted that Winona has undertaken a program to install non-mountable center barriers[3] at all grade crossings over the next 5 years as supplemental safety measures. The City expects that these center barriers will meet FRA rules.

Figure 3-1: Non-mountable center barriers

3.3 Midwest Regional Rail System (MWRRS)

The Midwest Regional Rail Initiative (MWRRI) is a cooperative, multi-agency effort to develop an improved and expanded regional passenger rail system for the 21st century. This vision has been transformed into a transportation plan—known as the **Midwest Regional Rail System (MSRRS)**. The 3,000-mile regional passenger rail system will offer business and leisure travelers shorter travel times, additional train frequencies, and connections between urban centers and smaller communities. See Figure 3-3.

In Minnesota, the MWRRS includes 140 miles of rail line near the Minnesota-Wisconsin border that could accommodate train travel speeds of 110 miles per hour. Today, only one train brings passengers from Minnesota to Chicago in about eight hours travel time, the service is provided by Amtrak and is carried on freight corridors. With MWRRS, travelers from Minnesota could travel to Chicago on 6 additional trains in just over five and

Figure 3-2: Existing Winona Amtrak Station

[3] Non-mountable center barriers are raised concrete curbs placed along a roadway centerline, at the approach of a railroad crossing. The purpose of these barriers is to limit the ability of a motorist to drive around lowered crossing gates (refer to Figure 3-1).

half hours of travel time.

A fully implemented Midwest Regional Rail System would significantly reduce travel times and increase train frequencies. The MWRRS encompasses approximately 3,000 route miles in nine states. In addition to the routes that appear on the map, the MWRRS includes routes from Chicago-Des Moines-Omaha, St. Louis-Kansas City, Chicago-Cleveland, Chicago-Grand Rapids, Chicago-Carbondale, and Chicago-Port Huron.

According to recent studies, infrastructure investment needs for the MWRRS are estimated at about $1 million per mile from recent studies. This compares to $10-$20 million per mile for urban expressway construction. The MWRRS will represent a fivefold increase in service and will cut travel time between destinations by 30 to 50 percent. In addition, new equipment with reduced maintenance requirements, an advanced train signaling and control system, and line capacity improvements will help to establish and sustain a high-level of on-time performance. The freight railroads, with which the service will run, will also benefit from improved infrastructure resulting in improved freight performance in Minnesota.

As a result of faster trip times and more frequent, higher quality on-time service, rail ridership in the routes that encompass the MWRRS is projected to increase from 1.6 million passengers in 1999 to 9.6 million in 2010. This increase in ridership will help to reduce expected growth in automobile congestion on highways and reduce overcrowding and runway delays at regional airports. The total cost of the MWRRS is expected to reach approximately $4 billion over ten years. The project is part of a $12 billion High-Speed Rail funding package currently before congress at the writing of this report.

Planned MWRRS elements will improve Midwest travel. The major plan elements include:

- Use of 3000 miles of existing rail rights-of-way to connect rural, small urban, and major metropolitan areas;
- Operation of a “hub-and–spoke” passenger rail system providing through-service in Chicago to locations throughout the Midwest;
- Introduction of modern train equipment operating at speeds up to 110 mph;
- Provision of multi-modal connections to improve system access; and,
- Improvement in reliability and on-time performance.

The sponsors of the Midwest Regional Rail System are nine Midwest states (Indiana, Illinois, Iowa, Michigan, Minnesota, Missouri, Nebraska, Ohio, and Wisconsin). In addition to the nine states, Amtrak and the Federal Railroad Administration are also planning partners.

- End of 2001 Feasibility Study Complete
- 2002-2004 Preliminary Engineering, EIS and Final Design
- 2007-2008 System Open

The proposed Midwest Regional Rail System would allow for a stop in Winona, which could then provide a regional bus feeder system that would connect to Mankato, MN. The creation of this connection would allow Winona to not only serve as an intermodal

hub to meet regional transportation needs, but also provide an attractive transportation option for the citizens of Winona.

At the time of this study the following issues are being considered as they relate to funding:

- The Midwest Regional Rail System has been introduced as part of Amtrak funding.
- The predecessor to the federal Transportation Efficiency Act of the 21st Century (TEA-21) is currently being negotiated.

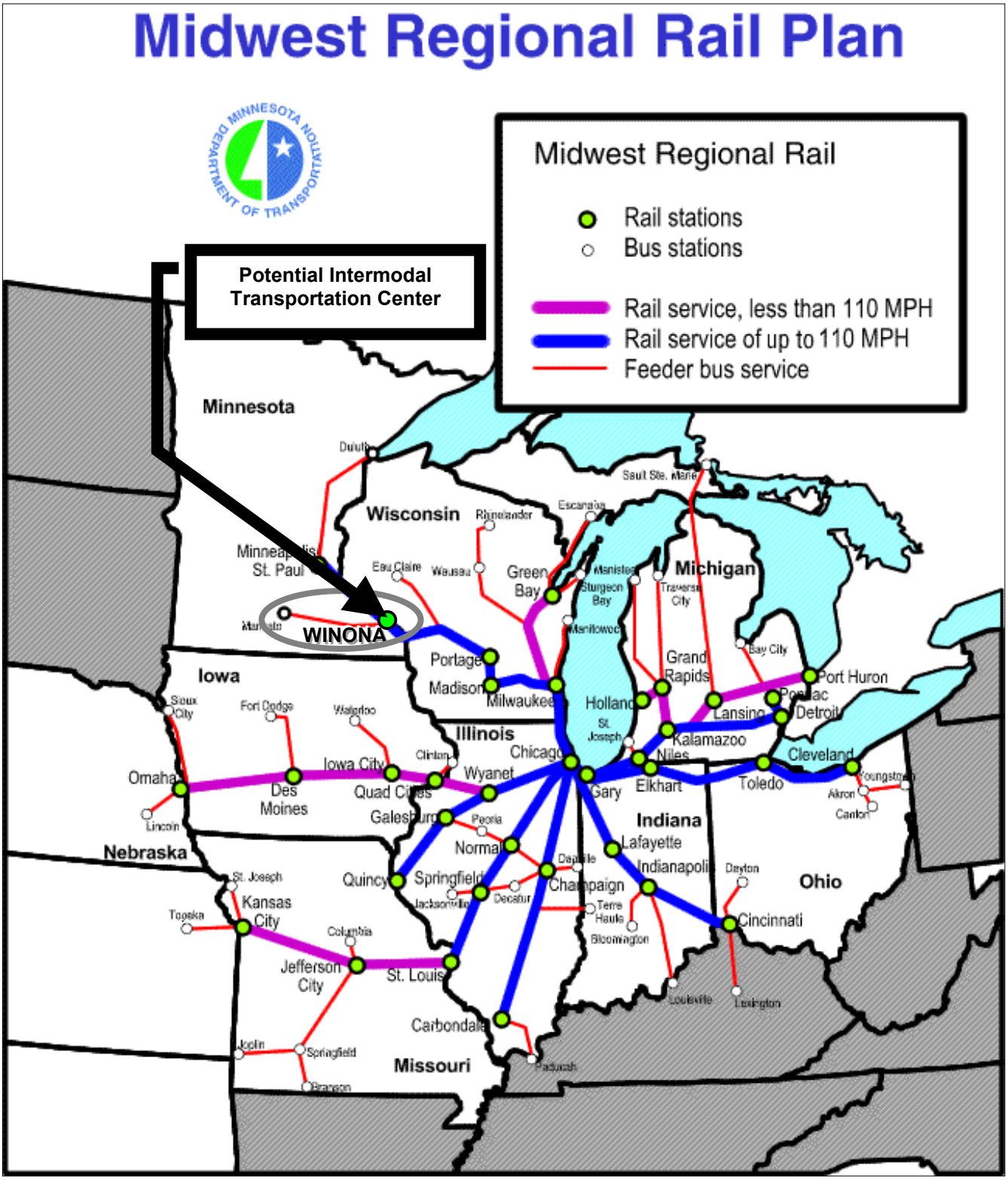


Figure 3-3: Midwest Regional Rail Plan

Section 4 National and Statewide Roadway Initiatives

4.1 TEA-21 Intermodal Connector Highway Provisions

Section 1106(d) of the Transportation Equity Act for the 21st Century (TEA-21) directed the Secretary of Transportation to conduct a review of the National Highway System (NHS) freight connectors that serve seaports, airports, and other major intermodal terminals and report the findings to Congress. The objectives of the review were to:

(1) evaluate the condition of NHS connector highway infrastructure to major intermodal freight terminals;
(2) review improvements and investments made or programmed for these connectors; and,
(3) identify impediments and options to making improvements to the intermodal freight connectors.

Some of the major findings included:

- Intermodal connectors that primarily serve freight terminals have significant mileage with pavement deficiencies and generally exhibit inferior physical and operational performance than other similar NHS facilities
- An analysis of investment practices shows a general lack of awareness and coordination for freight improvements within the Metropolitan Planning Organization (MPO) planning and programming process
- Given the pressing needs for passenger-related projects, there is little incentive for investing in freight projects that appear to primarily benefit only a small freight constituency.

The report identifies options for improving the connectors and freight flow efficiency in four areas:

- Awareness and Coordination – improving the planning and implementation of freight projects
- Information Technologies – alternatives to building infrastructure by using "infostructure" to achieve intermodal system optimization through information technologies
- Funding – presents a full range of funding mechanisms
- Community and Environmental Responsiveness – discussion on how to minimize the impact of freight operations and improvements on the adjacent communities.

The existing State and MPO decision-making process for transportation improvements has primarily focused on passenger needs, with the assumption that any highway improvements also benefit freight transportation. Freight transportation constituencies are different than those for passenger; and, developing new public/private partnerships can be challenging. The scarcity of funds, project eligibility and differing responsibilities and perspectives between states, MPO's and local governments creates a complex administrative situation in the coordination and promotion of investments for intermodal freight development and connector improvements. Compounding this problem is the lack

of quantitative tools that allow state and local governments to properly evaluate the economic benefits of freight investments to the region and nation as a whole.

Mn/DOT submitted to the USDOT, as part of their inventory, two terminal areas in St. Paul and Duluth. The report to Congress does not contain Winona as a Port with Intermodal connectors. Trunk Highway (TH) 61 serving Winona is a designated component of Minnesota's National Highway System. Therefore, a significant opportunity is available to identify and designate connector roadways, such as Pelzer Avenue, linking Winona's barge and rail port facilities to TH 61 for planning and funding improvements under TEA-21. This opportunity is available in addition to funding available through TEA-21 for improvements directly to TH 61 under NHS funding programs. Proposals addressing intermodal connections or access are addressed throughout the proposals presented in Section 9.

4.2 Mn/DOT Interregional Corridor Program

Minnesota's State Transportation Plan, ***Moving Minnesota***, establishes a system of Interregional Corridors (IRC's). The IRC System is a network of highways throughout the state that link the Primary Trade Centers of the state to one another and to the Twin Cities Metropolitan Area. They support Minnesota's economic health by connecting people with jobs, distributors with manufacturers, shippers with retailers and tourists with recreational opportunities. The IRC System, illustrated on Figure 4.1, and accompanying management plans, have been established to:

- Prioritize and invest in improvements that preserve safety and mobility on these key statewide economic links;
- Integrate state and local transportation investment decisions;
- Integrate state land-use and transportation policy direction;
- Develop land-use controls and ordinances that will guide how local traffic will access these key routes; and,
- Identify and fund access management projects to manage congestion and requests for new traffic signals.

As part of the IRC system designation, three new classifications of roadways – High Priority Interregional Corridors, Medium Priority Interregional Corridors, and High Priority Regional Corridors– have been established. Moreover, performance measures for peak period corridor operations and corresponding guidelines for intersections, signals, and private access spacing and design (appropriate to each category) have been developed. To achieve and maintain desired performance measures, the guidelines discourage signal proliferation and seek a balance between access and mobility in developed and urbanizing areas.

Trunk Highways 61 and 43 through Winona have been designated as Medium Priority Interregional and High Priority Regional Corridors in the IRC system, respectively. Preliminary guidelines established for operational performance and access management

on Medium Priority Interregional and High Priority Regional Corridors are summarized in Table 4-1.

As Riverbend Industrial Park is developed in the southeastern end of Winona, significant traffic demands will be placed on both of these key state travel corridors, which adjoin the development site. To assure suitable interregional mobility will be maintained on both TH 61 and TH 43 while providing reasonable access to the developing industrial park and existing businesses, detailed traffic analyses were conducted. Corresponding recommendations for access management strategies coupled with improvement investments are included as part of this Winona Intermodal Study, as described in Sections 8 and 9.

Table 4-1

Mn/DOT Interregional Corridor Program – Preliminary Guidelines

Summary of Recommended Access Spacing

Sub Category	Area or Facility Type	Typical Functional Class	Typical Posted Speed	Intersection Spacing		Signal Spacing	Private Access Spacing
				Primary Full Movement Intersection	Conditional Secondary Intersection		
2	**Medium Priority Interregional Corridors**						
2A-F	Full Grade Separation	Principal Arterials	55-65 mph	Interchange Access Only		⊘ NOT PERMITTED	⊘ NOT PERMITTED
2A	Rural ExUrban By Pass		55-65 mph	1 mile	½ mile	**STRONGLY DISCOURAGED** By Deviation Only	By Exception Deviation Only
2B	Urban Urbanizing		40-55 mph	½ mile	¼ mile	**STRONGLY DISCOURAGED** By Deviation Only	By Exception Deviation Only
2C	Urban Core		30-40 mph	300-660 feet dependent upon block length		1/4 mile	Permitted Subject to Conditions
3	**High Priority Regional Corridors**						
3A-F	Full Grade Separation	Principal & Minor Arterials	55-65 mph	Interchange Access Only		⊘ NOT PERMITTED	⊘ NOT PERMITTED
3A	Rural ExUrban By Pass		45-65 mph	1 mile	1/2 mile	1 mile	By Exception or Deviation Only
3B	Urban Urbanizing		40-45 mph	1/2 mile	1/4 mile	1/2 mile	By Exception or Deviation Only
3C	Urban Core		30-40 mph	300-660 feet dependent upon block length		1/4 mile	Permitted Subject to Conditions

Access Sub Categories:
Sub Category A-F *– Full Grade Separation – This sub category is intended for those roadway segments planned or designed as fully grade separated segments*
Sub Category A *– Rural/Exurban/Bypass Areas – This sub category is intended for road segments extending through agricultural or forested areas with limited development. It will also be assigned to areas planned as long term low-density exurban areas characterized by scattered large lot residential development and limited commercial and industrial land use.*
Sub Category B *– Urban/Urbanizing Areas – This sub category is intended for areas outside of urban cores that are either developed or planned for urbanization with a full range of urban services (sewer, water, local streets).*
Sub Category C *– Urban Core – In general, this designation is intended only for roadways extending through fully developed town centers and central business districts, characterized by short blocks and a grid system of intersection streets.*

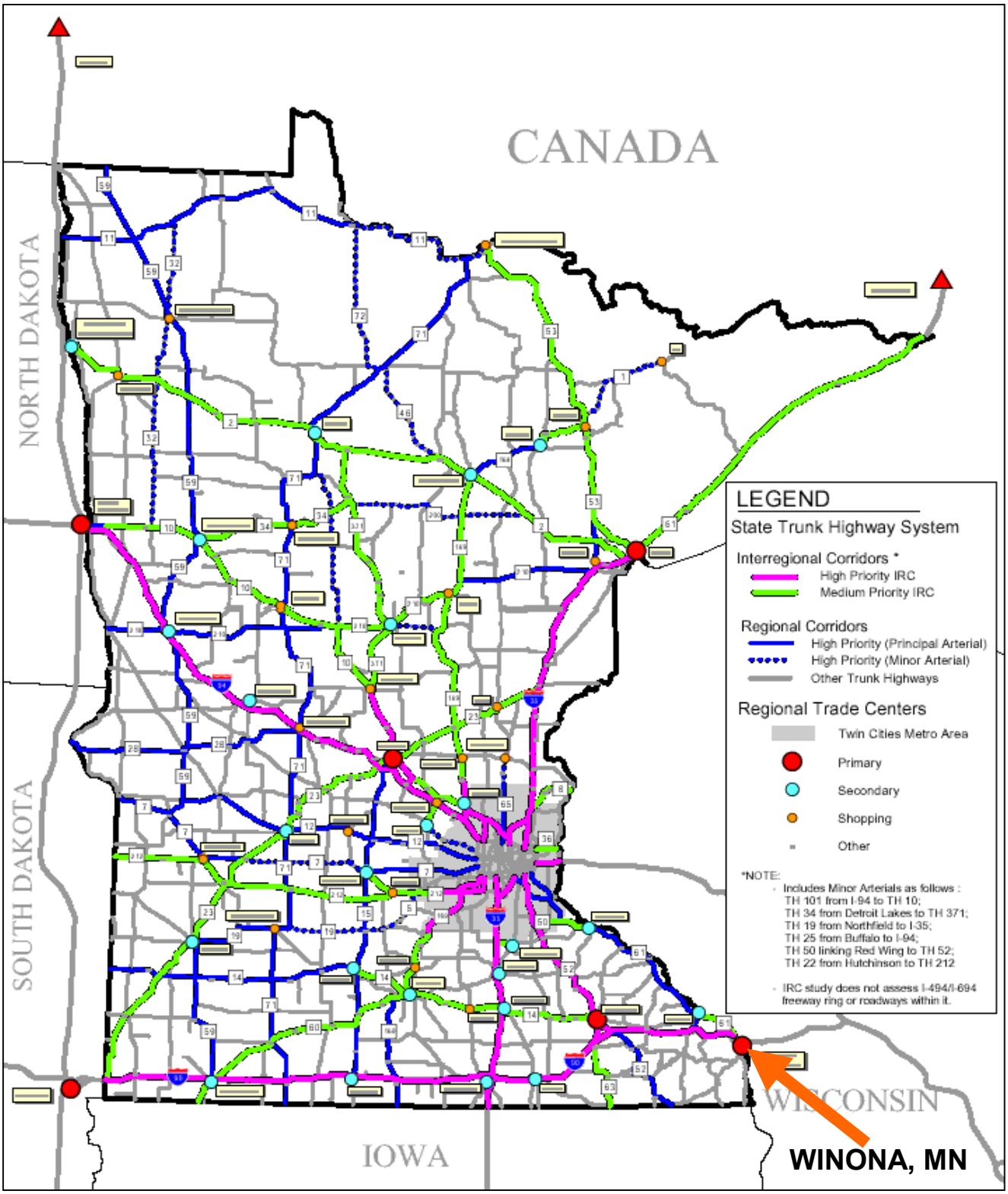


Figure 4-1: Interregional Corridor System

Section 5 Upper Mississippi River Ports

The Port of Winona commercial harbor is a key transfer point for Minnesota's agricultural products and other commodities shipped down the Mississippi River to the Gulf of Mexico. It serves the entire southern portion of Minnesota and has both regional and statewide significance. Each year, over 2.8 million tons of freight pass through the Port of Winona. The economic impact of the Port is significant: in a 1999 study completed for the National Waterways Association, the economic value to the State of Minnesota for the Winona Port was estimated to be over $123 million while all water transportation was worth $1.2 billion to the state.

5.1 Port of Winona Competition

The Port of Winona is comprised of several industrial port terminals including Winona River Rail, Support Terminal Services, Modern Transport Inc., Bay State Milling Co., Cenex-Harvest States Cooperative, Kujak Bros. Corp. Municipal Terminal, and ADM. Winona is the first Port cluster on the Mississippi River in Minnesota. The Port of Winona is a 1½-day trip, by river, from the Twin Cities and provides excellent opportunities for inbound and outbound freight. The barge equivalency in terms of roadway and rail traffic is that one barge load of material is equivalent to 15 rail cars or about 60 trucks. By contrast, Figure 5-1 illustrates the shipping durations via truck and rail from Winona.

Trucking from Winona to:	***Shipping Duration***		***Rail Service from Winona to:***	***Shipping Duration***
Minneapolis/St. Paul	2 ½ hours		Minneapolis/St. Paul	1 day
Chicago	Overnight		Chicago	1 day
Milwaukee	Overnight		Milwaukee	1 day
Denver	2 days		Denver	3 days
Detroit	2 days		Detroit	2-3 days
St. Louis	2 days		St. Louis	2 days
Boston	3 days		Boston	5 days
Houston	3 days		Houston	4 days
New York	3 days		New York	5 days
Los Angeles	4 days		Los Angeles	5 days

Figure 5-1: Shipping Durations from Winona MN

The Port has natural and man-made constraints to its development. The Port is separated from the truck routes and railroads by the river levee constructed to protect the City of Winona from frequent flooding of the Mississippi River. The Port also has a close proximity to the main shipping lanes of the river, which limits barge storage. The commercial harbor is naturally protected by Prairie Island and requires frequent dredging.

5.2 Port of Winona Freight Traffic Volumes and Projections

The Port handles various commodities including northbound traffic of fertilizer, liquid fertilizer, salt, coal and other miscellaneous materials. Southbound traffic includes corn, soybeans and wheat.

Figure 5-2: The Port of Winona

Annual Port volumes by receipt and shipments

Year	Receipts (TNS)	Shipments (TNS)	Total Tonnage (TNS)	Change (%)
1993	200,000	1,008,148	1,208,148	
1994	382,614	1,146,649	1,529,263	27%
1995	312,879	1,925,963	2,238,842	46%
1996	324,325	2,221,850	2,546,175	14%
1997	341,731	2,262,711	2,604,442	2%
1998	399,626	2,093,510	2,493,136	-4%
1999	327,634	2,500,833	2,828,467	13%
2000	384,275	2,425,170	2,809,445	-1%

Figure 5-3: Port of Winona Receipt and Shipment Volumes

Outlook for the Port

Changes in shipment volumes at the Port of Winona derive largely from market forces, particularly in the agricultural industry and also come at the expense of river ports north of Winona, such as Red Wing and St. Paul. With the recently approved DM&E PRB expansion, the Port is positioned to be a key component in the movement of that region's coal to the Mississippi River industries and utilities. Due to land constraints on the City of Winona, as it relates to industrial development, the Port remains an important asset to future economic development through transshipment of raw materials and finished products.

Section 6 Shipper Survey

From the onset of this study, the project team understood the importance of gathering input and concerns of Winona's business community. The first step in this process involved the development of a questionnaire that was designed to obtain business input regarding transportation issues facing the City. Example questions asked of participating businesses included:

- What does your business do?
- How many employees are at your location in Winona?
- Are you a current rail user? If not why?
- If rail service were more convenient, would you use it?
- How do you use rail service (inbound, outbound, both, neither)?
- How do you use truck service (inbound, outbound, both, neither)?
- Do you have plans to expand your current operations?
- What concerns do you have about existing transportation services?

A copy of the survey can be found in Supporting Technical Document A.

6.1 Businesses Contacted

Seventeen local businesses were interviewed as part of this survey:

- ADM/ARTCO
- Badger Equipment
- Bay State Milling
- Fastenal Company
- Froedtert Malt Corporation
- The Gorman Company
- Harvest States Cooperative
- Kujak Bros. Corporation
- Lawrence Transportation Co.
- Miller WM Scrap Iron & Metal Co.
- Miller Waste
- Modern Transport
- Peerless Chain Company
- RTP Company
- Technigraph Corporation
- United Building Center
- Winona River and Rail

6.2 Results

The survey results are summarized and analyzed below. For ease of review, they have been grouped into categories.

Category 1: Company Overview

The most common type of business is manufacturing representing 44% of the businesses surveyed. Many businesses could not be categorized into only one type. Of these mixed business types, all listed warehousing as one of the components of their business. Aside from manufacturing, there is an equal mix of business types within the City of Winona.

Each of the businesses viewed their Winona operations as very important to the company in its relative industry. Ten of the seventeen firms are headquartered in

Winona. The remaining seven stressed their importance based on a variety of issues including:

- The City of Winona's location as a transportation hub
- Specialty facilities that enable their operations to move more efficiently
- High volume distribution
- General niche services

Category 2: Workforce Overview

Large and medium sized employers made up the majority of the businesses surveyed. Businesses employing 100 or more employees made up 29% of those surveyed. Large firms were closely followed by businesses employing 11 to 25 employees, which made up 24% of those surveyed. The balance of business size creates a diverse and stable work environment for the city, and its economy.

Employers operating at three shifts per day made up 47% of those surveyed. This was closely followed by one shift per day operations, at 41%. Three shift employers often ship during non-peak hours, which helps to reduce the burden of the existing transportation systems. Single shift employers usually ship during regular business hours, which contributes to peak-hour congestion.

Category 3: Railroad Overview

Rail is the predominant mode used for 65% of the businesses surveyed. The majority (66%) of the remaining 35% of businesses surveyed indicated that rail was not used because it was not "cost competitive." Some of the businesses not using rail have existing spurs, but still cannot make it cost competitive to use them at the present. Half of the non-users said they would use rail service if it were more convenient.

Of the businesses surveyed, 29% use both inbound and outbound rail service while 24% use inbound only. A majority of rail users (55%) handle 25 or more rail cars per week. CPR, UP and DM&E were all used by single businesses 24% of the time. Most businesses did not use an exclusive carrier. Of the identified rail users 46% received daily service, 18% received rail service 2 to 3 times per week, and 18% received service once per week. This illustrates that 82% of the rail users receive rail service at least once per week. Transportation concerns, related to high rail use, will be discussed in the General Comments Overview section (listed by mode).

At the time of the survey, many firms interviewed stated that if the pending DM&E expansion were approved, their rail service would increase. This is supported by the fact that 55% of the commodities handled by rail are grain, fertilizer, feed with coal, iron ore, aggregates, plastics, etc. making up another 18% of the handled commodities. DM&E will mainly be shipping coal and grain with its recently approved expanded rail service.

Category 4: Truck Overview

Both inbound and outbound truck service is used by 82% of the businesses surveyed with 76% of the firms having 25 or more shipments by truck per week. This significant

amount of truck traffic, combined with the current amount of rail usage, has resulted in various transportation issues that will be discussed in the General Comments Overview section (listed by mode) to follow.

Category 5: Business Expansion Overview

Nearly half (47%) of the businesses interviewed have plans to expand their current operations. Of those firms planning expansion, 44% plan to do so within 1 year. Rail service will be used by 67% of these businesses, while truck service will be used by 78%. This rapid business growth and its related transportation needs, will further strain the city's existing transportation infrastructure.

Category 6: General Comments Overview

As indicated previously, businesses surveyed were asked to identify "other concerns in quality of existing transportation services." The responses are grouped, by mode, into the following sections:

Railroad Concerns:

A common theme found in the comments relating to railroads was the issue of delay to trucks and employees at railroad crossings. Many firms cited lost work time due to delays in getting across the railroad tracks. One of the reasons for this delay includes the switching of trains on main roadways during business hours. The general congestion of the rail system in Winona also causes delays in product transport. The overall consensus was: rail service in the City of Winona needs to be improved— allowing it to remain a viable transportation option.

General Comments Related to Rail:

- Truck shipments and employees experience delays at railroad crossings, specifically Pelzer Street. Shipment delays slow business. Grade separations are needed over crossings for safety, efficiency and good of community.
- Access with railroad crossings, no safe distance between access road and tracks for truck safety.
- Congestion of three railroad companies, multiple tracks, etc. The more difficult it is to get into a facility the less likely rail providers will continue to upgrade and operate.
- Would like to bring in rail service from WI, but UP is not receptive.
- UP and DM&E need to work better with their switching operations. Would like river crossing for rail to expand to other markets, and address DM&E and business expansion.
- Train switching should not be done on main roads. Better location or better timing so that it doesn't affect traffic.
- Concern regarding emergency vehicle delays at railroad tracks.
- Many railroad crossings are difficult to cross due to their condition.
- Mankato Avenue, Target, turning lanes not well defined. Traffic in multiple lanes. RR track crossing is poor location for switching yard 10 – 15 minute delays are very common.

Truck Transport Concerns:

One of the main concerns expressed by businesses was the current truck route through the city. Many felt that it was confusing and poorly marked. A more direct and better-signed route is needed. Many firms have to give directions to truck drivers as they come into town to help them find the route. This causes lost time and frustration. Riverview Drive was also identified as a problem area with the stacking of grain trucks on each side of the road. This does not allow for the safe passage of normal east-west traffic. Staging areas for trucks must be found for this route to allow for safe automobile passage. Truck access to loading areas at various companies was also identified as an issue. Trucks backing in at loading docks often tie up traffic on numerous roads.

General Comments Related to Truck Transport:

- Look at traffic signals on 43 and 61. Very dangerous intersection for truck traffic.
- Truck routes not clearly marked. Truck routes not most direct routes. Poorly identified and routed truck route.
- Streets too narrow for truck routes with zigzagging route. Trucks cannot make turns. Need more room on streets for truck traffic.
- Access street to company does not allow a right hand turn. New truck routes must take this into account.
- Congestion near grain terminals causes congestion near 2nd and Huff. Trucks and clients cannot get through.
- No certified scales in town (industry wide and certified) trucks leave town not knowing whether they are legal.
- No truck parking area exists for overnight parking.
- Improved access to interstate bridge needed.
- Stop and go lights are not synchronized appropriately for volume and flow.
- Intersection of 14 and 61, not enough stacking distance for turning. May have to wait for three to four traffic light changes to turn.
- River Road by elevators is stacked on both sides with trucks during unloading. Not enough room for east and west traffic.
- Grain trucks limit Riverview Drive two-way traffic. When trucks are parked on shoulders regular traffic cannot get by.
- Turnaround space for loading docks. Trucks stop traffic while trying to back into loading docks.
- Egress/ingress off of Dike Road to 3rd Street would allow much easier access.

Barge Transport Concerns:

- Need additional transportation services (transfer facilities) to transfer barge cargo to rail or truck
- Need additional truck routes to the river
- Efficient barging and shuttling service needed

(All comments can be found in the Survey Results form found in Supporting Technical Document A.)

The general tone of the respondents was that the existing transportation system is adequate-to-good, but could be much better. Respondents expressed concern that if some of the current issues are not addressed, some transportation options within Winona could become cost prohibitive. Continued growth of business in Winona, coupled with the recently approved DM&E expansion, calls for immediate steps to address current concerns as well as future transportation issues.

Section 7 Current State of Winona Transportation

7.1 System Components

See System Component Map (Figure 7.1) attached to this document at the inside back cover. It serves to illustrate the major components of the existing Winona transportation system.

7.1.1 Highways

Winona is a major terminal location for commerce in the State of Minnesota; TH 61, TH 43, TH 14 and I-90 serve the City and Port of Winona (see Section 4.2 for further discussion).

7.1.2 Railroads

The Canadian Pacific Railway (CPR), Union Pacific Railroad (UP), and Dakota, Minnesota & Eastern Railroad (DM&E), provide freight rail service; and, Amtrak provides passenger rail service (via a CPR trackage agreement) within the City of Winona (see Section 3 for further discussion).

ESTIMATE OF RAIL VOLUMES THROUGH THE CITY OF WINONA BY 2020:

	# Trains
Baseline (2002)	30
3% Annual Increase	+ 14
DME Coal Trains	+ 8
Midwest Regional Rail Initiative	+ 12
Projected 2020 Train Volumes	64

7.1.3 Ports / Industry

Winona is a Mississippi River Port (with seven port terminals in total), accessing the Mississippi commercial navigation system. The City of Winona is an important regional trade center to the State of Minnesota (see Section 5 for further discussion).

7.1.4 Pedestrian and Bicycle Facilities

The City of Winona has developed a detailed bikeway route map that identifies both existing and planned facilities. The city also benefits from logical sidewalk connections to major destinations around town (see Section 7.2 for further discussion).

7.1.5 Transit

Winona offers bus transit services for its residents and universities, which provide logical connections at numerous locations through the city. A principal connection exists at the Amtrak station located at 65 E. Mark Street.

7.2 System Performance without Improvements (*Null Alternative*)

Increasing rail traffic by the Canadian Pacific (CP), Union Pacific (UP), and the Dakota, Minnesota & Eastern (DM&E) railroads presents significant issues for the City of Winona. In addition to national trends of bigger, longer trains, the recently approved DM&E "Powder River Basin Project" may substantially increase rail traffic beyond normal growth expectations and could have foreseeable impacts to the study area. The Surface Transportation Board's environmental analysis includes a threshold of 34 additional trains. Also, the Midwest Regional Rail Initiative could bring up to six round trip, high-speed passenger trains (12 trains total) through the City of Winona. With the potential for significant rail traffic increases on the horizon, the City of Winona's existing grade crossing measures may be inadequate. Also, the increase in rail traffic will undoubtedly create an undesirable increase in vehicle to rail conflicts.

Automobile and truck traffic has been increasing on the Minnesota Department of Transportation (Mn/DOT's) interregional corridors of TH 61 and TH 14, as well as TH 43, and has significantly impacted the local street system. Increased rail traffic presents a plethora of transportation issues that not only affect the rail crossings, but could also impact state and local roads.

In the interest of industrial and economic development, the City of Winona and the Winona Port Authority would like to maximize the growth potential of the Port. Investing in the Port would provide a unique opportunity to examine the intermodal freight (rail-truck-barge) environment in Winona. **If infrastructure improvements are not made, delays at key arterial crossings (due to increased rail movements) will further increase shipment delays to and from the port, as well as result in increased delays to the citizens of Winona, decreasing the quality of life in Winona.**

The City of Winona is in the process of expanding the Riverbend Industrial Park on the southeast section of the city. The City has proposed a Bundy Boulevard extension to facilitate circulation, particularly for heavy commercial traffic, between the industrial park and TH 61. The City believes heavy commercial traffic will use the new route, which in turn will provide relief to Mankato Avenue traffic congestion. **However, traffic projections and computer-assisted traffic simulations indicate that without additional access controls and intersection improvements on TH 61 and TH 43, and additional provisions for internal circulation to distribute traffic from the sites, significant traffic congestion will occur as Riverbend is developed. In particular, travel speeds on TH 61 and TH 43 could be reduced by up to 75%, with unacceptable gaps in traffic for safe and efficient access from intersecting roadways and driveways** (see Section 8.5 for further discussion).

As identified in the City of Winona Comprehensive Plan, providing safe and accessible routes for pedestrians and bicyclist is very important to the city. Winona currently benefits from a well-designed bike route network, as well as numerous sidewalk connections to major destinations in the city such as the downtown business area, the Riverbend Industrial Park and local schools and universities. However, as is the case with automobile traffic, bicyclist and pedestrians also face delays and safety problems at the numerous rail crossings. **The projected traffic increases will only make this situation worse**.

Lastly, as a result of the Rail Relocation Study (1976) and the Winona County Grade Crossing Safety Study (2000), the city has made significant progress in enhancing the quality of life for its citizens by consolidating crossings, and installing improved grade crossing warning devices. Due to the increasing population and the reality that each year local universities attract new students who may be unfamiliar with the rail crossing challenges that exist in Winona, more safety improvements must be made to meet this need.

The current transportation system in the City of Winona contains a number of challenging elements. **Projected increases in traffic volumes over the next 20 years, absent infrastructure improvements, will likely make this situation intolerable**.

Section 8 Issues and Opportunities for Improvements

8.1 Port Issues and Industrial Development Opportunities in Winona

The Port of Winona commercial harbor is a key transfer point for Minnesota's agricultural products and other commodities shipped down the Mississippi River to the Gulf of Mexico. The Port serves the entire southern portion of Minnesota and has both regional and statewide significance. Each year, over 2.8 million tons of freight passes through the Port of Winona. The economic impact of the Port is significant: in a 1999 study completed for the National Waterways Association, the economic value to the State of Minnesota for the Winona Port was estimated to be over $123 million while all water transportation was worth $1.2 billion to the state.

Figure 8-1: Looking east toward Winona Commercial Port.

Dredging

The Commercial Port of Winona is naturally protected from the main channel of the Mississippi River. Periodic dredging of the Port takes place as maintenance. The Port maintains a minimum draft of 9 feet, in accordance with the Nine-Foot Navigation Channel Project.[4]

The Port Authority of Winona developed a plan to dredge two areas of the harbor to create an additional staging area for the building and breaking up of tows and to increase the west fleeting area. The dredge material will be used to create the land and base for the recommended railroad overpass (grade separation) on Pelzer Street (see Section 9.2.1 for further discussion). The Port Authority must apply for and receive permits for the dredging of the commercial harbor and a permit for the disposal site, which will require some wetland mitigation.

Lock and Dam System

The Mississippi River Lock and Dam Navigation system was constructed in the1930's and is a vital part of the agricultural transportation system in the Midwest. Currently, the lower five locks on the Upper Mississippi are at, or are approaching capacity for today's waterborne freight movements; and, the United States Army Corps of Engineers is currently studying system improvements. Farmers and navigation interests support capacity improvements of the Lock and Dam system currently under study. However, at the time of this report the study work is being disputed.

[4] The nine-foot navigation channel project was originally constructed for the purpose of providing sufficient water depth for river traffic during low flows in the Mississippi River. Prior to this Corps of Engineers project, the Mississippi River occasionally had so little water that navigation was impossible. Since the lock and dam system was built in the 1930's, flatwater pools have been created and the water level has been relatively stable.

Land Access to the Port

Current access to the Port for both rail and commercial trucking is constrained by the limited right-of-way that is available along Riverview Drive and the levee. As access relates specifically to truck traffic, one of the more global issues that limits access to the Port is the ability of commercial drivers to negotiate through the City of Winona without significant delay. This delay is a result of blocked railroad grade crossings, no central off-site staging area for trucks along Riverview Drive and truck routing designations that may not adequately accommodate current and future trucking needs. The riverfront proprietary rail ownership of the UP also limits rail access.

8.2 Rail Access to the Port and Other Rail Issues

Port access in Winona, Minnesota consists of the Commercial Port and individual access by a number of industrial properties along the Mississippi River in Winona. The riverfront is protected by a levee system, which needs to be negotiated for loading and unloading activities. The Commercial Port is located on the west end of the city and the Union Pacific Railroad controls rail access. The Canadian Pacific Railway serves individual industrial properties along the east end of the riverfront via a rail spur that travels along the Wall Street right-of-way. See Figure 8-3 below.

Figure 8-2: Pelzer Street crossing looking east

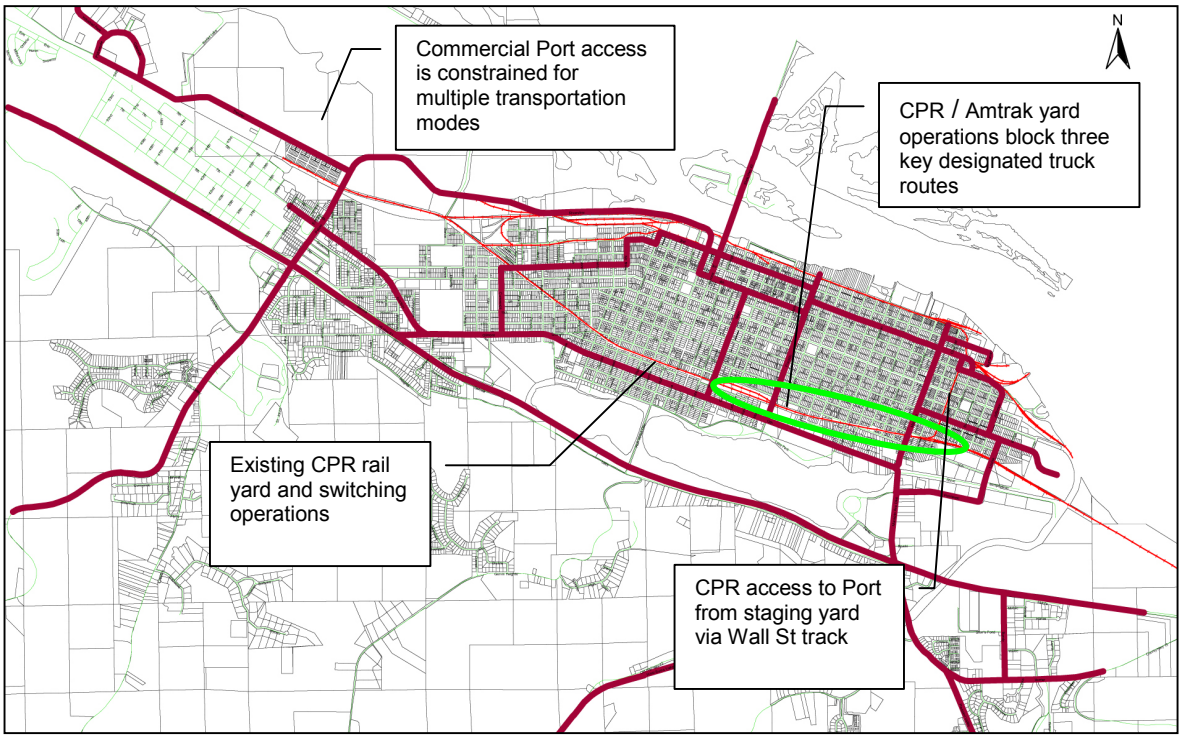


Figure 8-3 Current Port Access in Winona

Rail access to the east end of the Port (and access to the adjacent businesses) suffers as a result of the existing location of the Canadian Pacific Railway (CPR) rail yard and switching operations at the Amtrak Station (Lafayette Street and 11th Street). The current location of the CPR operation, in some cases, limits their ability to serve their customers in a timely manner. This is due, in part, to the Wall Street track connection. Perhaps more importantly is the issue that current CPR Amtrak yard operations significantly delay vehicular traffic at grade crossings from Main Street east to Mankato Avenue.

8.3 Truck Access to Industry and the Port

Figure 8-4: Traffic backup begins at the Pelzer crossing *Excessive backup is cleared upon train's departure*

As mentioned, the existing designated truck routes organize truck access in and around the City of Winona. Figure 8-5 illustrates the truck routing system currently in place in the city. Access to industry and the Port is provided by logical connections on both the east and west end of the city, and varying connections within the central business area leading to the river crossing to Wisconsin.

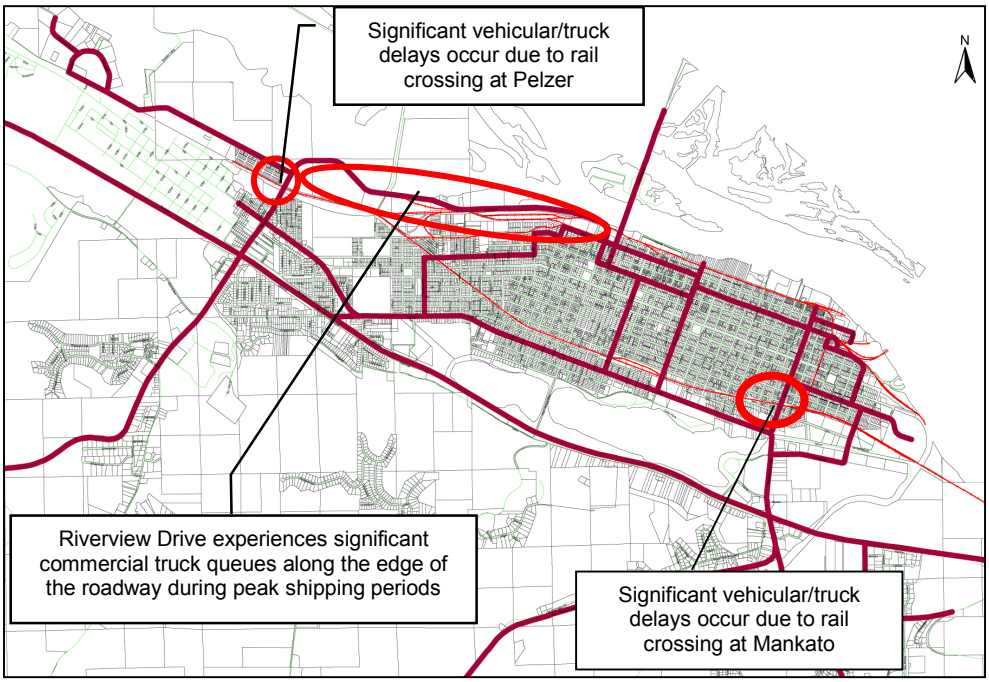


Figure 8-5 City's current truck routing system

There are several issues that make travel for commercial vehicles time consuming within the City of Winona. Perhaps the most prevalent of these issues is delay at railroad grade crossings. Oftentimes, heavy rail service occurs simultaneously with peak shipping periods for trucks. Nowhere is this issue more prevalent than Pelzer Street, located in the northwestern section of the city.

Access to the Commercial Port on the west end of the city is constrained in terms of truck, rail and, to a lesser extent, barge access. Truck traffic suffers from limited roadway right-of-way due to the physical constraints placed on Riverview Drive. As a result, Riverview Drive experiences significant peak-hour shipping queues alongside the roadway. Having no universal offsite truck staging area creates both visual and physical obstacles to other motorists using Riverview Drive during these periods.

As illustrated in Figure 8-5, commercial truck access to the central area of the city is provided by east end and west end connections via US 61 to Mankato Avenue, US 61 to Sarnia, and, to a lesser extent, US 61 to Pelzer Street. While being relatively adequate, the two principal connections of Mankato and Sarnia do not offer the most direct route to the central business district or industries along the river.

8.4 Grade Crossings, Traffic, Grade Separations and ADT's

This study examined at current vehicular and rail traffic in addition to estimated traffic volumes in 2020 at existing grade crossings in Winona. These estimated rail volumes include the addition of:

- 14 CPR trains based on an annualized growth of 3%
- Up to 8 DM&E trains
- 12 Amtrak trains as part of the Midwest Regional Rail Initiative

As rail traffic volumes increase, the exposure factor to vehicles at grade crossings will also increase. Exposure factor is defined as the average daily vehicular traffic volume (ADT) at a crossing, multiplied by the number of trains. Significant delays to motorists already occur at several grade crossings in Winona. Without the addition of grade separations (overpasses or underpasses) and relocation of rail switching operations, the situation will likely get worse. Grade separations are proposed for the east end of the city at Bundy Blvd. extended (9.2.2.2), in the center of the city at Huff Street (9.2.3) and the west end at Pelzer Street (9.2.1). The construction of these grade separations will alleviate traffic congestion and improve public safety and access to the Port. The relocation of switching activities would eliminate the Wall Street track and switching at Levee Park. This will significantly reduce vehicle delays currently experienced at Mankato Avenue, and improve public safety and access to the riverfront.

Table 8-1 illustrates the current and future vehicular traffic volumes and exposure factors at various crossings, with and without the recommended infrastructure improvements. If all proposed improvements identified in Section 9 of this study are constructed, **a total of 13 at-grade crossings would be consolidated, and exposure factors would be reduced by approximately 30%** compared to the no-build alternative. Overall, citywide train-vehicle conflicts, as measured by the exposure index, would be reduced by over

TABLE 8-1
Grade Crossing Data

								AFTER IMPROVEMENTS						BEFORE IMPROVEMENTS						AFTER IMPROVEMENTS					
		Current	Current Number Of Trains				Exposure	Current	Current Number Of Trains				Exposure	2020	Future Number Of Trains *				Exposure	2020	Future Number Of Trains *				Exposure
City	Location	AADT	Frt	Pass.	Switch	Total	Factor	AADT	Frt	Pass.	Switch	Total	Factor	AADT	Frt	Pass.	Switch	Total	Factor	AADT	Frt	Pass.	Switch	Total	Factor
WINONA (Riverfront)	RIVERVIEW DR.	9,200	0	0	10	10	92,000	9,200	0	0	10	10	92,000	10,000	0	0	10	10	100,000	10,000	0	0	12	12	120,000
WINONA (Riverfront)	WALNUT ST	402	0	0	10	10	4,020	402	0	0	10	10	4,020	500	0	0	10	10	5,000	500	0	0	12	12	6,000
WINONA (Riverfront)	FRANKLIN ST	411	0	0	10	10	4,110	411	0	0	10	10	4,110	500	0	0	10	10	5,000	700	0	0	12	12	8,400
WINONA (Riverfront)	KANSAS ST	161	0	0	4	4	644	0	0	0	4	4	0	200	0	0	4	4	800	0	0	0	4	4	0
WINONA (Riverfront)	LIBERTY ST	159	0	0	4	4	636	0	0	0	4	4	0	200	0	0	4	4	800	0	0	0	4	4	0
WINONA (Riverfront)	LAIRD ST	282	0	0	4	4	1,128	282	0	0	4	4	1,128	330	0	0	4	4	1,320	550	0	0	4	4	2,200
WINONA (Riverfront)	HAMILTON ST	932	0	0	4	4	3,728	932	0	0	4	4	3,728	1,150	0	0	4	4	4,600	1,150	0	0	4	4	4,600
WINONA (Wall Street)	2ND	268	0	0	4	4	1,072	268	0	0	0	0	0	300	0	0	4	4	1,200	300	0	0	0	0	0
WINONA (Wall Street)	3RD	502	0	0	4	4	2,008	502	0	0	0	0	0	550	0	0	4	4	2,200	550	0	0	0	0	0
WINONA (Wall Street)	4TH	332	0	0	4	4	1,328	332	0	0	0	0	0	360	0	0	4	4	1,440	360	0	0	0	0	0
WINONA (Wall Street)	5TH	268	0	0	4	4	1,072	268	0	0	0	0	0	300	0	0	4	4	1,200	300	0	0	0	0	0
WINONA (Wall Street)	BROADWAY (6TH)	1,284	0	0	4	4	5,136	1,284	0	0	0	0	0	1,500	0	0	4	4	6,000	1,500	0	0	0	0	0
WINONA (Wall Street)	WABASHA (7TH)	268	0	0	4	4	1,072	268	0	0	0	0	0	300	0	0	4	4	1,200	300	0	0	0	0	0
WINONA (Wall Street)	SANBORN (8TH)	2,600	0	0	4	4	10,400	2,600	0	0	0	0	0	3,000	0	0	4	4	12,000	3,000	0	0	0	0	0
WINONA (Wall Street)	KING (9TH)	482	0	0	4	4	1,928	482	0	0	0	0	0	530	0	0	4	4	2,120	530	0	0	0	0	0
WINONA (CP Main)	LOUISA ST	870	24	2	2	28	24,360	870	0	0	0	0	0	1,200	46	12	2	60	72,000	0	46	12	2	60	0
WINONA (CP Main)	MANKATO ST	8,000	24	2	4	30	240,000	8,000	24	2	4	30	240,000	11,200	46	12	4	62	694,400	11,200	46	12	0	58	649,600
WINONA (CP Main)	HAMILTON ST	2,050	24	2	4	30	61,500	2,050	24	2	4	30	61,500	2,900	46	12	4	62	179,800	2,900	46	12	0	58	168,200
WINONA (CP Main)	FRANKLIN ST	3,850	24	2	4	30	115,500	3,850	24	2	4	30	115,500	5,390	46	12	4	62	334,180	5,390	46	12	0	58	312,620
WINONA (CP Main)	MAIN ST	5,900	24	2	8	34	200,600	5,900	24	2	8	34	200,600	8,260	46	12	8	66	545,160	7,430	46	12	0	58	430,940
WINONA (CP Main)	HUFF ST	12,500	24	2	4	30	375,000	12,500	0	0	0	0	0	17,500	46	12	4	62	1,085,000	17,500	0	0	0	0	0
WINONA (CP Main)	GRAND ST	723	24	2	4	30	21,690	723	24	2	4	30	21,690	1,100	46	12	4	62	68,200	1,100	46	12	0	58	63,800
WINONA (CP Main)	SIOUX ST	630	24	2	4	30	18,900	630	24	2	4	30	18,900	900	46	12	4	62	55,800	900	46	12	0	58	52,200
WINONA (CP Main)	HOWARD ST	630	24	2	4	30	18,900	630	24	2	4	30	18,900	900	46	12	4	62	55,800	900	46	12	0	58	52,200
WINONA (CP Main)	S BAKER ST	2,400	24	2	4	30	72,000	2,400	24	2	4	30	72,000	3,360	46	12	4	62	208,320	3,360	46	12	0	58	194,880
WINONA (CP Main)	WABASHA ST	630	24	2	4	30	18,900	630	24	2	4	30	18,900	630	46	12	4	62	39,060	630	46	12	0	58	36,540
WINONA (CP Main)	BROADWAY ST	10,400	24	2	4	30	312,000	10,400	24	2	4	30	312,000	14,500	46	12	4	62	899,000	14,500	46	12	0	58	841,000
WINONA (CP Main)	JACKSON ST	100	24	2	4	30	3,000	100	24	2	4	30	3,000	120	46	12	4	62	7,440	120	46	12	0	58	6,960
WINONA (CP Main)	5TH ST	7,600	24	2	4	30	228,000	7,600	24	2	4	30	228,000	9,000	46	12	4	62	558,000	9,000	46	12	0	58	522,000
WINONA (CP Main)	BIERCE ST	630	24	2	4	30	18,900	630	24	2	4	30	18,900	630	46	12	4	62	39,060	630	46	12	4	62	39,060
WINONA (CP Main)	PELZER ST	6,300	24	2	4	30	189,000	6,300	0	0	0	0	0	8,800	46	12	4	62	545,600	8,800	0	0	0	0	0
WINONA (CP Main)	41ST ST	1,380	24	2	0	26	35,880	1,380	24	2	0	26	35,880	3,500	46	12	0	58	203,000	3,500	46	12	0	58	203,000
WINONA (CP Main)	54TH AVE	2,000	24	2	0	26	52,000	2,000	24	2	0	26	52,000	4,000	46	12	0	58	232,000	4,000	46	12	0	58	232,000

Exposure Reduction After Improvements 28.7%

Exposure Reduction After Improvements 33.9%

* Assumes: 8 additional DM&E trains
14 additional CPR trains (3% annualized growth)
10 additional Amtrak trains (High Speed Rail Initiative)

Revised: February 5, 2002

30% with the proposed grade crossing consolidations. The proposed Huff (9.2.3) and Johnson (9.2.4) underpasses would also significantly reduce train-pedestrian conflicts.

8.5 Riverbend Industrial Park - Impact on Interregional Corridor (IRC) Operations

The City Of Winona is currently in the process of developing a new retail mixed-use industrial park in the southeastern section of the city adjoining Minnesota Trunk Highways (TH) 61 and 43. As described in Section 4, both TH 61 and TH 43 are included in the state's Interregional Corridor (IRC) system. To assure suitable interregional mobility will be maintained on TH's 61 and 43 while providing reasonable access to the developing retail/industrial park and existing business, detailed traffic studies were conducted as part of this Intermodal Transportation study.

Figure 8-6 Trunk Highways 61 & 43

8.5.1 Proposed Development

In the interest of economic and industrial development, Riverbend Industrial Park is being developed on an approximate 116-acre tract, partially on "reclaimed" lands within the flood protection levee— using disposal fill from Lake Winona dredging operations. Combined with adjoining redevelopment of two commercial zones adjoining TH 43 at Frontenac Drive, as shown on Figure 8.7, the project will contain nearly 130 acres of new retail and light industrial development and right-of-way.

Construction of a new 160,000 square foot Menards store is slated to begin this spring. Overall, approximately 650,000 square feet of new retail-commercial building space on 46 acres is anticipated, located between Frontenac and Bruski Drives, and Mankato Avenue. The remaining 82 acres east of Bruski Drive and north of Frontenac Drive are to be developed/redeveloped for light industrial use. Full build-out of Riverbend is anticipated over the next ten to twelve years.

8.5.2 Projected Future Traffic

Full build-out of the proposed Riverbend Industrial Park is anticipated to add approximately 3100 peak-hour vehicle trips to the adjoining roadway network. Of these, approximately 1240 are anticipated to be inbound trips, 1860 outbound. Together, with growth in "non-Riverbend" trips, traffic volumes on TH 61 and TH 43 are expected to grow between 2001 and 2020 by approximately 40 to 90 percent, as illustrated on Figure 8.7. Largest increases are expected on TH 43 (Mankato Avenue) between TH 61 and Sarnia, and on TH 61 west of TH 43.

Trucks account for approximately 4 to 6 percent of peak-hour traffic on TH 43 and on TH 61 west of TH 43; 7 to 10 percent on TH 61 east of TH 43.

Details of the traffic projections, including existing 2001 counts, trip generation by land use types, anticipated travel routings including diversions from Mankato Avenue to the proposed Bundy Boulevard extension, "pass-by" trip adjustments, non-Riverbend traffic growth and truck volumes are contained in the separate Riverbend Industrial Park Traffic Report.

8.5.3 Access Management and System Performance

As described in Section 4.2, draft guidelines have been established for operations and access management on Minnesota's Interregional Corridor system, including TH's 61 and 43. Access management spacing guidelines for intersections, signals and driveways are appropriate to consider as areas redevelop or improvements are made. Table 8.2 compares current conditions on both routes to the guidelines.

TH 61, in the study area (Huff to Bundy), has been tentatively classified under Access Category 2A, with a current posted speed limit of 55 mph, consistent with typical conditions for Category 2A. Current "full movement" intersections at Parks, TH 43 (Mankato), Fleet Farm/Sugar Loaf View and Bundy Boulevard are spaced at 0.30, 0.25 and 0.40 miles. These spacings are closer than the recommended one-mile minimum spacing. While signals are "strongly discouraged" on Category 2A routes, "deviation" guidelines would apply to the existing signal at TH 43. Consistent with the guidelines, no private access or conditional intersections exist.

TH 43, in the study area (CSAH 17 to Sarnia), has been tentatively classified by Mn/DOT under Category 3B. As shown in Table 8-2, current speed limit, intersection spacing signal spacing and private access conditions are generally more consistent with Category 3C guidelines. Numerous private driveways currently exist with full access movements allowed.

Current and projected (i.e., with 2020 projected traffic demands) operating conditions on TH's 61 and 43 are summarized on Table 8-3. The operating conditions were analyzed using computerized traffic simulation models. The traffic analysis software used was Synchro Plus SimTraffic, Version 5, which integrates Synchro signal timing optimization programs with "microscopic" simulation and animation of traffic flow, produced through SimTraffic. These programs are commonly used for traffic analysis by Mn/DOT and others, and for related studies on TH 61 to the north of Huff Street in Winona.

Table 8-3 compares both intersection "service levels" and average travel speed and delays for through traffic movements on each route. Intersection service levels are shown for:

- Overall intersection operation
- Mainline thru and turn movements (movement with most restrictive service level shown)
- Side-street movements (movement with most restrictive service level shown)

To retain interregional mobility while providing safe and efficient access from adjoining development, two basic criteria must be met:

- Maintain effective through traffic travel speeds (avoid or minimize increased delay due to congestion or proliferation of traffic signals)
- Provide acceptable service levels to/from access crossroads and driveways

TABLE 8-2
ACCESS MANAGEMENT
COMPARISON TO DRAFT GUIDELINES

	Category	Area or Facility Type	Typical Function Class/Posted Speed	Intersection Spacing		Signal Spacing	Private Access	Comments
				Primary Full Movement Intersection	Conditional Secondary Intersection			
TH 61	Medium Priority Interregional Corridors							
Draft Guideline	2A	Rural/ Exurban/ Bypass	Principal 55 - 65 mph	1 mile	1/2 mile	**STRONGLY DISCOURAGED** by Deviation Only	By Exception or Deviation Only	
Current								
Huff to TH 43			55	1.25, 0.30	None	1.55	None	
TH 43 to Bundy			55	0.25, 0.40	None	None	None	Fleet Farm/Sugar Loaf View Access Considered "Public"
TH 43 - Mankato Ave. High Priority Regional Corridor								
Draft Guideline	3B	Urban/ Urbanizing	Principal and Minor Arterials 40 - 45 mph	1/2 mile	1/4 mile	1/2 mile	By Exception or Deviation Only	
Draft Guideline	3C	Urban Core	Principal and Minor Arterials 30 - 40 mph	300-660 feet (.06 - .13 miles) dependent upon block length		1/4 mile	Permitted Subject to Conditions	
Current								
CSAH 17 to TH 61			40	0.10, 0.07, 0.08	None	0.25	2 Driveways West Side	Sugar Loaf/Kwik Trip Access Considered "Public"
TH 61 to Sarnia			30	0.12, 0.08, 0.18, 0.13	None	0.20, 0.18	13 Driveways East Side 1 Driveway West Side	

(1) RIRO = Right-In/Right Out Only
(2) Deviation = Allowed under defined permit process with detailed safety and operational analysis.
(3) Exception = Allowed under defined permit process when review criteria are met; generally for relatively low volume locations.

TABLE 8-3
RIVERBEND INDUSTRIAL PARK
TRAFFIC IMPACT STUDY

INTERSECTION SERVICE LEVEL* AND TRAVEL SPEED IMPACTS ON TH 61 AND TH 43

	Existing 2001				2020 Baseline				2020 with Basic Access Modifications				2020 with Proposed Access Modifications			
	Int.	Mainline		Side-Street	Int.	Mainline		Side-Street	Int.	Mainline		Side-Street	Int.	Mainline		Side-Street
		Thru	Turn			Thru	Turn			Thru	Turn			Thru	Turn	
TH 61																
at Huff	C	D	D	E	C	C	D	F	C	C	D	D	C	C	D	D
at Parks	A	A	A	B	B	A	B	D	A	A	A	C	A	A	A	C
at TH 43 (Mankato Ave)	C	C	D	D	D	D	F	F	D	D	D	D	D	D	D	D
at Fleet Farm/Sugar Loaf	A	A	A	F	A	A	B	F	A	A	A	B	A	A	A	B
at Bundy	A	A	A	F	A	A	B	F	C	B	E	F	-	-	-	-
EB Average Speed (mph)	44				22				38				41			
WB Average Speed (mph)	37				38				36				34			
EB Average Delay (sec/veh)	41				214				76				58			
WB Average Delay (sec/veh)	79				78				90				101			
TH 43 (Mankato Ave.)																
at Sarnia	A	B	C	C	C	F	F	A	B	D	D	B	C	B	D	D
at Frontenac	A	A	A	C	E	D	F	F	D	B	F	F	B	B	C	D
at Target	A	A	A	C	B	A	A	D	C	B	D	E	B	A	D	D
at Bruski	A	A	B	F	D	A	A	F	A	A	A	D	A	A	B	D
at TH 61	C	C	D	D	D	E	F	F	D	D	D	D	D	C	D	D
at CR 17/Homer	A	B	A	A	B	D	A	A	A	D	A	A	B	D	A	A
NB Average Speed (mph)	23				6				14				20			
SB Average Speed (mph)	23				12				20				22			
NB Average Delay (sec/veh)	64				761				206				94			
SB Average Delay (sec/veh)	63				283				100				80			

*Intersection Service Level Descriptions:

(A) </= 10 seconds delay. Extremely favorable progression. Most vehicles do not stop.
(B) >10 and </=20 seconds average delay. Good progression. More vehicles stop than with Level Of Service A
(C) >20 and </=35 seconds average delay. Fair progression. Cycle failures begin to appear. Significant number of stopped vehicles, though many vehicles pass through without stopping
(D) >35 and </=55 seconds average delay. Unfavorable progression. Noticeable cycle failures. Many vehicles stop. Influence of congestion becomes noticeable.
(E) >55 and </=80 seconds average delay. Poor progression. Frequent cycle failures.
(F) >80 seconds average delay. Unacceptable to most drivers. Demand often exceeds capacity.

"2020 Baseline" conditions shown in Table 8-3 indicate the projected impact on both intersection service levels and travel speeds without any upgrade in access or roadway characteristics. The "baseline" conditions assume only optimization of existing traffic signal timing for 2020 volumes, including coordination of existing signals along Mankato Avenue.

The projected 2020 Baseline conditions show that without access upgrades, travel speeds can be expected to decrease by up to 75 percent, with particularly unacceptable travel speeds on Mankato Avenue, (6 mph northbound, 12 mph southbound) and eastbound on TH 61 (22 mph). Also, unacceptable intersection service levels (Service Level "F") can be expected for:

- Access from Huff, Mankato, Fleet Farm/Sugar Loaf View and Bundy to TH 61
- Access from Frontenac, Bruski and TH 61 to TH 43
- Mainline movements on TH 43 at Sarnia,
- Frontenac and TH 61
- Mainline movements on TH 61 at TH 43

Table 8.3 also demonstrates that providing improved access management on TH's 61 and 43 using the Interregional Corridor Access Management guidelines can provide significant improvements in operations and intersection service levels on both TH 61 and TH 43. In particular, the "recommended" access modifications (see Section 9.3) can significantly reduce the impact of projected future traffic demands on the Interregional Corridors. They include improved internal circulation within Riverbend Industrial Park to reduce traffic volumes and turns and the need for private driveways on TH 43.

As shown in Table 8.3, application of the guidelines with "basic" access and operational modifications would improve travel speeds overall and service levels at most locations. Access concerns on TH 61 at Fleet Farm/Sugar Loaf View and TH 43 at Bruski Drive/Parks require further discussion and consideration for modification. The "basic" modifications presented for consideration include:

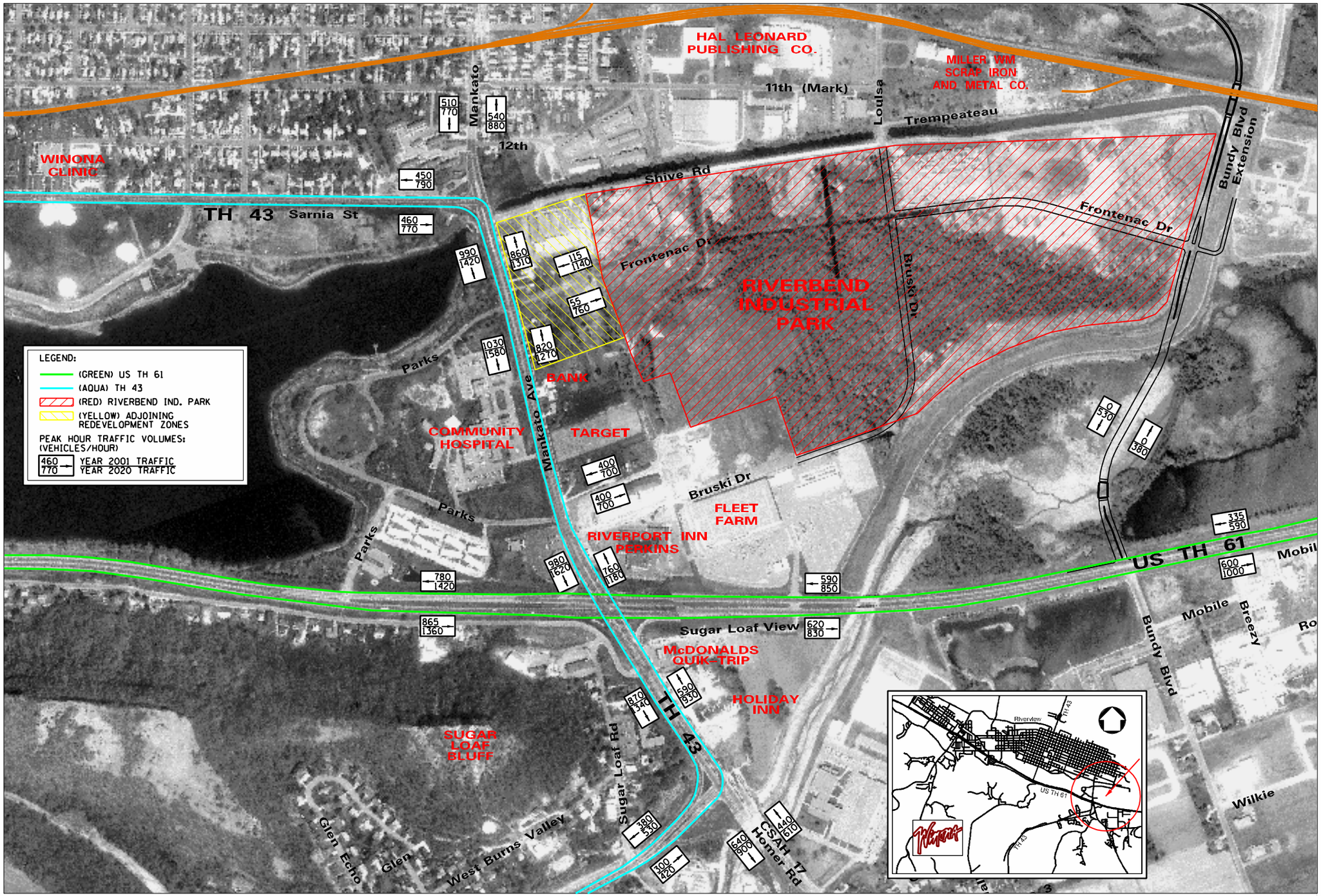
- Median closure with right-in, right-out (RIRO) access on TH 61 at Parks
- RIRO access at all private driveways
- Installation of traffic signals on TH 43 at Sarnia and TH 61 at Bundy Blvd. (latter installation on a temporary basis if adequate funding for recommended interchange is not initially available (see Section 9.3)
- Addition of dual left-turn lanes at heavy left-turn locations, including all TH 61 at TH 43 approaches
- Interconnected, coordinated signal operation along Mankato Avenue to optimize through-traffic progression

Traffic simulation analysis of the "basic" modifications, however, illustrates that the resultant "funneling" of Riverbend traffic through Frontenac Avenue, with multiple turns and short weaving movements on TH 43 to reach Sarnia Street, produces unacceptable traffic operations on TH 43 between Frontenac Drive and Sarnia Street. The Frontenac intersection, in particular, would operate at unsatisfactory service Level "F", with peak hour vehicle queues extending into and thru adjoining Sarnia and Target intersections along TH 43.

To improve operations on TH 43 by providing alternate access routes to Riverbend, the recommended access modifications (see Section 9.3) include extension of Sarnia to the east connecting to enhanced Riverbend internal circulation facilities, coupled with retention of a full service movement intersection at Bruski-Parks.

8.5.4 In Summary

With the recommended access and operational improvements, the simulation analysis demonstrates that acceptable or better peak hour service levels, (i.e., Level "D" or better) can be attained on both TH 61 and TH 43 with projected 2020 traffic demands, including full Riverbend Industrial park build-out. Moreover, as shown in Table 8.3, through-traffic travel speeds can be maintained near current levels, even with the projected 40 to 90 percent increase in traffic volumes. The added Bundy Boulevard, Sarnia Extension and internal circulation will also provide and encourage use of alternate access routes and reduce reliance on TH 43 during peak periods.



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DRAWN BY:

CHECKED BY: DRL

DATE: 03/29/02

3	03/29/02	FINAL PHASE 1
2	01/31/02	TS & L
1	11/12/01	PRELIMINARY

RIVERBEND INDUSTRIAL PARK

SHEET TITLE
PROJECTED TRAFFIC GROWTH ON THs 61 AND 43

SHEET NUMBER
FIGURE 8-7

Section 9 Analysis and Conceptual Designs

9.1 Proposed Rail Realignments

9.1.1 CPR Mainline Relocation

CPR operates a main track through Winona and currently crosses 16 streets at grade. Switching of cars causes significant vehicular delays particularly at Mankato Avenue, along with slow moving trains operating through a residential neighborhood along Wall Street to access riverfront industries at the east end of the City.

To relocate the CPR mainline to the Winona riverfront, it would be necessary to construct a double–track, direct-track connection to the Riverfront Industrial track behind Peerless Chain and reconstruct the existing Riverfront Industrial tracks to accommodate mainline track, high-speed operations (30 mph). Additionally, the CPR main track from Louisa to a point East of Bierce Street would need to be removed, as well as the removal of the Wall Street track. Relocating the existing CPR mainline would eliminate train operations through the central portion of the city.

In order to achieve this, the City will need to secure funding for the project, obtain the concurrence of CPR and UP, determine the associated right-of-way acquisition and displacement costs of all potentially impacted businesses and residents, and lastly, gain the approval by the Federal Surface Transportation Board for the relocation.

Benefits:

- Removes CPR main track through the City and 13 grade crossings.
- Removes Wall Street track and 7 grade crossings.
- Eliminates switching conflicts at Mankato Avenue.

Negative Impacts:

- Requires additional right-of-way that will have an adverse affect on residential areas on the east side of the city and on local industry.
- Relocates train operations to the Riverfront, permanently blocking access to the river and recreation
- Adverse environmental impacts
- Restrictive track geometry will limit train speed that will cause delays at all remaining crossings.
- Significant potential impacts to Mississippi River Levee
- Inconsistent with goals established in the City of Winona Comprehensive Plan (1995)
- Displaces the Amtrak Station

This alternative is not recommended for further development due to extremely high construction costs, negative impacts as outlined above, and conflicts with previously established community plans and objectives.

RECOMMENDED NOT RECOMMENDED

9.1.2 Wall Street Track Elimination

CPR operates over the Wall Street track to access riverfront industries (see Figure 9-1 below). The Industrial track connects the CPR mainline with local industries along the east end of Winona. The track is located within the roadway right-of-way for a distance of approximately 2800 feet and intersects with seven (7) cross streets and thirty (30) driveways. The switching of cars from the CPR mainline to the Wall Street spur along with slow moving trains operating through a residential neighborhood along Wall Street causes significant delays to vehicular traffic at Mankato Avenue.

9.1.2.1 CPR Wall Street Replacement Concept I (East End Track Connection)

The construction of a siding extension along the CPR mainline east of Louisa and the construction of a direct track connection to the riverfront industrial track behind Peerless Chain to access riverfront industries is proposed. In addition, the removal of the Wall Street track is proposed.

Benefits:

- Removes Wall Street track and 7 grade crossings.
- Eliminates most of the switching conflicts at Mankato Avenue.
- Siding extension allows all switching to be done from the siding, eliminating interference with mainline train movements and lengthy delays at crossings.

Negative Impacts:

- Some switching activity will still occur over Mankato Avenue.
- Adverse environmental impacts
- Restrictive track geometry, potential impacts to Mississippi River Levee

This alternative is not recommended for further development due to the necessary additional right-of-way, and its impact to the local industry.

Figure 9-1: CPR Wall Street track is street running (within roadway ROW).

RECOMMENDED NOT RECOMMENDED

9.1.2.2 CPR Wall Street Replacement Concept II (West End Access)

CPR operates over the Wall Street track to access riverfront industries. The Industrial track connects the CPR mainline with local industries along the east end of Winona. The track is located within the roadway right-of-way for a distance of approximately 2800 feet and intersects with seven (7) cross streets and thirty (30) driveways. The switching of cars from the CPR mainline to the Wall Street spur along with slow moving trains operating through a residential neighborhood along Wall Street causes significant delays to vehicular traffic at Mankato Avenue.

It is recommended that 2 new tracks be constructed near the UP west end yard to allow CPR to access riverfront industries from the west. Operating agreements between CPR and UP need to be updated and the Wall Street track will need to be removed.

Benefits:

- Removes Wall Street track and 7 grade crossings.
- Consolidates switching movements of all railroads.
- Eliminates most of the switching conflicts at Mankato Avenue.
- Improves the quality of life for the citizens of Winona.

Negative Impacts:

- Requires modifications to storm water detention area near UP yard.
- Requires CPR to operate over UP tracks.
- Increases train movements in Winona from the west.

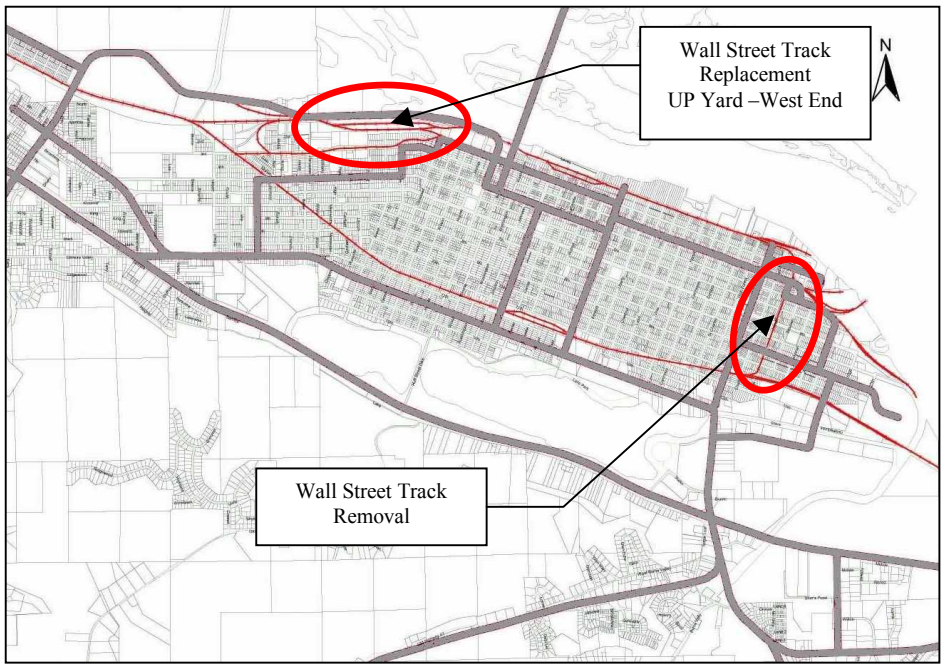

Figure 9-2 Wall Street

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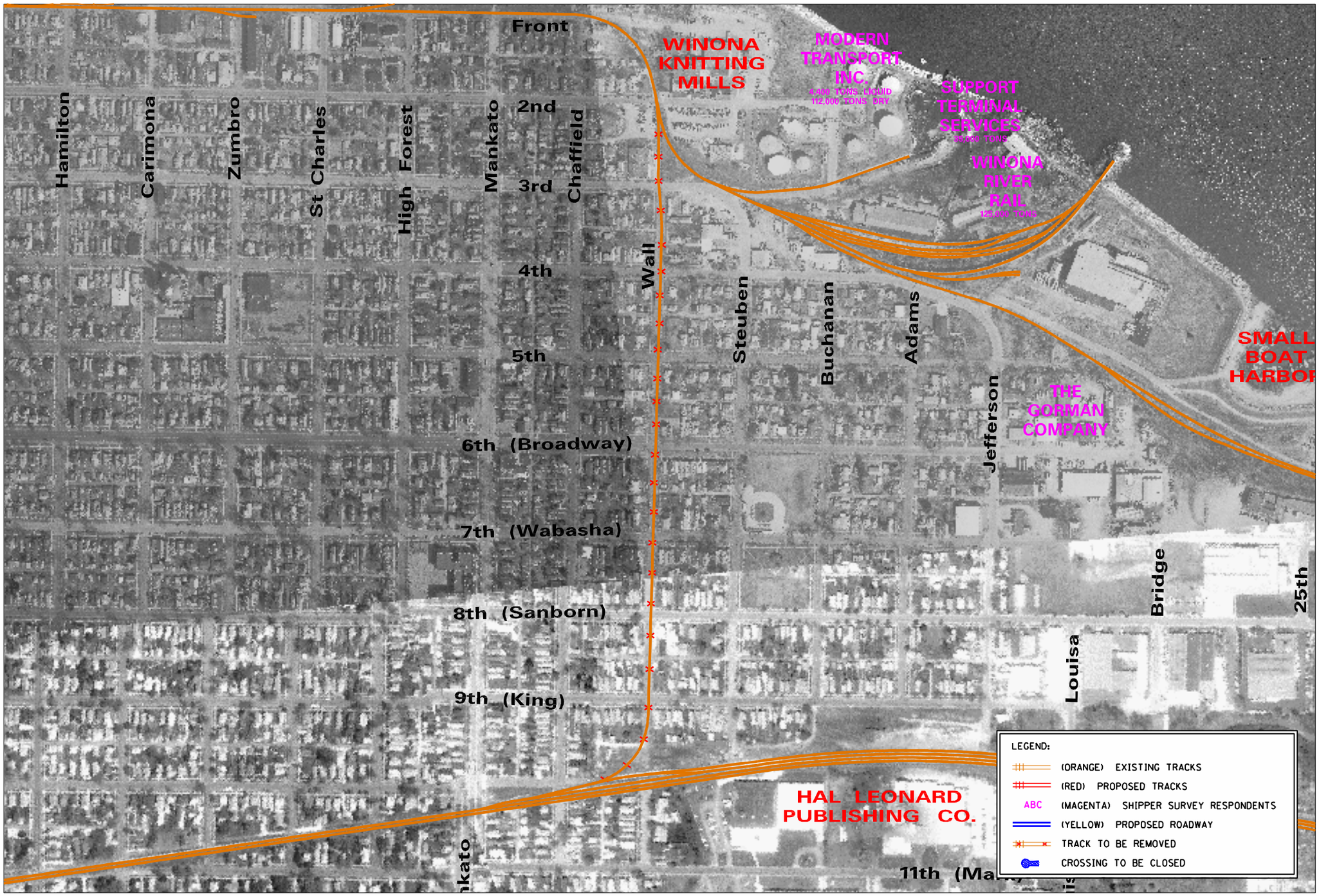
WALL ST.

SHEET TITLE

UP YARD
TRACK CHANGES
WALL ST. REPLACEMENT

SHEET NUMBER

FIGURE 9-3



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WALL ST.

SHEET TITLE

WALL ST.
TRACK REMOVAL

SHEET NUMBER

FIGURE 9-4

9.1.3 Levee Park Yard Relocation

Rail cars are stored and switched at Levee Park Yard, which is located directly south of the City of Winona's Levee Park. Levee Park serves as the City's main riverfront recreation area. The park features lookout vistas of the Mississippi River, multi-use paths, ample parking, and is a principal connection and focal point for the city's bikeway system. The current rail operations directly adjacent to Levee Park greatly limit access and obstruct the view of the park and the river from the downtown area. Operations also limit the linkage of the historic district to Levee Park.

It is recommended that two (2) new substitute storage tracks near the existing UP switching yard (west end) and three (3) new switching tracks east of Bay State Milling be constructed to replace the required yard storage. This alternative also proposes to close grade crossings at Kansas and Liberty Streets and construct an alternate circulation route for access to the properties located north and east of Bay State Milling, and remove the Levee Park Yard tracks. The single industrial lead track would remain.

Benefits:

- Removes Levee Park Yard rail traffic.
- Provides for a significant safety and access improvement for park users, greatly improving the quality of life for the citizens of Winona.
- Eliminates Bay State's switching in Levee Park Yard.
- Reduces switching across Walnut Street.
- Allows for redevelopment of Levee Park Yard property.
- Provides for future growth of rail traffic at riverfront industries.
- Closes two public grade crossings

Negative Impacts:

- Requires switching by Bay State Milling over 2 grade crossings to their east.
- Track construction near UP yard requires modification of storm water detention area.
- Circulation road construction required, maintaining access to properties north and east of Bay State Milling.
- Requires minimal additional right-of-way.

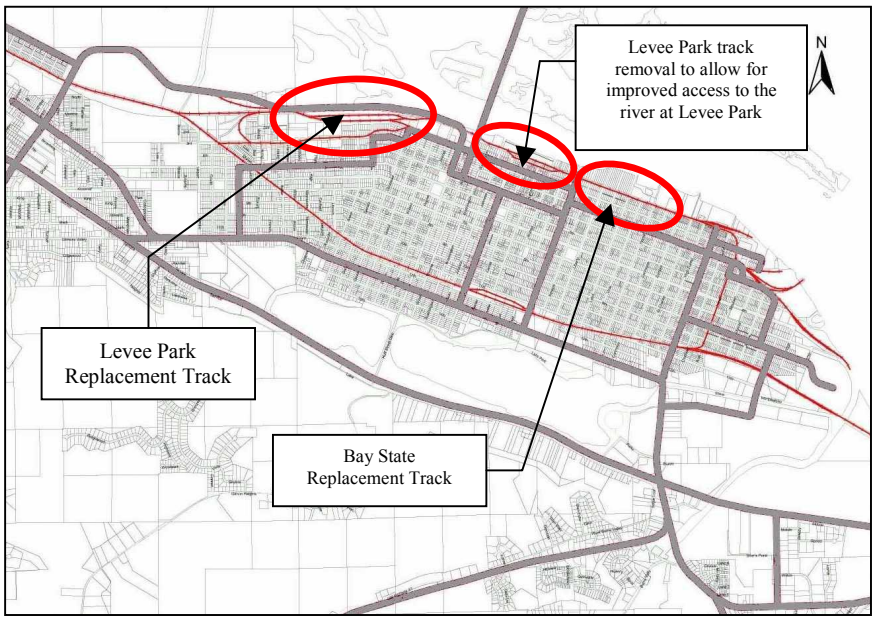
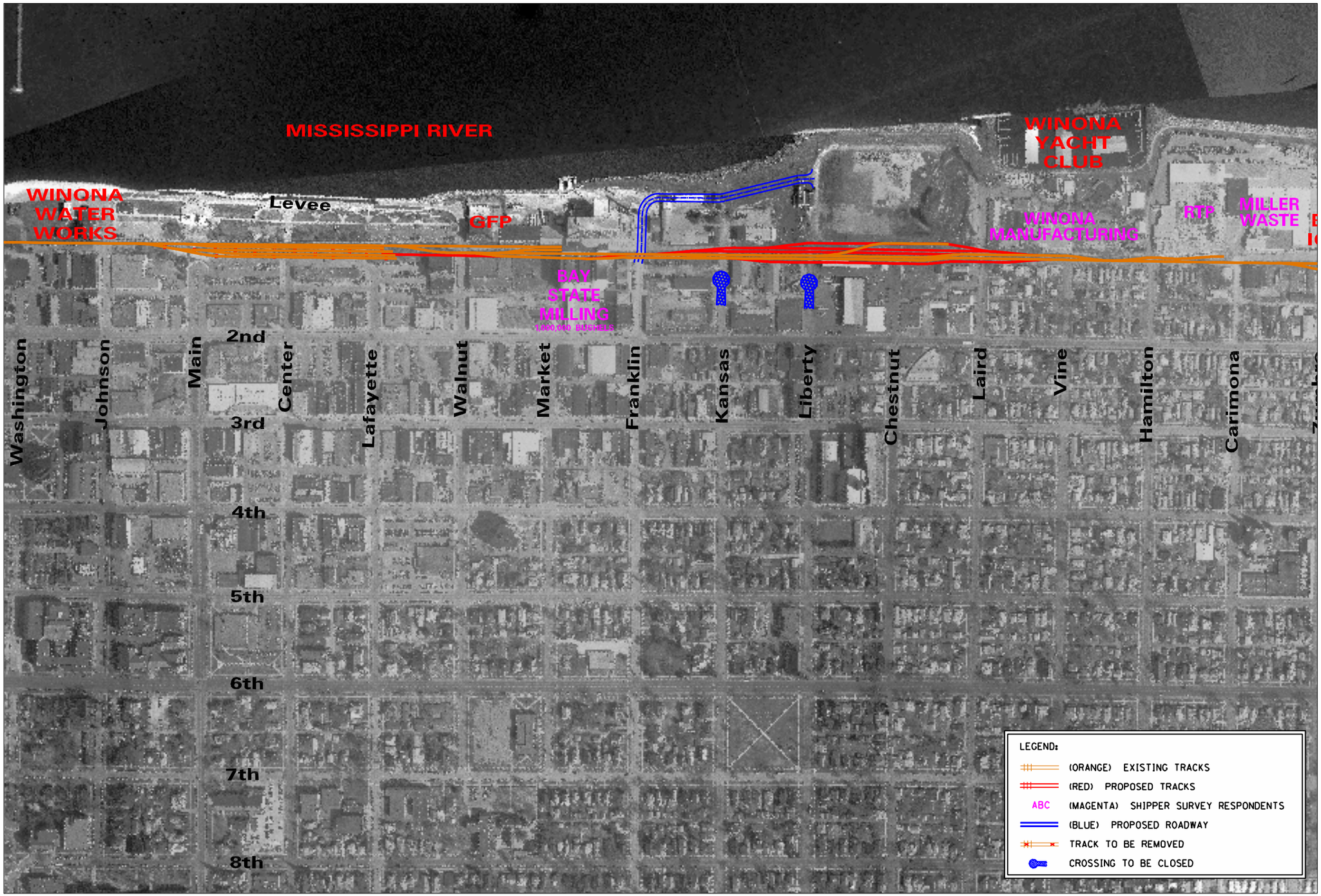


Figure 9-5

RECOMMENDED NOT RECOMMENDED

9.1.3.1 Levee Park (Stage 1)

Substitute Storage Tracks in UP Yard



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LEVEE PARK

SHEET TITLE

LEVEE PARK YARD TRACK AND ROADWAY REMOVALS AND REPLACEMENTS

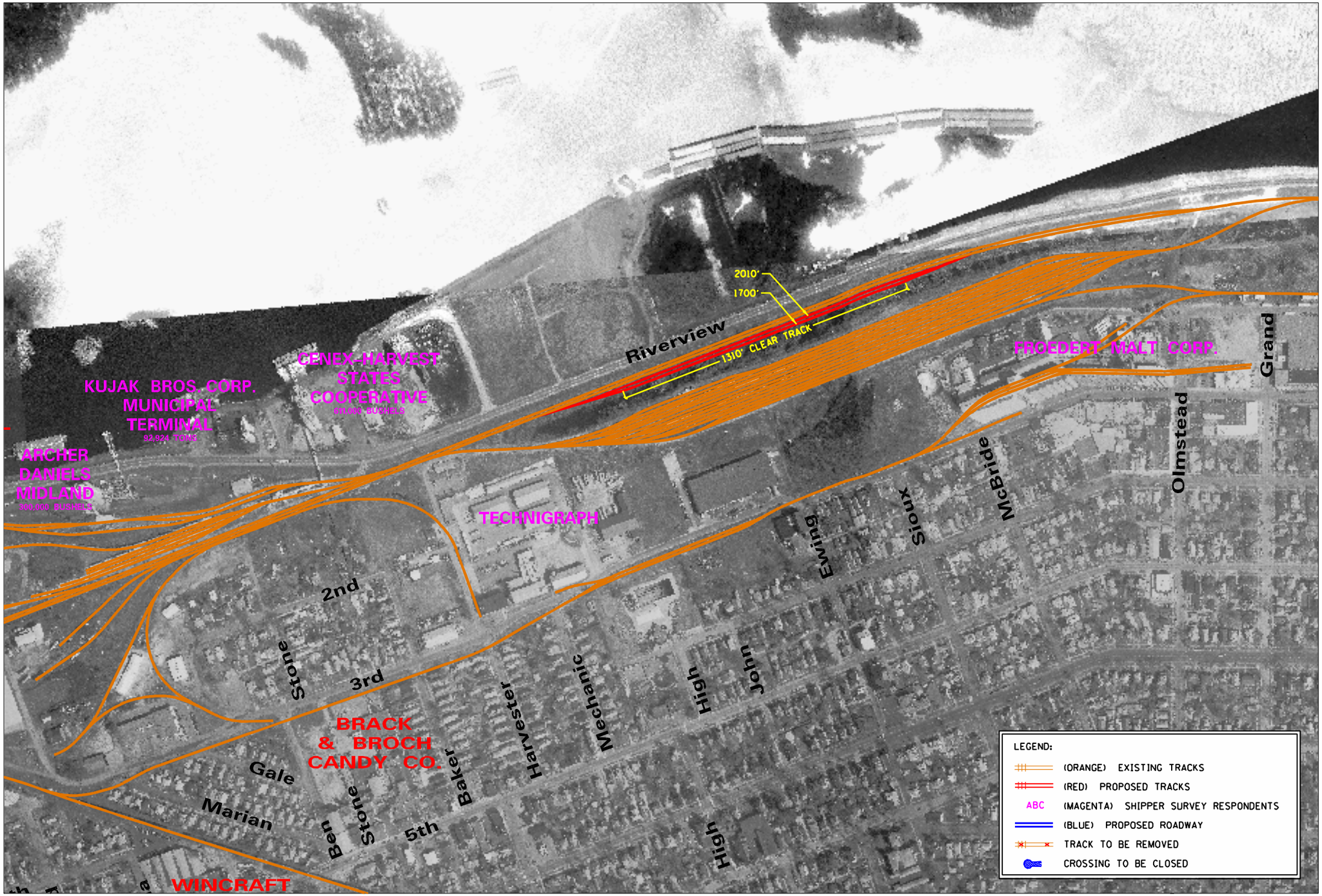
SHEET NUMBER

FIGURE 9-6

9.1.3.2 Levee Park (Stage 2)

Substitute Switching Tracks near Riverfront

Figure 9-7: Levee Park Yard looking east



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LEVEE PARK

SHEET TITLE
UP YARD
PROPOSED
REPLACEMENT
FOR LEVEE PARK TRACK

SHEET NUMBER
FIGURE 9-8

9.1.4 Amtrak Station/CPR Yard Relocation

CPR maintains local offices and a rail yard adjacent to the Amtrak Station (located at Lafayette Street & 11th Street). Rail cars are stored and switched at the yard. The switching operation blocks the Main Street and Franklin Street crossings.

The Midwest Regional Rail Initiative identified Winona as a major rail to bus transfer location in its master plan. Transportation connections for rail, local and regional bus service and bicycles at this location would provide the City of Winona with an opportunity to enhance their position as a transportation hub for the region. An example of such a facility is illustrated in Figure 9-9. The present station facilities are poorly suited to accommodate the increased car and bus traffic projected (see Figure 9-11).

The concept proposes to construct 5 substitute tracks near Pelzer Avenue including a new maintenance building and engine service track for CPR. The concept also proposes to remove the Amtrak station yard tracks to allow construction of a multi-modal facility at its current location.

Figure 9-9: Example of Multi-modal Transportation Facility (Location: Champaign, Illinois)

Benefits:

- Removes CPR Yard tracks and traffic in the vicinity of the Amtrak Station, allowing for redevelopment of the station property.
- Eliminates switching over Main Street and Franklin Street.
- Provides for future growth of passenger rail traffic.
- Provides for "transit friendly" development in the vicinity of the station.
- This concept, in conjunction with the Wall Street removal, will in effect remove all switching operations on the south side of the City of Winona, thereby significantly reducing congestion within this area.

- Results in a net gain of 6 acres of available property for the development of an intermodal facility or other development.
- Improves the quality of life for the citizens of Winona.

Negative Impacts:

- Requires construction of new yard with facilities and an access road.
- New yard location may affect wetlands.
- Requires additional right-of-way.

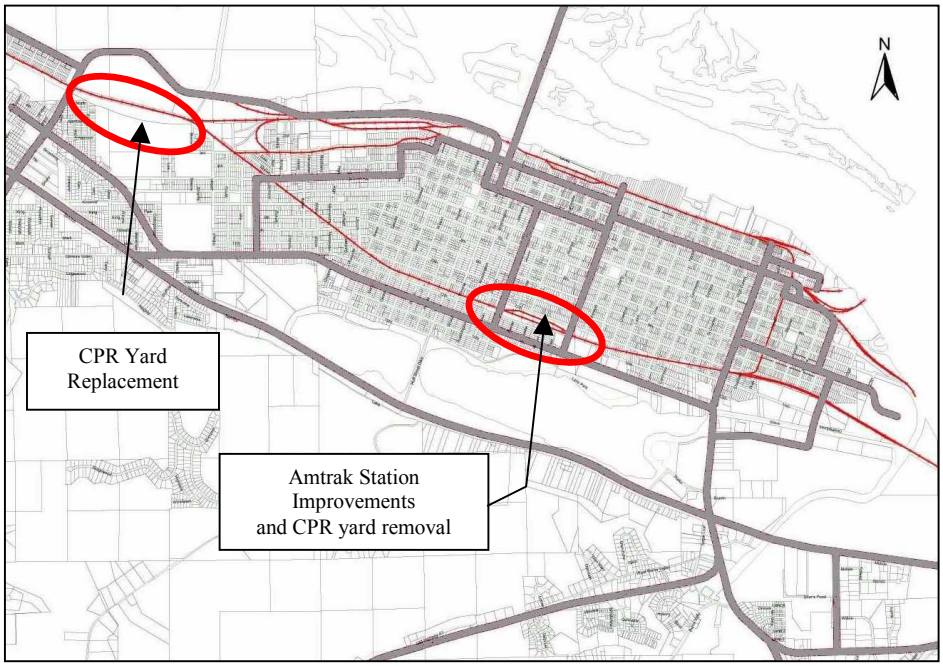
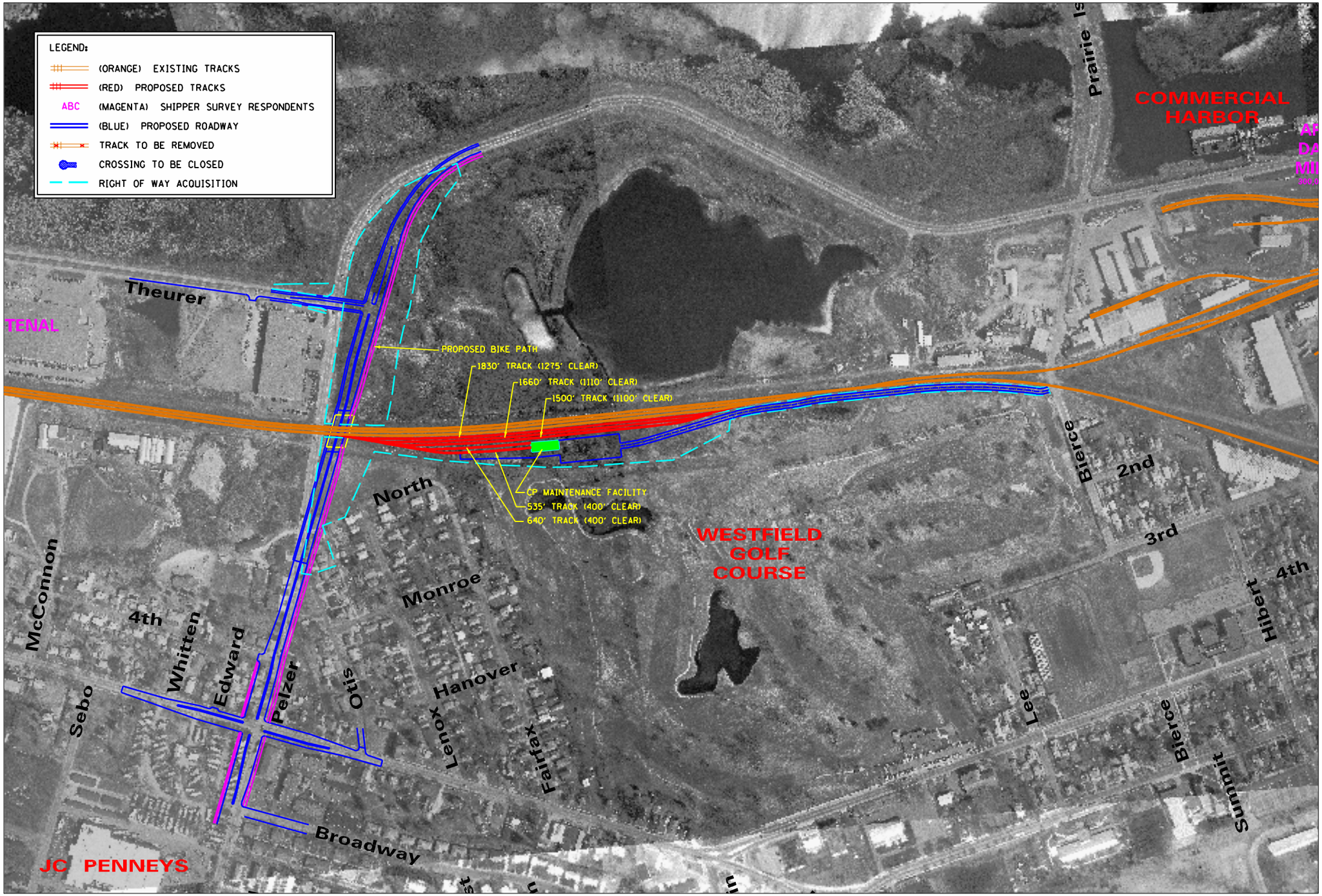


Figure 9-10 Amtrak Stateion & CPR Yard

RECOMMENDED NOT RECOMMENDED

Figure 9-11 Current Amtrak Station Facilities



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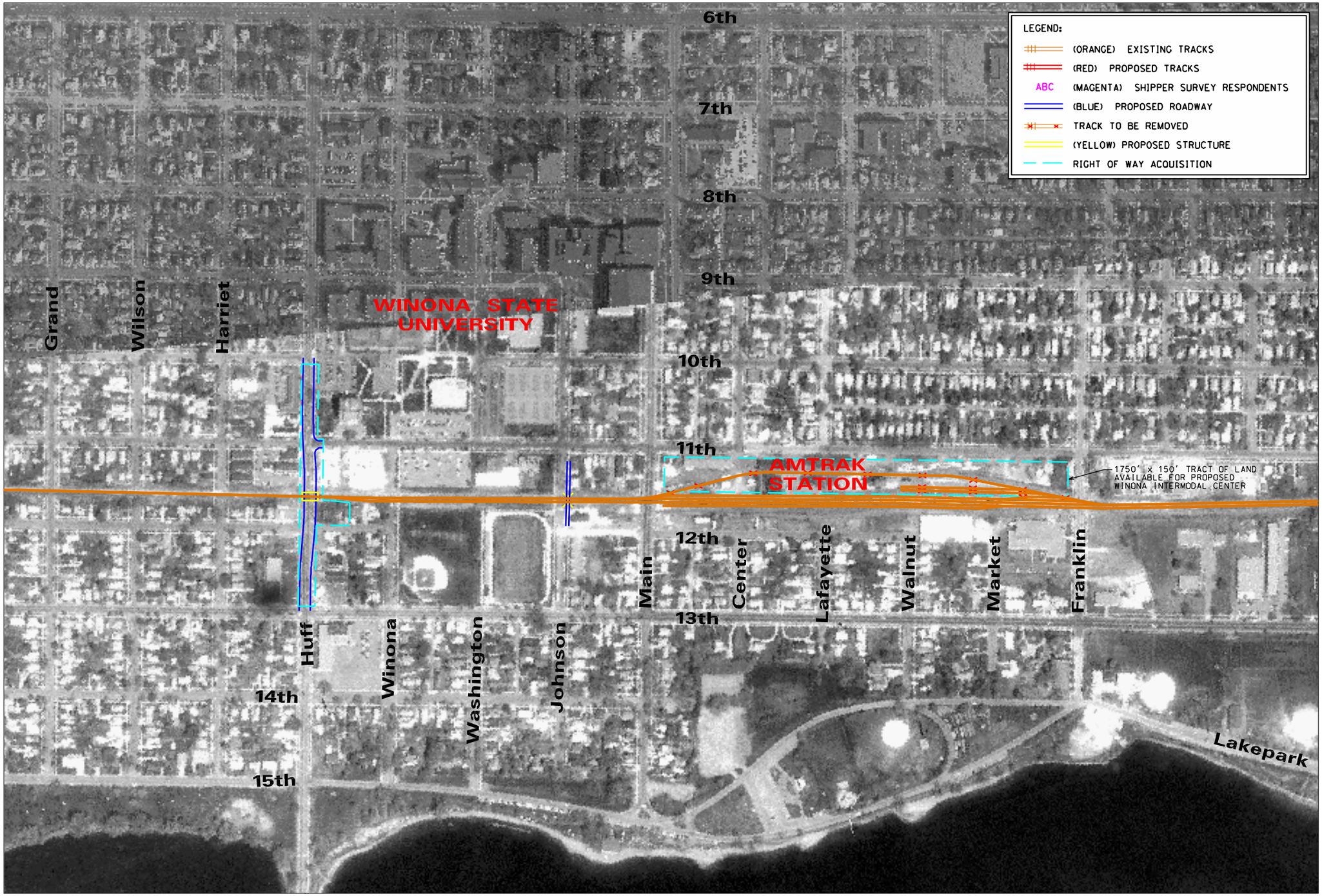
AMTRAK

SHEET TITLE
CP PROPOSED STAGING YARD AND BUILDING

SHEET NUMBER
FIGURE 9-12



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AMTRAK

SHEET TITLE
CP TRACK REMOVALS NEAR AMTRAK STATION

SHEET NUMBER
FIGURE 9-13

9.2 Proposed Roadway – Rail Crossing Enhancements

9.2.1 Pelzer/Theurer Grade Separation

The CPR mainline operates over approximately 16 grade crossings within the City limits of Winona, effectively bisecting the city. There are currently as many as 26 train movements a day. Coupled with the projections within this study, future rail volume will certainly cause even greater delays to vehicular, pedestrian, bicycle, public transit and emergency vehicle traffic.

In an effort to address this future condition, it is recommended that a 4-lane roadway overpass of the CPR mainline at Pelzer Avenue be constructed.

Benefits:

- Eliminates delays at Pelzer Avenue crossing.
- Provides for emergency vehicle access without delays at a grade crossing.
- Provides for pedestrian and bicycle access without delays at a grade crossing.
- Provides grade-separated access to port facilities.
- Zero exposure at crossing (maximum safety).
- Eliminate conflicts between vehicles and trains.
- Improves the quality of life for the citizens of Winona.

Negative Impacts:

- Requires additional right-of-way.
- Construction could impact wetlands.
- Existing geometry would limit design speed to 30 mph for vehicles.

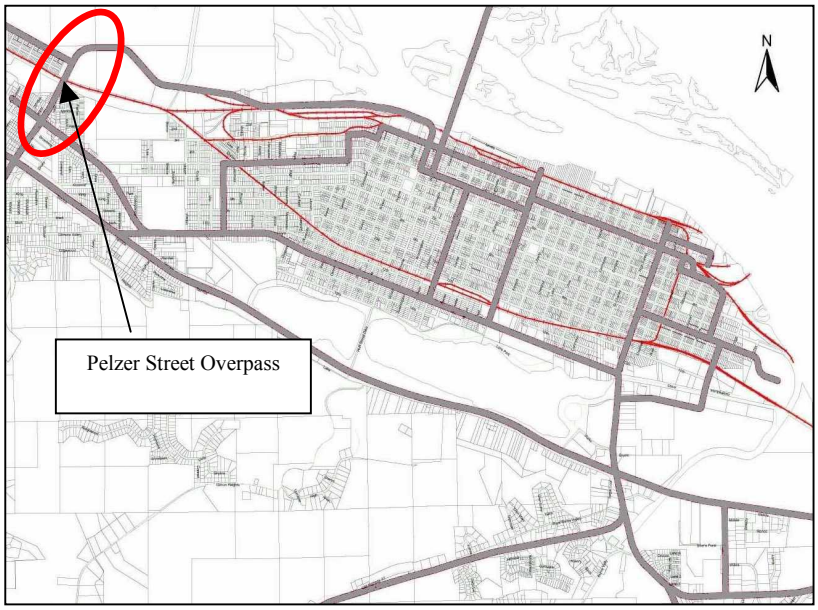
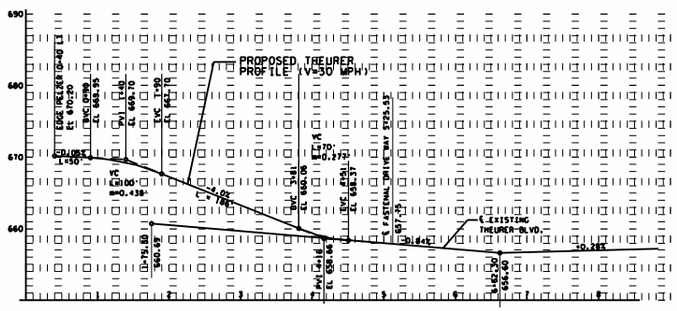


Figure 9-14

RECOMMENDED NOT RECOMMENDED

9.2.1.1 Pelzer and Theurer Intersection Realignment

Intersection Realignment



THEURER BLVD. PROFILE

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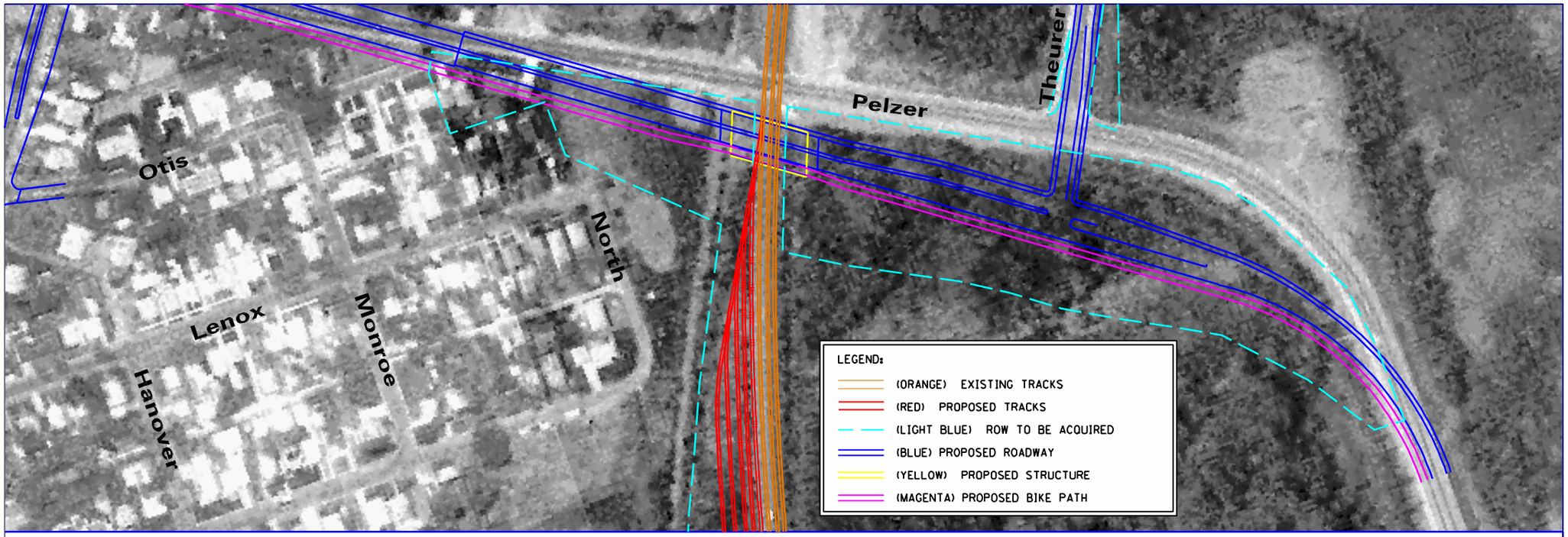
PELZER ST

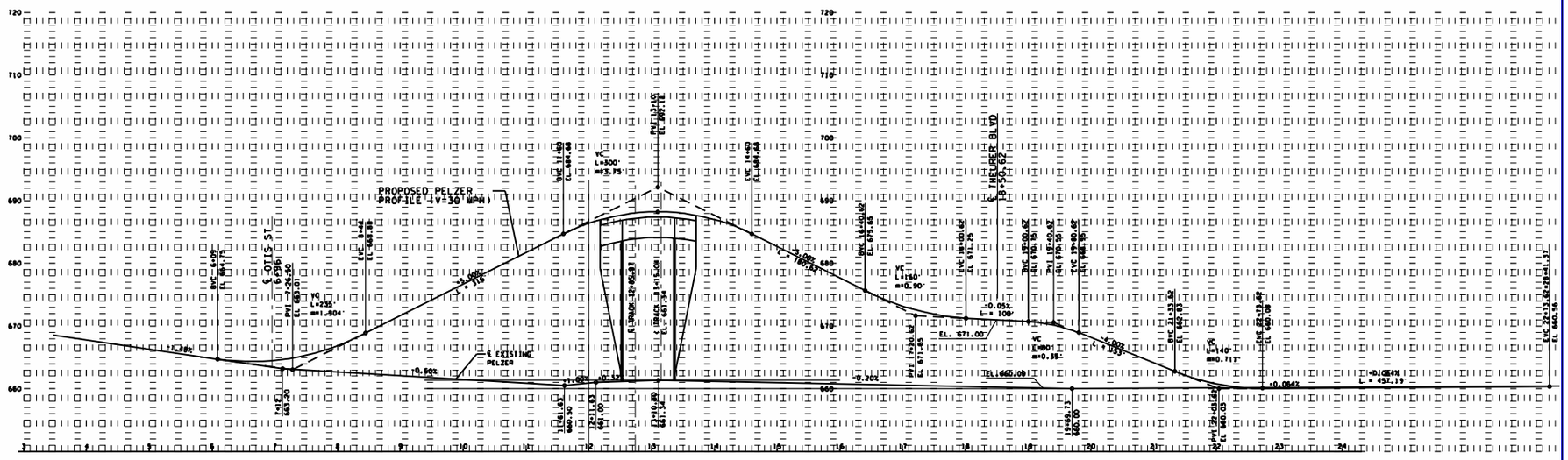
SHEET TITLE
PROPOSED 30 MPH
PELZER STREET AND
THEURER BLVD PLAN
THEURER BLVD PROFILE

SHEET NUMBER
FIGURE 9-15

9.2.1.2 Pelzer Overpass

Grade Separation at Pelzer Street





PELZER RD PROFILE

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PELZER ST

SHEET TITLE
PROPOSED 30 MPH
PELZER STREET AND
THEURER BLVD PLAN
PELZER STREET PROFILE

SHEET NUMBER
FIGURE 9-16

9.2.2 Bundy Boulevard

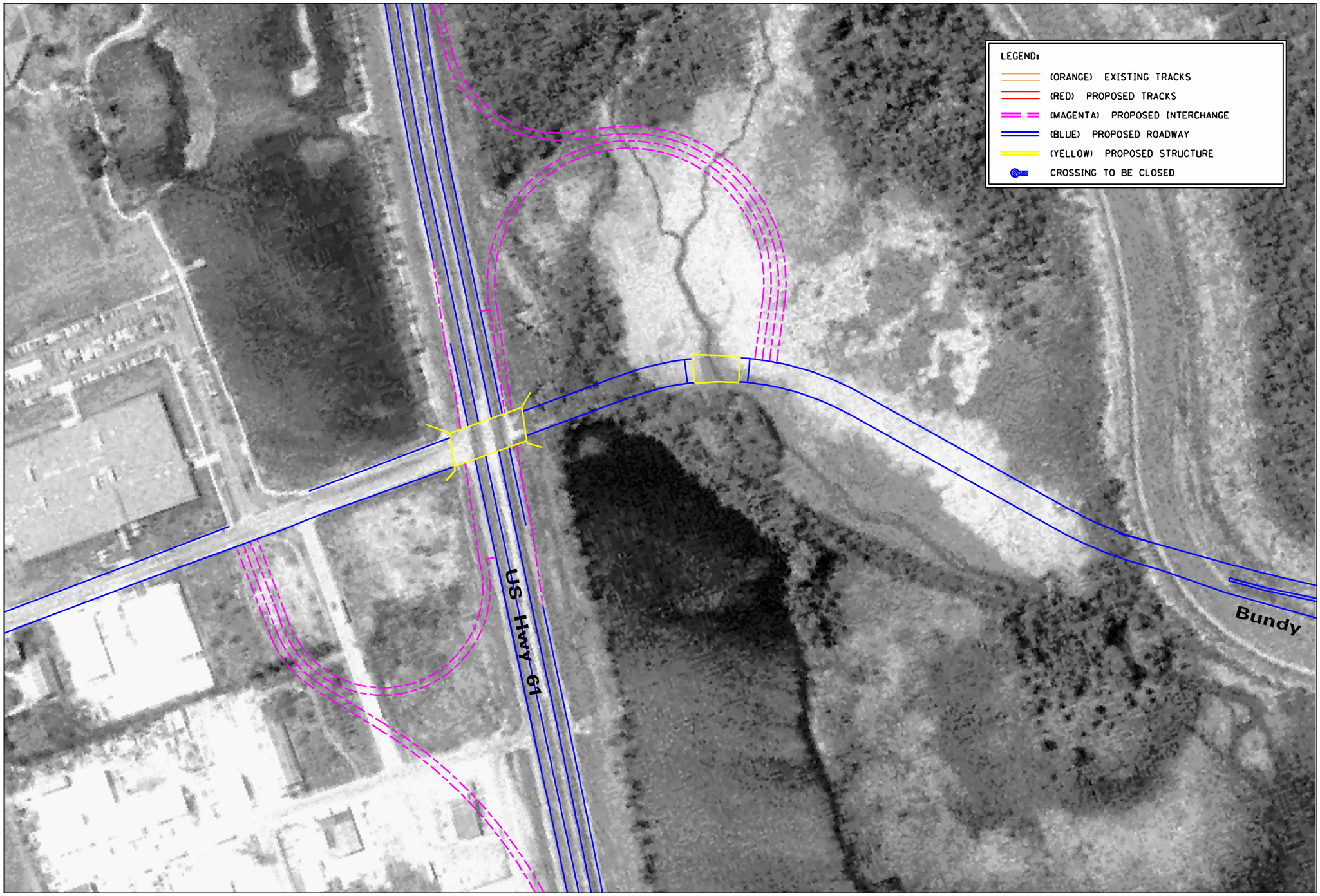
The CPR mainline operates over approximately 16 grade crossings within the city limits of Winona, effectively bisecting the city. With as many as 26 train movements a day and the projections within this study, this causes significant delays to vehicular, pedestrian and emergency vehicle traffic.

9.2.2.1 Bundy Blvd. Extension

The city has already identified the need for an extension of Bundy Blvd. from US Highway 61 to Frontenac Drive. This current plan will serve to provide additional ingress and egress alternatives for motorists accessing planned development within the Riverbend Industrial Park. This planned extension may also serve east end businesses, reduce congestion on Mankato Avenue and significantly reduce vehicle to rail exposure.

Figure 9-17: Mankato/US 61 looking NE

This concept recommends that a continuation of this extension be made further north so that it may tie into the recommended Bundy Blvd. overpass. This overpass would further support intermodal access to east side port facilities within the City of Winona (e.g. Winona River Rail, Support Terminal Services, and Modern Transport Facilities). Lastly, an overpass at this location would also significantly reduce traffic congestion on Mankato Avenue.



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BUNDY BLVD

SHEET TITLE
BUNDY BLVD
30 MPH PROPOSED
PLAN WITH
INTERCHANGE

SHEET NUMBER
FIGURE 9-18

9.2.2.2 Bundy Blvd. Grade Separation

An alternate concept proposes to construct a 2-lane roadway overpass of the CPR Main tracks as part of a Bundy Blvd. extension.

Benefits:

- Eliminates delays at grade crossings on the east end of Winona.
- Crossing at Louisa Street can be eliminated.
- Provides for emergency vehicle access without delays at a grade crossing.
- Provides for pedestrian and bicycle access without delays at a grade crossing.
- Provides improved truck access to riverfront industries and port facilities from US Highway 61, as a National Highway System Intermodal Freight Connector.
- Connects waterfront industries with the Riverbend Industrial Park development.
- Improves truck circulation to industries.
- Zero exposure, maximum safety
- Reduces traffic levels currently experienced on Mankato Avenue
- Eliminates conflicts between vehicles and trains
- Improves the quality of life for the citizens of Winona.

Negative Impacts:

- Requires additional right-of-way.
- Construction could impact wetlands.
- Existing geometry would limit design speed to 30 mph.

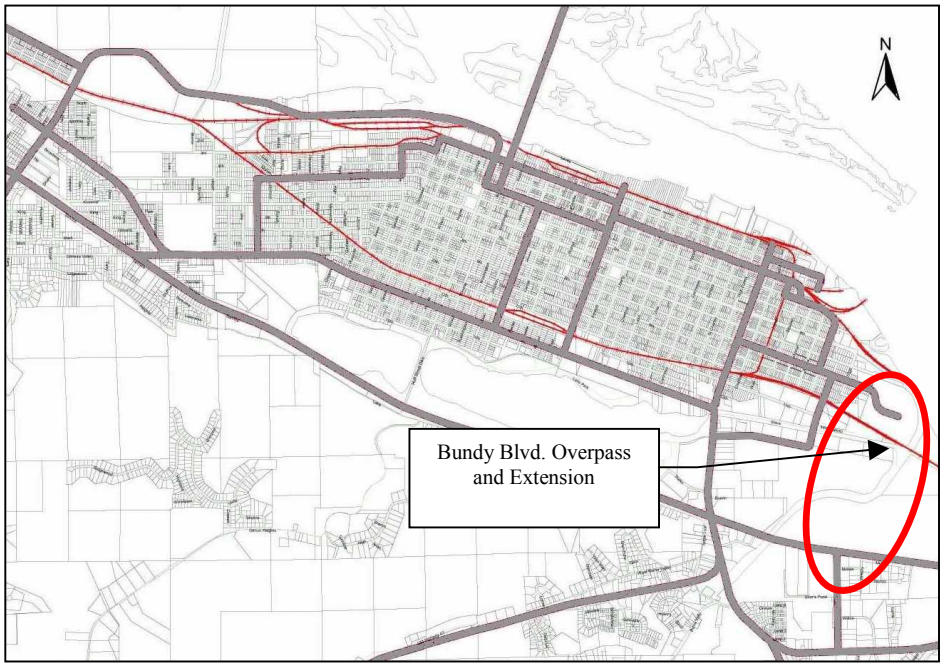

Figure 9-19

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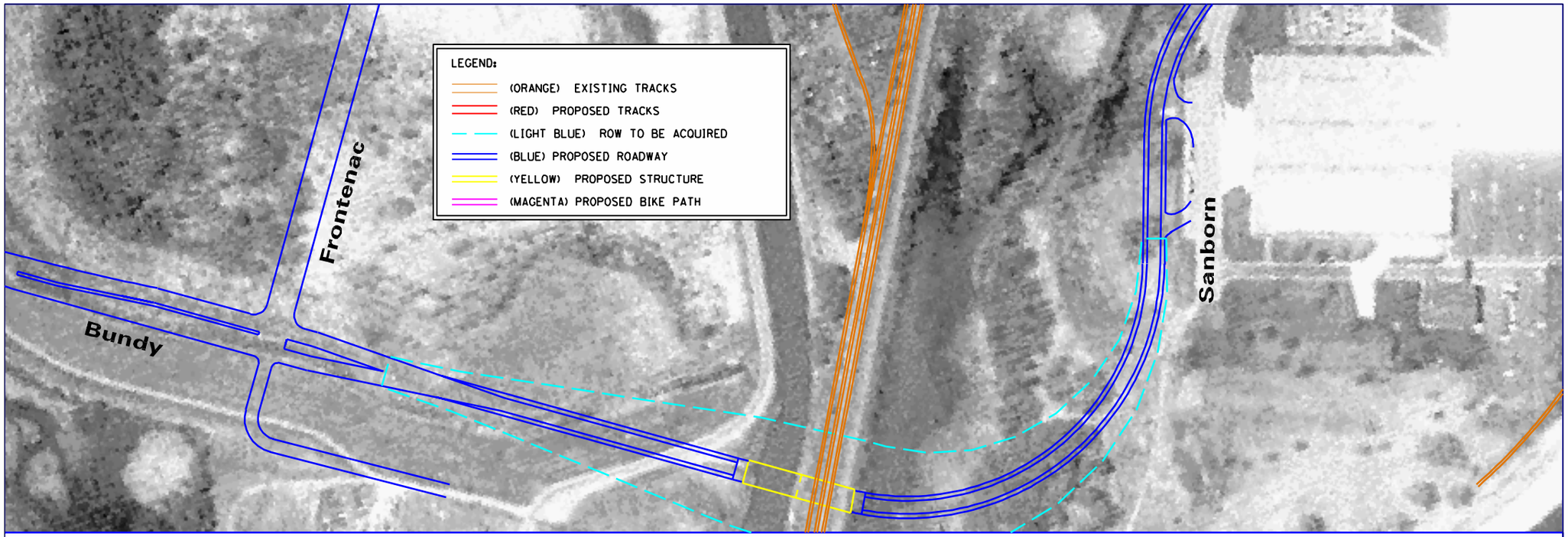

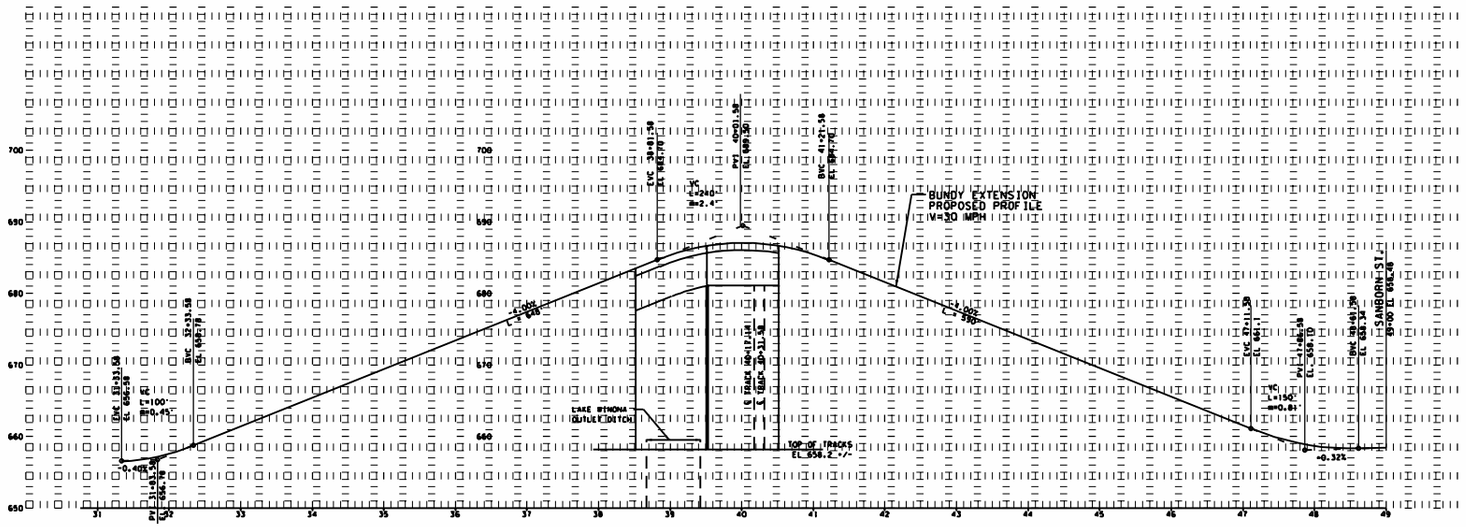

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BUNDY BLVD

SHEET TITLE

BUNDY BLVD
30 MPH PROPOSED
PLAN AND PROFILE

SHEET NUMBER

FIGURE 9-20

9.2.3 Huff Street Underpass

The CPR mainline operates over approximately 16 grade crossings within the city limits of Winona, effectively bisecting the city. With as many as 26 train movements a day and the projections within this study, this causes significant delays to vehicular, pedestrian and emergency vehicle traffic.

Figure 9-21: Huff Street rail crossing looking south

This concept proposes to construct a 4-lane roadway underpass of the CPR Main tracks at Huff Avenue, in conjunction with the recommended pedestrian underpass at Johnson Street. (see Section 9.2.4)

Benefits:

- Eliminates delays in the central part of Winona.
- Provides for emergency vehicle access without delays at a grade crossing.
- Provides improved access to Winona State University and TH 43.
- Provides for pedestrian and bicycle access without delays at a grade crossing.
- Improved truck circulation.
- Eliminates conflicts between vehicles and trains.
- Improves the quality of life for the citizens of Winona.

Negative Impacts:

- Requires additional right-of-way.
- Geometric constraints and intersecting streets limit design speed to 30 mph for vehicles.
- Requires raising the CPR mainline tracks within this area to accommodate vertical clearance for underpass.
- Requires a lift station for drainage.

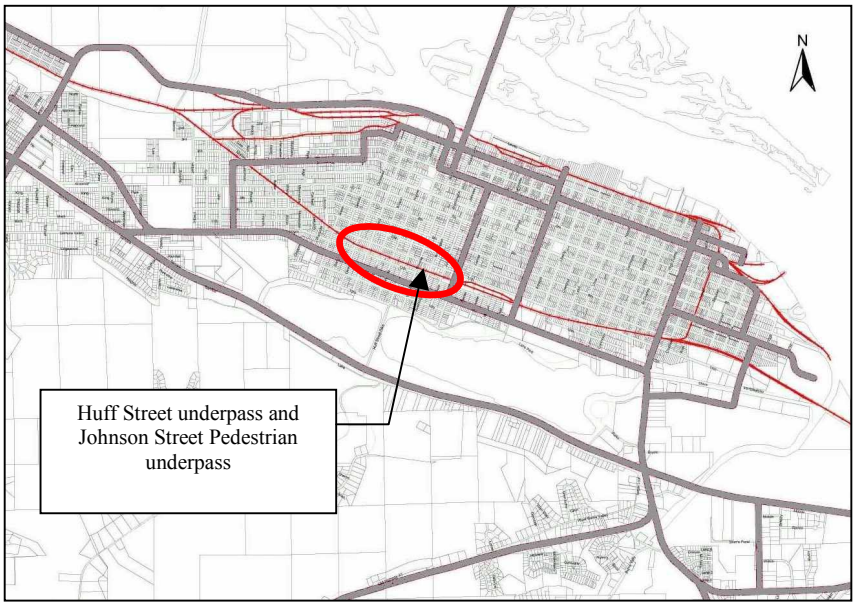

Figure 9-22 Huff Street & Johnson Street underpass location

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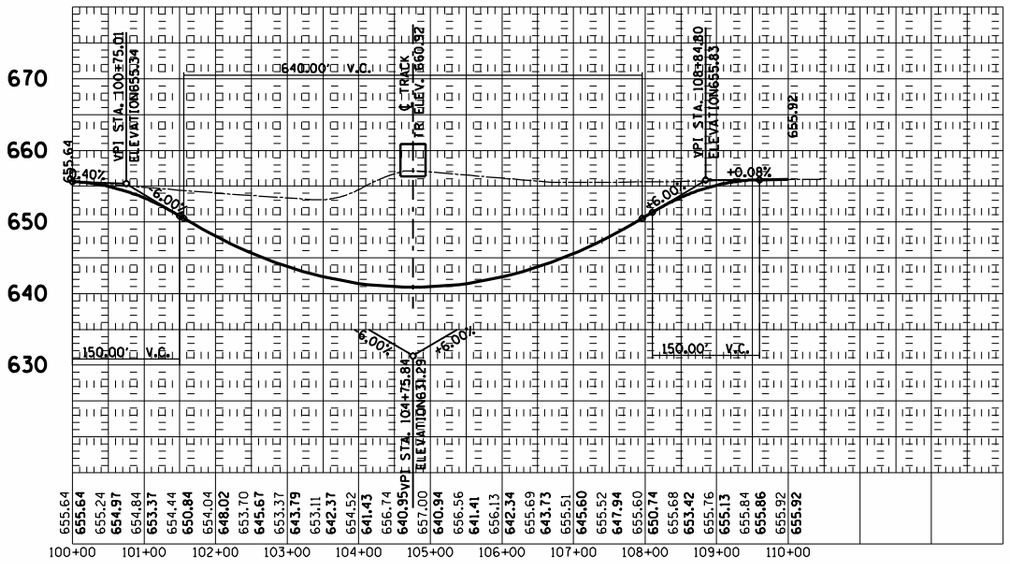

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HUFF ST

SHEET TITLE

HUFF STREET
PROPOSED UNDERPASS
PLAN AND PROFILE

SHEET NUMBER

FIGURE 9-23

9.2.4 Johnson Street Pedestrian Underpass

Winona State University is located to the north of the CPR tracks. With the school's athletic fields located on the south side of the tracks, there is significant pedestrian traffic that crosses the tracks at this location during events at the athletic fields. Also, with the construction of the planned new parking facility on the south side of the tracks, it can reasonably be assumed that pedestrian traffic within this area will increase.

This concept recommends that a pedestrian underpass be constructed at the CPR Main track at Johnson Street, to be built in conjunction with the recommended underpass at Huff Street (see Section 9.2.3).

Benefits:

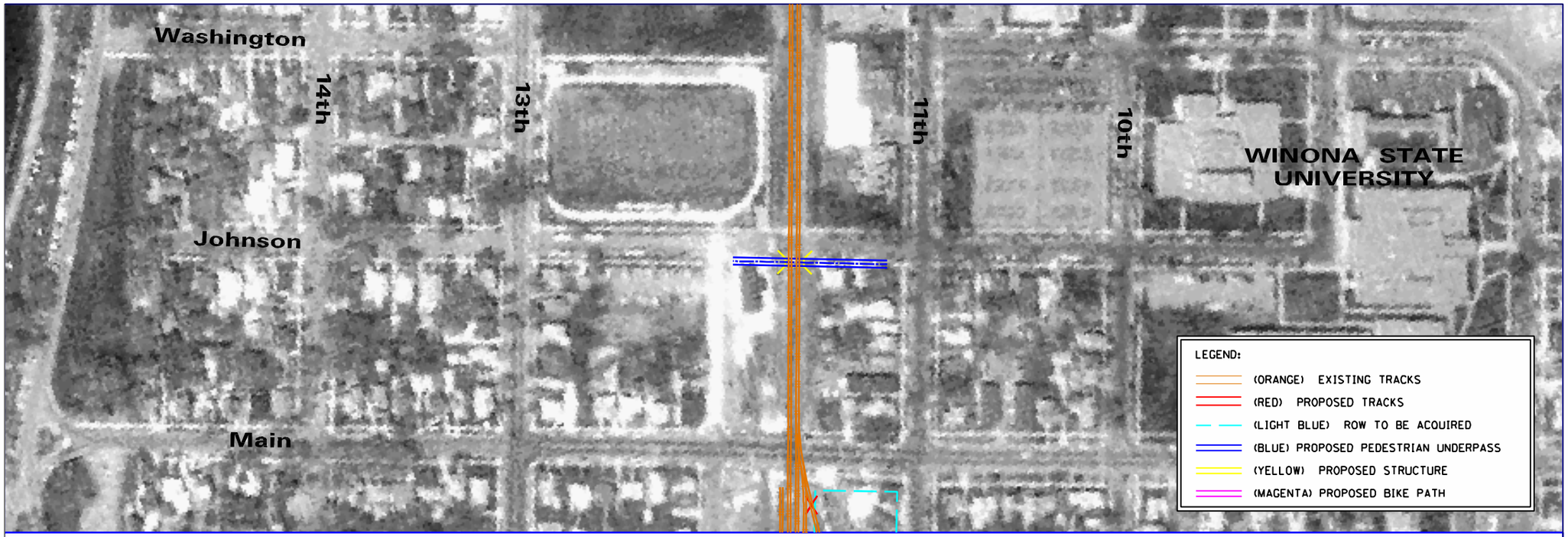
- Provides for pedestrian and bicycle access without delays at a grade crossing.
- Enhances public safety.
- Eliminates conflicts between pedestrians and trains.
- Improves the quality of life for the citizens of Winona.

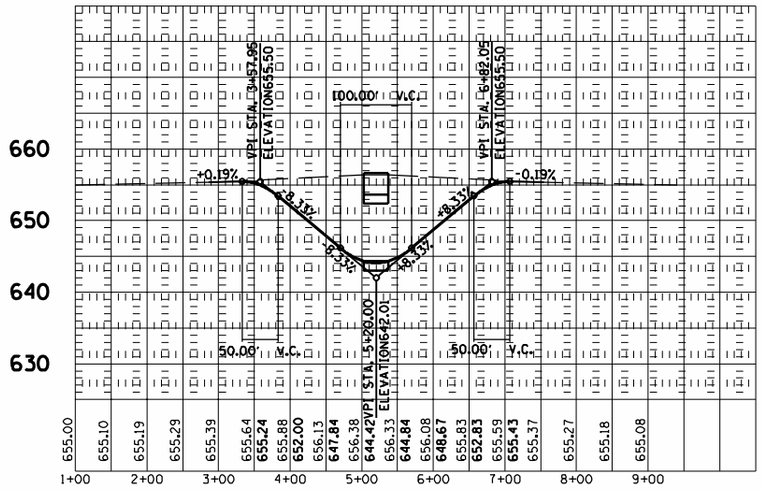
Negative Impacts:

- Requires use of a portion of the vacated Johnson Street right-of-way.
- Possible drainage problems.
- Requires raising the CPR mainline tracks within this area to accommodate vertical clearance for the recommended Johnson Street underpass.

Figure 9-24: Johnson Street rail crossing looking south

RECOMMENDED NOT RECOMMENDED





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1	11/12/01	PRELIMINARY

JOHNSON ST

SHEET TITLE
JOHNSON STREET
PROPOSED
PEDESTRIAN UNDERPASS
PLAN AND PROFILE

SHEET NUMBER
FIGURE 9-25

9.2.5 Grade Crossing Safety Improvements

Following the direction outlined in the recommendations of the Railroad Relocation Study (1976), significant additional crossing closures were considered as part of this study. Recommendations of the Railroad Relocation Study the City implemented included:

- The closure of 17 grade crossings
- Upgraded crossing signals at 12 crossings
- Operation Lifesaver

9.2.5.1 Crossing Closures

The City, working with locations identified in the Winona County Grade Safety Study, is currently evaluating the following additional grade crossings as possible candidates for crossing closure:

- Bierce Street
- Jackson Street

Alternative grade crossings are located nearby therefore, it is recommended that the City of Winona close the Bierce and Jackson Street grade crossings.

9.2.5.2 Additional Improvements

The City has already installed non-mountable center medians at several crossings to comply with the requirements of the Swift Rail Act (see Section 3.2). These medians are of sufficient height to prevent a vehicle from driving over them in an effort to go around a lowered crossing gate. The remaining crossings will be improved over the next 5 years to bring all crossings in the city into compliance.

Additional improvements, consistent with the City of Winona Comprehensive Plan, may be developed in the future. These may include additional crossing closures, grade crossing warning device improvements and the construction of additional grade separations.

9.3 Riverbend Industrial Park – Inter-Regional Corridor Improvements

9.3.1 Proposed Improvements

Proposed access management and traffic operations improvements along TH's 61 and 43 adjoining the developing Riverbend Industrial Park are illustrated on Figure 9-26 and summarized in Table 9-1 as discussed in Section 8.5. These improvements are proposed to maintain mobility on these key interregional corridors while providing safe and convenient access to Riverbend Industrial Park and other adjoining businesses.

The proposals have been developed based on projected 2020 traffic conditions with Riverbend Industrial Park fully developed. Implementation of these proposals would be staged to meet increased demands as the area is developed. Moreover, implementation will require an ongoing collaborative process between Mn/DOT and the City of Winona, as well as adjoining property owners. Appropriate refinements and modifications to the recommended actions will likely be required as Riverbend and adjoining lands are developed.

Recommended supporting actions to guide and facilitate implementation of the access management and traffic operations improvements include:

- Develop Riverbend internal circulation and Sarnia extension plans (Section 9.3.2);
- Endorse a "Category 7" Access Management Plan (Section 9.3.3);
- Prepare and adopt an Access Management Overlay Ordinance (Section 9.3.4);
- Monitor traffic changes, coupled with refinement and application of the Synchro Plus SimTraffic analysis/simulation model as a tool to review specific development proposals and operational improvements as they are proposed (Section 9.3.5).

9.3.2 Riverbend Internal Circulation and Sarnia Extension Plans

The City of Winona in collaboration with Riverbend property owners and developers should immediately act to prepare concept layouts and plans for the extension of Sarnia Street and connecting internal circulation roadways. Focus of the plans would be to reduce the reliance on TH 43 for circulation to and between Riverbend and adjoining development, including direct driveway access along TH 43.

In particular, the added internal circulation should be designed to:

- Facilitate circulation directly to Sarnia without using Mankato Avenue, including access to existing development south of Riverbend (e.g., Target, Riverport Inn, Fleet Farm);
- Provide "rear" access to properties fronting on Mankato Avenue;
- Encourage use of Bundy as an alternative to TH 43; and,
- Provide pedestrian walkways and bicycle facilities to encourage non-vehicular access to Riverbend (including the proposed City bikeway system connection through Riverbend from Sarnia to the bicycle path on the flood protection levee along the east side of Riverbend (see Figure 7-1).

Related signal issues along Mankato and TH61 requiring additional consideration include:

1. With the proposed extension of Sarnia to service the Riverbend development, a future signal will likely become warranted at Sarnia. In such case, the configuration and signalization of the Frontenac connection to Mankato Avenue should be reevaluated.
2. This study considers the operation of a full movement intersection at a realigned Bruski and Parks. This issue needs more attention to include the advantages/disadvantages of leaving this as a full movement intersection, and the probable need for a signal if it is left open. Mn/DOT's District 6 is concerned about the proximity of a signal at this location with the high volume intersection at TH 61. Further study, and Mn/DOT–City collaboration should clarify this.
3. Though it makes sense for the City to plan for an extension of Bundy Boulevard, providing a "backage" road access to the development and an alternate access to Sanborn Avenue and Port facilities via a railroad grade separation, the costs and environmental impacts will require further detailed analysis. This study suggests a future interchange at TH 61 and Bundy with a signal as an interim measure. A signal would only be considered when warrants are met. As a precondition for a temporary signal, Mn/DOT will require refined geometric layouts for a future interchange, City protection of the interchange area through acquisition or official mapping, and preliminary identification of and mitigation for any environmental impacts such as wetlands.

9.3.3 Category 7 Access Management Plan

Interregional Corridor access management guidelines (see Section 4.2) provide for the development and endorsement jointly by Mn/DOT and local governments of specific access management plans for selected roadway segments to complement the generalized access category guidelines. Such plans, referred to as "Category 7" access type, are intended for application to roadway segments such as TH 43 from CSAH 17 to Sarnia, for which a "blend" of the access spacing and related features of standard Categories 2B and 2C is most appropriate. Also, Category 7 plans are intended for locations where a detailed review of present and projected land use and traffic conditions has been conducted, such as the segments covered by this report. The recommended plan would "customize" access guidelines and strategies for the affected segments of TH's 61 and 43 to maintain the desired corridor mobility and local access balance.

9.3.4 Overlay Ordinance

Based on the Category 7 plan described above, an Access Management "Overlay Ordinance" is recommended to supplement the use districts, standards and requirements in Winona's zoning, subdivision and other land use and traffic related ordinances. The purpose would be to formally regulate land use and access along TH's 61 and 43 in a manner consistent with their functional classification as Principal Arterials, and their designations as medium Priority Interregional and High Priority Regional corridors, respectively, in the statewide Interregional Corridor System.

Model ordinances developed in Minnesota and elsewhere in the country are available to serve as a base for "customizing" the recommended ordinance. Typical primary components of such an ordinance include:

- Purpose and need
- Access zone categories and category assignments, related to the IRC guidelines
- Access spacing requirements
- Corner clearance requirements
- Access alignment and design guidelines and standards
- Internal site design guidelines and requirements
- Cross access and joint access guidelines
- Administrative procedures for reviews, variances, deviations and exceptions
- Interim access provisions

9.3.5 Traffic Monitoring and Plan Reviews

Operational analysis using the Syncro Plus SimTraffic computer signal optimization and traffic simulation model indicate that suitable traffic operations can be maintained on TH 61 and TH 43 with full Riverbend build-out, if the recommended improvements are made. However, periodic monitoring of traffic conditions by Mn/DOT and the City of Winona will be needed to determine actual impacts as Riverbend properties are developed. Concurrent with the monitoring, the computer simulation model should be periodically updated and refined to reflect changed conditions and used by Mn/DOT and the City of Winona as a tool to evaluate traffic impacts of specific proposed Riverbend developments or roadway modifications prior to approval.

TABLE 9-1
ACCESS MANAGEMENT
COMPARISON TO DRAFT GUIDELINES AND PROPOSED ACTIONS (1)

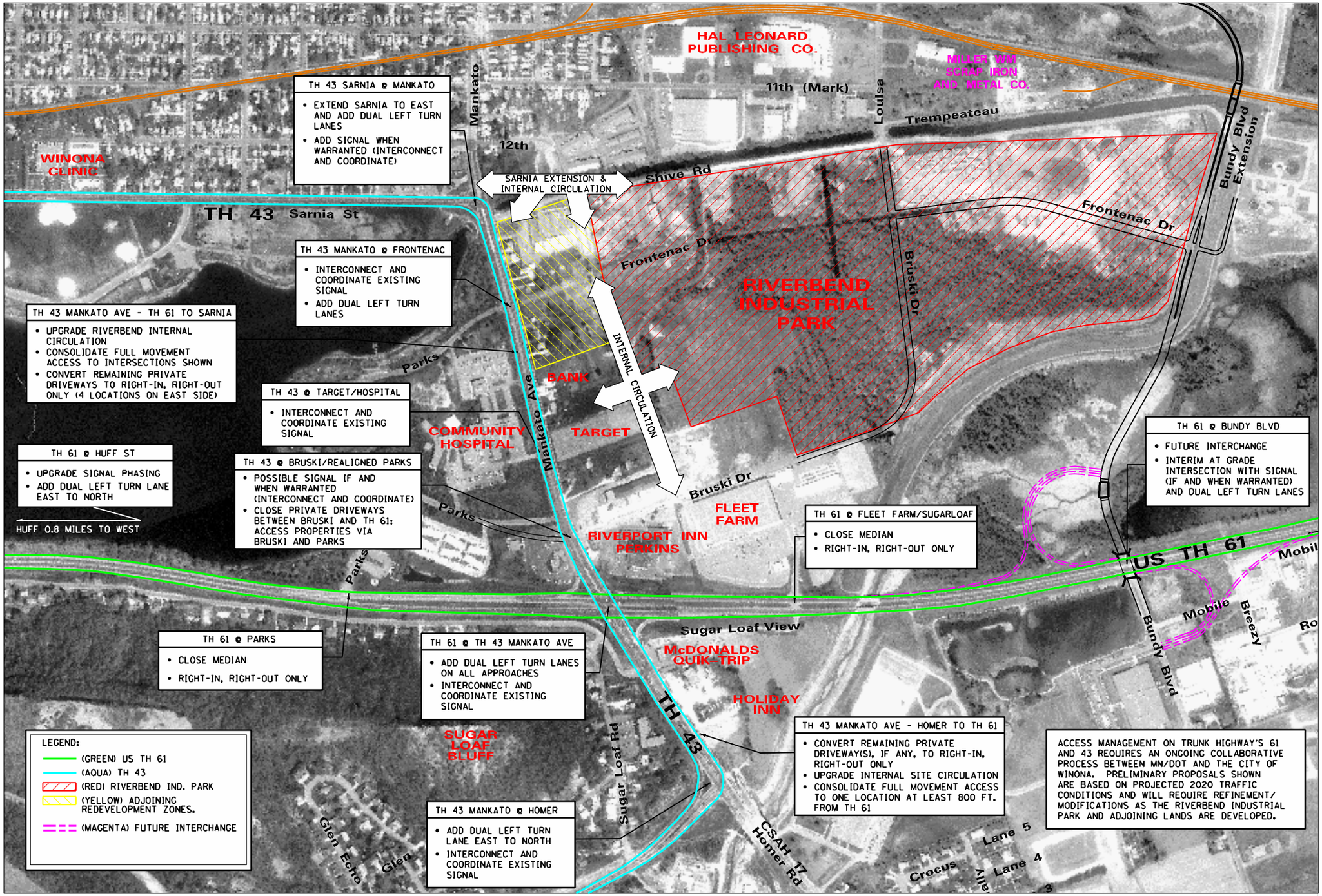
	Category	Area or Facility Type	Typical Function Class/Posted Speed	Intersection Spacing		Signal Spacing	Private Access	Comments
				Primary Full Movement Intersection	Conditional Secondary Intersection			
TH 61	Medium Priority Interregional Corridors							
Draft Guideline	2A	Rural/ Exurban/ Bypass	Principal 55 - 65 mph	1 mile	1/2 mile	**STRONGLY DISCOURAGED** by Deviation Only	By Exception or Deviation Only	
Current								
Huff to TH 43	3A		55	1.25, 0.30	None	1.55	None	
TH 43 to Bundy			55	0.25, 0.40	None	None	None	Fleet Farm/Sugar Loaf View Access Considered "Public"
Proposed (1)								
Huff to TH 43	2A		55	1.55	1.25, 0.30	1.55 m.	None	Parks RIRO (2)
TH 43 to Bundy	2A		55	None (0.65)	0.25	None (0.65 m.)	None	Bundy Future Interchange/ (Temporary Signal) Fleet Farm/Sugar Loaf RIRO

TH 43 – Mankato Ave. High Priority Regional Corridor								
Draft Guideline	3B	Urban/ Urbanizing	Principal and Minor Arterials 40 - 45 mph	1/2 mile	1/4 mile	1/2 mile	By Exception or Deviation Only	
Draft Guideline	3C	Urban Core	Principal and Minor Arterials 30 - 40 mph	300-660 feet (.06 - .13 miles) dependent upon block length		1/4 mile	Permitted Subject to Conditions	
Current								
CSAH 17 to TH 61			40	0.10, 0.07, 0.08	None	0.25	2 Driveways West Side	Sugar Loaf/Kwik Trip Access Considered "Public"
TH 61 to Sarnia			30	0.12, 0.08, 0.18, 0.13	None	0.20, 0.18	13 Driveways East Side 1 Driveway West Side	

Proposed (1)								
CSAH 17 to TH 61	Type 7		40	0.10, 0.15	None	0.25	2 Driveways Maximum West Side	Upgrade Internal site circulation. Consolidate Full Movement Access to one location at least 800' from TH 61 (includes closure, consolidation or RIRO only at Sugar Loaf Road on west side). Convert remaining private access, if any, to RIRO. Interconnect and coordinate signal at CSAH 17 with other signals on Mankato Ave.
TH 61 to Sarnia	Type 7		30	0.12, 0.08, 0.18, 0.13	None	0.12, 0.08, 0.18, 0.13	4 Driveways Maximum East Side 0 Driveways West Side	Upgrade internal site circulation within Riverbend, including access to properties from fronting on Mankato Avenue. Limit full movement access to public intersections. Add signals at Sarnia and Bruski if and when warranted. Interconnect and coordinate operation of signals. Consolidate remaining private driveways to RIRO access at four locations maximum on east side. Eliminate private access between Bruski and TH 61.

(1) Access management on Trunk Highway's 61 and 43 requires an ongoing collaborative process between Mn/DOT and the City of Winona. Preliminary recommendations shown are based on projected 2020 traffic conditions and will require refinement/modifications as the Riverbend Industrial Park and adjoining lands are developed.

(2) RIRO = Right-In/Right Out Only



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Real Estate Services
Edwards AND Kelcey

PROJECT NO.:020012003

DRAWN BY:

CHECKED BY: DRL

DATE: 03/29/02

3	03/29/02	FINAL PHASE 1
2	01/31/02	TS & L
1	11/12/01	PRELIMINARY

RIVERBEND INDUSTRIAL PARK

SHEET TITLE
PROPOSED ACCESS MODIFICATIONS FOR TH's 61 AND 43

SHEET NUMBER
FIGURE 9-26

9.4 Off-Channel Barge Fleeting Area Improvement

As part of the City of Winona's Comprehensive Plan, there is a long-standing desire to provide improved off-channel barge fleeting operations to serve local Winona Port operations. The primary funding mechanism available to the Winona Port Authority is the Mn/DOT Office of Freight, Railroads and Waterways *Port Development Assistance Program*. This program is for public entities with facilities on Minnesota's commercial waterways both on the Great Lakes and the Mississippi River. The purpose of the Port Development Assistance Program is to "expedite, retain, or generally improve the movement of commodities and passengers on the commercial navigation system…"

To be eligible for funding, a project must benefit Minnesota's shippers and receivers by improving or developing a commercial navigation facility or its components. The development of an off-channel barge fleeting area would certainly be an ideal candidate for this funding program. As such, it is recommended that the City of Winona work in conjunction with the Winona Port Authority to apply for said funding.

Figure 9-27 Barge Fleeting Operations

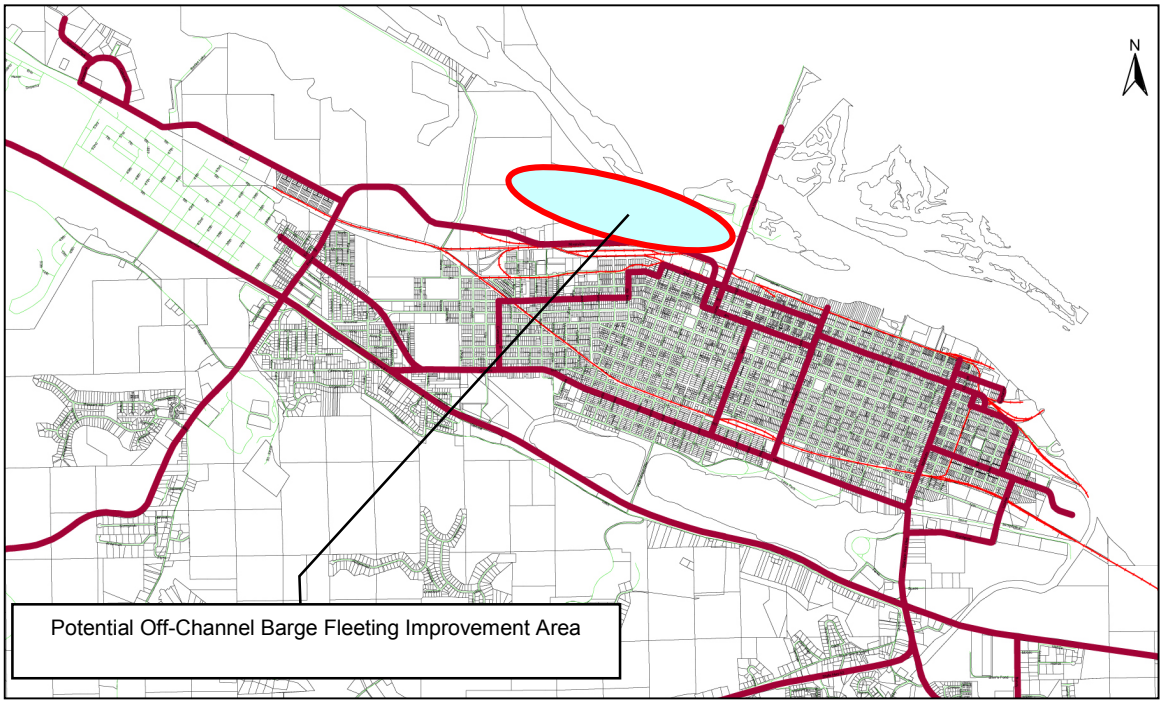

Figure 9-28 Off-Channel Barge Fleeting

Section 10 Recommended Infrastructure Investment Strategies

Table10-1 illustrates the Recommended Investment Strategies by project type, estimated cost, and suggested implementation schedule, subject to funding. State funding is dependent upon its availability and District priorities.

Recommendations are based on the following timeframes taking into account lead-time for design, right-of-way acquisition and funding as follows:

- Immediate – less than 36 months to implement
- Near Term – 3 to 10 years to implement
- Long Term – more than 10 years to implement, subject to funding availability

10.1 Rail

Includes rail relocation, switching changes, operational changes, grade crossing changes, signal timing changes and yard relocation in the vicinity of the Amtrak station.

10.2 Roadway / Traffic

Includes the construction of overpass, underpass and pedestrian bridges, crossing closures, signal improvements and the construction of center medians.

10.3 Riverbend Industrial Park

Includes improvements to intersections, construction of additional turning lanes, internal circulation improvements and the construction of a future interchange.

10.4 Ports / Industry

Covers the construction of an off-channel barge fleeting area.

TABLE 10-1

Recommended Investment Strategies

Project	Recommendations			Estimated Costs (x $1000)						
	Immediate	Near Term	Long Term	Right of Way	Engineering	Site Work	Structures	Track/Signal	Contingency	Total Cost
Rail Enhancements										
Rail Relocation to Riverfront	Not Recommended At This Time			17,000 to 27,000	2,750 to 3,250	1,050 to 2,000	11,400 to 12,500	15,040 to 17,000	4,540 to 5,210	51,780 to 66,960
Wall Street Track Elimination	X			TBD	300	500	0	2,255	460	3,520
Levee Park Track Changes		X		1,900	150	175	0	1,300	240	3,770
Amtrak Station / CP Yard Relocation			X	TBD	400	500	500	3,900	800	6,100
Grade Separation Enhancements										
Pelzer St. Overpass	X			TBD	250	2,370	900	25	530	4,080
Bundy Blvd. Overpass - Frontenac to Sanborn			X	TBD	250	940	670	25	280	2,170
Huff St. Underpass		X		TBD	275	440	1,550	750	450	3,470
Johnson St. Pedestrian Underpass		X		0	40	70	205	50	50	420
Grade Crossing Enhancements										
Crossing Closures (Ea.)		X		0	0	25	0	10	10	50
Signal Upgrades (Ea.)		X		0	0	0	0	200	30	230
Center Medians (Per Year)	Ongoing			0	0	50	0	0	10	60
Riverbend Access/IRC Enhancements										
Access Ordinance - Overlay District	X			0	100 to 200	0	0	0	0	100 to 200
TH 61 Intersections		X		100 to 200	200 to 300	1,000 to 1,400	0	300 to 500	400 to 600	2,000 to 3,000
TH 43 Intersections	X	X		500 to 700	450 to 600	700 to 1,000	0	750 to 900	600 to 800	3,000 to 4,000
Bundy Blvd. - TH 61 to Frontenac			X	TBD	250	740	440	0	210	1,640
TH 61 - Bundy Interchange			X	TBD					0	0
Riverbend Internal Circulation	X	X								TBD
Port Enhancements										
Off-Channel Barge Fleeting		X								1,500

Section 11 Potential Funding Scenarios

11.1 State and Federal Programs

National Highway System (NHS)

Federal funding provided under TEA-21 for improvements to a designated key nationwide system of highways, including U.S. Trunk Highway 61 through Winona. While TEA-21 expires in 2003, future replacement federal funding programs are anticipated to continue funding for the NHS and similar surface transportation programs.

NHS Intermodal Freight Connectors

Under TEA-21 provisions, NHS funds can also be used for improvements to designated local roadway connecting NHS routes such as TH 61 to major freight intermodal terminals such as Winona's Port facilities. Both Pelzer Street – Riverview Drive from the west and the proposal Bundy Boulevard Extension to Sanborn and Jefferson Street and Mankato Avenue from the east should be designated under the NHS program as intermodal freight connectors to the Port of Winona.

Under TEA-21 provisions, NHS funds can also be used for improvements to designated local roadway connecting NHS routes such as TH 61 to major freight intermodal terminals such as Winona's Port facilities. If Pelzer Street – Riverview Drive from the west or the proposed Bundy Boulevard Extension to Sanborn and Jefferson Street and Mankato Avenue from the east were to be designated under the NHS program as intermodal freight connectors to the Port of Winona, an additional source of funding could become available for improvements to these roadways.

Surface Transportation Program (STP)

The STP provides flexible funding that may be used by Mn/DOT and localities for projects on any Federal-aid highway, including the NHS, grade crossing safety improvement projects on any public road, bridge projects on any public road, transit capital projects, and intracity and intercity bus terminals and facilities. Bicycle and pedestrian facilities are also eligible for STP funding.

Transportation Enhancement Funding

Enhancement funding is provided under a set of ten specific categories for providing aesthetic, historic presentation and pedestrian-bicycle etc. enhancements to transportation facilities, including those funded under other programs. It is a specialized subset funding program under the STP and the State Transportation Improvement Program.

Interregional Corridor Program (IRC)

As part of Moving Minnesota, Mn/DOT has designated a system of IRC's for high priority transportation investment that link the Primary Trade Centers of the state to one another. Both TH's 61 and 43 are included in the program, for which special funding has been provided by the State legislature. While the current program provides funding through

2003, similar future funding is anticipated for IRC improvements to assure the economic vitality of the state.

Transportation Revolving Loan Fund (TRLF)

A state fund set up under State Infrastructure Bank (SIB) provisions of TEA-21, which gives states the capacity to increase the efficiency of their transportation resources and leverage Federal resources by attracting non-Federal public and private investment. Operating much like a commercial bank, the TRLF provides loans or credit enhancements (loans or letters of credit, debt service guarantees) that can be used to capitalize projects, using loans secured by dedicated revenue streams from such sources as property taxes, special assessment and future federal or state transportation funding. Both the City of Winona and the State are eligible borrowers.

Local State-Aid Funding

The State has a dedicated fund for state aid for roads and bridges for counties and for cities of over 5000 population. The funding is available for maintenance and construction including, as appropriate, providing matching local funds for federal-aid.

Mn Dept. of Trade & Economic Development

A state program that provides financing to businesses for start-up, expansion or relocation. Eligibility depends on factors such as type of business, size, location and type of financing required.

State Bridge Bonding Program

This program uses the state bonding process to secure funds for capital bridge construction. Eligible projects may include replacement of existing bridges and the construction of grade separations.

Rail Service Improvement Program

A revolving loan program that provides low interest loans for rail line rehabilitation or other rail service improvements. This fund is available to shippers and railroads alike. Eligible projects include expansion of industrial spurs, adding storage capacity and building loading / unloading facilities.

Railroad Rehabilitation and Improvement Financing Program (RIIF)

A $5 billion program as part of TEA-21 set up to provide financial assistance to regional and short line railroads.

Port Development Assistance Program

A state fund developed in response to the needs of the commercial navigation system where no federal funds are available. The program provides a funding source for dredging and other port projects intended to ensure the effectiveness of the commercial navigation system.

Crossing Elimination & Improvement Program

A combination of state and federal funds intended to provide for improvements to grade crossing signals, crossing closures and construction of grade separations. A local match may be required, depending on the type of improvement.

Amtrak

Federal funds related to the operation of Amtrak's Inter-city Rail network. Eligible capital projects may include improvements to passenger stations, storage tracks and related facilities.

Amtrak Midwest Regional Rail Initiative

If approved, this program will provide funding for infrastructure improvements needed to allow Amtrak trains to operate at up to 110 mph. Possible projects include capacity improvements, grade crossing safety improvements and the construction of intermodal terminal facilities intended to link rail service with local and inter-city bus service.

Lock and Dam Capacity Improvement Program

A federally funded program administered by the United States Army Corps of Engineers for improvements to the capacity of the Lock and Dam system on the Upper Mississippi River.

11.2 Local Funding Sources

SE Minnesota Initiative Fund

Local funding source for projects that enhance business development in the Southeast part of Minnesota.

City of Winona

The City of Winona may fund certain improvements from City budget funds or from bonding.

Port of Winona

The Port of Winona may fund certain improvements from user fees or from other sources.

11.3 Private Funding Sources

Developers

Funding may be available from developers in the form of traffic impact fees, assessments or other related developer cost sharing fees.

Railroads

Railroads may provide some funding for projects that improve rail operations, improve grade crossing signals or eliminate grade crossings.

Shippers

Funding may be available for certain projects by shippers related to capacity improvements or business enhancements.

TABLE 11-1
Funding Opportunities

Project		State/Federal															Local			Private		
Probability		National Highway System	NHS Intermodal Freight Connectors	Surface Transportation Program (STP)	Inter-Regional Corridor Program	Transportation Revolving Loan Fund (TRCF)	Transportation Enhancement Fund	Local State Aid	State Bridge Bonding Program	Mn Dept. of Trade & Economic Development	Rail Service Improvement Program	Crossing Elimination & Improvement	Amtrak	Amtrak Midwest High Speed Rail Initiative	Railroad Infrastructure Investment Fund	Port Development Program	Lock & Dam Capacity Improvements	SE Minnesota Initiative Fund	City of Winona	Port of Winona	Developers	Railroads	Shippers
Low	= L																						
Medium	= M																						
High	= H																						
Rail Enhancements																							
	Rail Relocation to Riverfront											L			L				L			L	
	Wall Street Track Elimination											H			M				H			M	
	Levee Park Track Changes										M	M			M				H				M
	Amtrak Station / CP Yard Relocation			M							M	L	M	H	L				M			L	
Grade Separation Enhancements																							
	Pelzer St. Overpass		M	M		L		M	M			H		L		M			H	M		M	
	Bundy Blvd. Overpass - Frontenac to Sanborn					H			L			M							H	L		M	
	Huff St. Underpass					M		M	M			H							H			M	
	Johnson St. Pedestrian Underpass					M		L	L			M							M			L	
Grade Crossing Enhancements																							
	Crossing Closures											H							H			H	
	Signal Upgrades											H										M	
	Center Medians											M							H				
Riverbend Access/IRC Enhancements																							
	Access Ordinance - Overlay District				H														H				
	TH 61 Intersections	M	M		H													M					
	TH 43 Intersections	M	M		H													M					
	Bundy Blvd. - TH 61 to Frontenac																				H		
	TH 61 - Bundy Interchange				M																M		
	Riverbend Internal Circulation							H											H		H		
Port Enhancements																							
	Off-Channel Barge Fleeting															H	M			H			

Supporting Technical Documents

A. Shipper Questionnaire

Attachment A (following this section) provides actual results of the questionnaire. The shipper questionnaire used for this study is available on request.

B. Riverbend Industrial Park Traffic Summary

The summary of information from the traffic flow analysis conducted at the Riverbend Industrial Park, and included in this study, is available on request.

C. Proposed Infrastructure Improvements Type, Size, & Location Plans (TS&L)

1) **Pelzer Street**

2) **Huff Street**

3) **Bundy Blvd.**

4) **Johnson Street**

A summary of the proposed infrastructure improvements and additional information for each location is available on request.

If you are interested in receiving any of these supporting documents, please write:

Minnesota Department of Transportation
Office of Freight, Railroads and Waterways
Re: Winona Intermodal Study
395 John Ireland Boulevard
Mail Stop 470
St. Paul, MN 55155-1899

- Attachment A -
Winona Port Study
Shipper Questionnaire Results

1) Type of business

a)	Manufacturing	7	41%
b)	Processing	1	6%
c)	Warehousing	1	6%
d)	Distribution	1	6%
e)	Retail or wholesale	1	6%
f)	A & B & C	1	6%
g)	C & D & E	1	6%
h)	C & E	1	6%
i)	C & J	2	11%
j)	Other:	1	6%
	Transportation; Barge unloading;		

2) How important is the Winona operation to your company in its industry? Explain:

- Vital port; Grain origination point. Very important.
- Very important, sole facility for product line.
- Very important.
- Flag ship of organization. Largest facility, diverse operations, does all specialty milling. Very important.
- Very important. Corporate office.
- Extremely. Operate at 95% capacity. 98% rail transport and 2% truck transport. Ship seven million bushels per year.
- Only operation.
- Very important.
- Only operation.
- Very important, only location with warehousing.
- Very, two locations in Winona, one for warehousing.
- Headquarters
- Only operation.
- Very important, all manufacturing takes place here, was founded in Winona.
- Headquarters.
- Important, clients located all over the country.
- Flagship, company headquarters.

3) Number of employees at your Winona location

a)	1 to 10	2	11%
b)	11 to 25	4	24%
c)	25 to 50	3	18%
d)	51 to 100	3	18%
e)	Over 100	5	29%

4) Number of shifts worked per day

a)	one	7	41%
b)	two	2	12%
c)	three	8	47%

5) Are you a current rail user?

a)	Yes	11	65%
b)	No	6	35%

6) If not a rail user, why not? (Circle all that apply)

a)	Not cost competitive	1	16.7% of non users
b)	Rail delivery takes too long	1	16.7% of non users
c)	Business not suited for rail delivery or shipment		
d)	Site not rail accessible	1	16.7% of non users
e)	A & B & C	1	16.7%
f)	A & D	1	16.7%
g)	A & B & H	1	16.7%
h)	Other: Coordination issues;		

7) If rail service were more convenient, would you use it?

a)	Yes	3	50% of non users
b)	No	3	50%

8) Rail service

a)	Inbound	4	24%
b)	Outbound	2	12%
c)	Both	5	29%
d)	Neither	6	35%

9) How many rail cars per week?

a)	0	6	35%
b)	1 – 4	4	24%
c)	5 – 10		
d)	11 – 24	1	6%
e)	25 or more	6	35%

10) Rail service provided by (Circle all that apply)

a)	Canadian Pacific	1	6%
b)	Union Pacific		
c)	DM&E	1	6%
d)	All of the above	4	24%
e)	B & C	1	6%
f)	A & B	3	17%
g)	None	6	35%
h)	Burlington Northern	1	6%

11) How often do you receive rail service?

a)	Less than once per week	2	18% of rail users
b)	Once per week	2	18%
c)	2 to 3 times per week	2	18%
d)	Daily	5	46%

12) Commodities handled by rail (Circle all that apply)

a)	Petroleum products, chemicals, etc.		
b)	Bulk Commodities (Coal, iron ore, aggregates, plastics etc.)	2	18%
c)	Lumber		
d)	Machinery		
e)	Grain, fertilizer, feed, food grade products, etc.	6	55%
f)	Paper, plywood, etc.		
g)	Other: Canned vegetables; Cotton;	1	9%
h)	B & G	1	9%
i)	C & F	1	9%

13) Truck service

a)	Inbound	2	12%
b)	Outbound	1	6%
c)	Both	14	82%
d)	Neither		

14) How many trucks per week?

a)	0		
b)	1 – 4		
c)	5 – 10	1	6%
d)	11 – 24	3	18%
e)	25 or more	13	76%

15) Do you have any plans to expand your current operations?

a)	Yes	8	47%
b)	No	8	47%
c)	Not Sure	1	6%

16) When?

a)	Within 1 year	4	44% of Yes and Not Sure
b)	Within 5 years	1	12%
c)	Within 10 years		
d)	More than 10 years		
e)	Not sure	4	44%

17) Will you utilize rail service for this expanded business?

a)	Yes	6	67% of Yes and Not Sure
b)	No	1	11%
c)	Not sure	2	22%

18) Will you use trucks for this expanded business?

a)	Yes	7	78% of Yes and Not Sure
b)	No		
c)	Not sure	2	22%

19) Other concerns in quality of existing transportation services
Explain:

- Need continued cooperation of Port Authority to aid in growth.
- Incoming trucks have to wait at railroad crossings. Pelzer Street is a bottleneck. This delays shipments, slows business.
- Access with railroad crossings, no safe distance between access road and tracks for truck safety.
- Look at traffic signals on 53 and 61. Very dangerous intersection for truck traffic.
- Adequate rail service with one switch per day.
- Access street to company does not allow a right hand turn. New truck routes must take this into account.
- Congestion of three railroad companies, multiple tracks, etc.
- Rail service is vital. Currently it is borderline efficient. Need to improve the efficiency of rail. The more difficult to get into a facility the less likely that rail providers will continue to upgrade and operate.
- Transportation is key for business to remain profitable. It must remain efficient and affordable.
- Access to Levy Park tracks is key. If they lose this other services must be offered for the company to remain viable and in operation.
- New Transportation Plan must be fair and equitable for everyone.
- Railroad crossing bottlenecks slow trucks and employees.

- Grain trucks limit Riverview two-way traffic. When trucks are parked on shoulders regular traffic cannot get by.
- Considering barge shipments. Additional routes are needed to get to river. Need additional transportation services to get the short distance.
- Need continuity of contact people with the railroads.
- All rails must move on same track. Cannot get cars switched in a timely manner, big issue, slows everything.
- Bridges needed over crossings, causing delays in truck shipments.
- Poorly identified and routed truck route.
- Congestion near grain terminals causes congestion near 2nd and Huff. Trucks and clients cannot get through.
- Rail crossings with trucks are terrible, tied up roads all the time. Employees cannot get to work on time.
- Difficult for trucks to get to facility, excess traffic on small road (Riverview). Main road leading to industrial park.
- Trying to bring in rail service from WI, but UP no receptive.
- UP and DM&E need to work better with their switching yard.
- Rail access would be nice.
- No real problems.
- Third party providing company, rail transfers, interested in developing intermodal business.
- DM&E concern: needs to remain strong, vital shipping source.
- Need bypasses over rail tracks for good of community. Keep rail perception good to ensure viability.
- River crossing for rail to expand markets and address DM&E expansion and business expansion.
- Fairly well satisfied for business with good availability.
- Train switching should not be done on main roads. Better location or better timing not to effect traffic.
- Mankato Avenue bottleneck.
- Emergency vehicles can not cross railroad tracks either.
- Roads in good condition.
- Where can over road truckers park? No truck parking area for overnight parking.
- No certified scales in town (industry wide and certified) trucks leave town not knowing if illegal or not.
- More than two overpasses are needed over railroad tracks.
- Need to look at 10 - 20 year growth areas to take into account transportation routes.
- Need space for safe and efficient movement and transportation.
- No real complaints
- Access to interstate bridge needed.
- Efficient barging and shuttling service needed.
- DM&E would effect distribution to trucks and ability of employees to get to work.

- Distribution has been very smooth.
- Streets to narrow for truck routes with zig-zagging route. Trucks cannot make turns. Need more room on streets for truck traffic.
- Truck routes, very confusing, not efficient, no flow.
- Employees late for work, lose work time at train crossings.
- Freight delayed at railroad crossing.
- Truck routes not clearly marked. Truck routes not most direct routes.
- Railroad crossing not leveled, etc. at smaller areas hard on vehicles, wear and tear.
- Stop and go lights are not synchronized for flow. Always stopping and going of trucks.
- River Road by elevators is stacked on both sides with trucks during unloading. Not enough room for east and west traffic.
- Turn around space for loading docks. Trucks stop traffic while trying to back into loading docks.
- Truck routing difficult. Drivers get lost. No clean routes, always heavy congestion.
- Egress/ingress off of Dike Road to 3rd Street would allow much easier access.
- Delays with trucks trying to get across tracks. Employees have difficult time getting to work across tracks.
- Pelzer is most important to fix.
- Number of trucks running out is 20+ with two rail crossings (Pelzer and Riverview, busy at 2nd Street) are really tough to deal with. Pelzer is the killer, no care for traffic flow. Other is good with traffic flow.
- Intersection of 14 and 61, not enough stacking distance for turning. May have to wait for three to four traffic light changes to turn.
- Mankato Avenue, Target, turning lanes not well defined. Traffic in multiple lanes. RR track crossing is poor location for switching yard 10 – 15 minute delays very common.

20) Method of tracking shipments

a)	Paper documents	2	11%
b)	Fax		
c)	E-mail		
d)	Electronic Data Interchange (EDI)		
e)	All of the above	11	65%
f)	B & C & D	1	6%
g)	C & D	1	6%
h)	A & B	1	6%
i)	Other: Verbal, telephone;	1	6%


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Moving Minnesota
Winona
MINNESOTA
Edwards
AND
Kelcey