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**Senate**

State of Minnesota

March 5, 2001

Office of the Secretary  
Attn: Ms. Virginia Rutson  
STB Finance Docket No. 33407  
Surface Transportation Board  
1925 K Street Northwest  
Washington, D.C. 20423-0001



**Re: Comments concerning Surface Transportation Board for Finance Docket No. 33407**

Dear Ms. Rutson and Members of the Surface Transportation Board,

The Rochester community has been very vocal in expressing concerns related to each of the options you have identified for the proposed DM&E expansion. In this letter I will not be reiterating any of those arguments.

Instead I am writing to make you aware of other long-range transportation projects that are underway which interplay with the DM&E decision. As you consider the options for the DM&E proposal, I request that you look beyond the immediate issues to consider how the DM&E alignment can be put in context with other decisions that our city, region, and state will be making. The expansion and upgrading of the DM&E can enhance or detract from a number of other transportation and infrastructure initiatives in the Rochester area.

For the past four years I have chaired a High Speed Rail Task Force for the Midwest Conference of the Council of State Legislatures. In January, I became chair of the Midwest Passenger Rail Compact. This compact has been formed by Midwest legislatures to advocate for improvements in passenger rail services.

I have become a rail advocate who sees rail as an important component of a multi-modal transportation infrastructure for our state and region.

My work in this capacity and as a State Senator representing the City of Rochester leads me to urge that, if the DM&E project is approved, a by-pass around the City of Rochester be required. A DM&E by-pass around Rochester will not only best address the impacts on Rochester, but will become part of an infrastructure corridor of complementary transportation and utility projects. The by-pass corridor will allow the negative economic impacts of the DM&E expansion to the Rochester community to be converted to an opportunity to provide benefit to a variety of current and future community needs.



It has been clearly documented that agricultural communities generally believe that the DM&E rail expansion will provide net benefit to their communities and to the state. In contrast, larger communities such as Brookings, Pierre, Mankato, and Owatonna have raised questions about the rail line, and tend to see the rail line as being disruptive to their communities and resulting in negative economic and social consequences. With its unique economic base, Rochester has concluded the rail line expansion will irrefutably have damaging economic and quality of life impacts.

There are, however, other considerations that could allow the by-pass to result in positive outcomes for the Rochester area. Allow me to call several related issues to your attention:

**Minnesota High Speed Rail Planning:**

It is unlikely that the STB is aware that Minnesota has been studying the potential for developing a high speed rail corridor between the Twin Cities and Chicago. A phase one and phase two feasibility study have been completed. A copy of the executive summary is attached.

This study indicates that a Twin Cities to Chicago corridor can have sufficient ridership to operate without subsidies. It also concludes that the existing Amtrak corridor along the Mississippi River cannot be upgraded to accommodate high speed passenger trains. The study recommends a corridor that would parallel Interstate 90 from the Mississippi River to Rochester, then turn north near the Rochester airport and go north roughly parallel to state highway 56 to the Union Depot in downtown St. Paul.

For a number of years, a committee of the Rochester Chamber of Commerce has been advocating that Minnesota actively pursue a high speed rail for the Twin Cities to Chicago corridor. Such a passenger rail corridor would require corridor designation and right of way acquisition that is compatible with the proposed DM&E by-pass.

**Airport Alliance to Maximize Airport Capacity:**

The Metropolitan Airport Commission (MAC) and the Rochester Airport Commission are in discussions on forming an alliance to maximize use of capacity. The MAC is the governing body for the Minneapolis-St. Paul International Airport (MSP) and the seven metro area reliever airports. When the current building projects at the MSP are completed in 2004, the MSP airport will be at capacity. Rochester Airport which is currently rebuilding its terminal and has recently added a separate air cargo facility, has excess capacity and both the land mass and zoning that will allow airport expansion. An alliance between the two airports would provide economic benefit to both the southeastern Minnesota and the Twin Cities metropolitan areas. A demonstration of this recognized mutual gain impact is Minneapolis Mayor Sharon Sales Belton's support of the airport alliance.

**Airport to Airport Connectivity Via Rail:**

As the Rochester Airport Commission and the MAC explore ways to meet future aviation needs, the issue of how to best connect the two airports will need to be addressed. One possibility is to

use an airport to airport high speed rail link. Such a rail connection may not necessarily be a component of an intercity rail corridor between the Twin Cities and Chicago. It could be a dedicated rail connection between the airports.

To examine the possibility of an airport to airport rail link, the Minnesota Department of Transportation (MNDOT) is entering into a partnership agreement with the City of Rochester to do a feasibility study of using a high speed passenger rail connection between the two airports. Building on the work of the MNDOT and WIDOT Phase II Study of High Speed Rail, the new study will look at the technical aspects of connecting a high speed rail line into MSP airport.

#### **Energy Planning and Needs:**

Minnesota is launching a comprehensive multiple year electric energy enhancement effort. Creation of both new electric generation and electric transmission capacity will be a top state priority in order to meet our growing demand. Using a multi-modal transportation corridor to accommodate electric transmission towers would be a logical and efficient component for meeting Southeastern Minnesota's needs.

#### **Unique Economic Base**

It cannot be denied that the Rochester community is an economic engine for the State of Minnesota. Nor can it be denied that it has a unique economic base: a world famous medical center and a high concentration of technology companies. The community environment is an important component of what makes this medical center attractive to patients through-out the nation and world. As the City Council has already outlined in their offer, this community will be willing to work to preserve its economic base and quality of life by contributing to the costs associated with a by-pass for the DM&E rail line.

As a legislator representing this community, I stand ready to provide whatever leadership is needed at the State Legislature to assist Rochester and Minnesota in preserving this community's economic and social vitality.

It has been stated that the DM&E project is the most complicated project that has yet to come under the STB's jurisdiction. It is important that the STB act wisely and provide a means to balance the competing interests of the DM&E and the communities that will be affected by its operations.

I hope that you will take a comprehensive, long-range view of the issues as they affect the Rochester community. If you do, I believe you will conclude that a by-pass around the community will be the best long-term solution.

Sincerely,

A handwritten signature in black ink, reading "Sheila Kiscaden". The signature is written in a cursive, flowing style with a large initial "S".

Sheila Kiscaden  
State Senator, District 30

## EXECUTIVE SUMMARY

### INTRODUCTION

The purpose of the Tri-State II High-Speed Rail Feasibility Study was to evaluate the potential for high-speed rail service in the Chicago-Milwaukee-Twin Cities corridor. The Midwest Regional Rail Initiative<sup>1</sup> (MWRRI), the Base Case for Tri-State II, evaluated intermediate rail service; this study considered further improvements for a range of high-speed options. The Illinois, Minnesota, and Wisconsin Departments of Transportation and the Federal Railroad Administration (FRA) previously conducted a series of studies on regional rail options.<sup>2</sup> Those studies, in conjunction with MWRRI results, show that high-speed service would be a viable economic investment for the region.

Tri-State II evaluated incremental high speed (110 mph), high speed (150 mph) and very high speed (over 185 mph) train technologies that could be operated on various route alignments. Forecasts of ridership, revenue, operating costs and capital costs were created for the route and technology options using the RightTrack<sup>®</sup> software package.<sup>3</sup> Ridership and revenue forecasts were developed based on travel characteristics, survey findings, and demographic statistics. After the financial return on investment was identified for each option, a Conceptual Implementation Plan was developed.

### TRAIN TECHNOLOGY OPTIONS

MWRRI specified incremental passenger rail service (110 mph) as the base case for study. Straightening track curves to accommodate high-speed passenger trains requires significant capital costs; incremental service typically employs tilt mechanisms for passenger comfort and steerable bogies to maximize speeds around curves at relatively low levels of investment. Tri-State II followed the MWRRI study and evaluated Diesel Multiple Unit (DMU) equipment as the generic representative for incremental (110 mph) service.

The Tri-State II project examined two different 150-mph technologies, electric and gas-turbine power. When these trains operate on mixed-use (i.e., passenger trains and freight operations) rights-of-way, additional infrastructure capacity and safety features are required, and tracks,

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<sup>1</sup> The MWRRI is a collaborative effort among nine Midwest states – Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Nebraska, Ohio and Wisconsin – the National Railroad Passenger Corporation (Amtrak), and the FRA, to evaluate the potential for an expanded and modern regional intercity passenger rail system.

<sup>2</sup> *Tri-State Study of High Speed Rail Service*, May 1991 The study was conducted by Transportation Economics & Management Systems/Benesch, and funded by the Illinois, Minnesota, and Wisconsin Departments of Transportation; *Chicago/Milwaukee Rail Corridor Study*, May 1997 The study was conducted by Envirodyne Engineers, Inc. and funded by the Illinois and Wisconsin Departments of Transportation

<sup>3</sup> The RightTrack<sup>®</sup> software package developed by the Transportation Economics & Management Systems, Inc. includes the COMPASS<sup>®</sup> Demand Forecasting Model System, GOODS<sup>®</sup> Freight Forecasting Model, LOCOMOTION<sup>®</sup> Train Performance Calculator, MONITOR<sup>®</sup> Maintenance Management System, RENTS<sup>®</sup> Financial and Economic Analysis Model, and TRACKMAN<sup>®</sup> Rail Inventory System. A complete description of RightTrack<sup>®</sup> can be found in Appendix 5.5 of Tri-State II Final Report.

signals and crossings must also meet higher standards. In addition, electric traction requires a catenary system that significantly increases infrastructure investment.

The highest-speed trains (185 mph) require straight tracks and high levels of super-elevation for curves. For these trains, the FRA mandates no "at-grade" crossings, and - as their rights-of-way are unsuitable for other rail traffic (passenger or freight) - a dedicated right-of-way. Tri-State II evaluated the Tren a Gran Vitesse (TGV) as the generic representative for 185-mph rail.

The following routes and technologies were selected for evaluation:

- Base Case: Chicago-Milwaukee-Madison-Winona-Twin Cities following the Amtrak Empire Builder route; Diesel Multiple Unit (DMU) technology; maximum speed 110 mph.
- Option B-1: Chicago-Milwaukee-Madison-Winona-Rochester-Twin Cities, primarily on existing freight rights-of-way; DMU Technology; maximum speed 110 mph.
- Option B-2: Same course as B-1; American Flyer (gas turbine) technology; maximum speed 150 mph.
- Option C-2: Chicago-Duplainville-Madison-Rochester-Twin Cities, branching off "cross-country" from Ixonia to Madison; American Flyer technology; maximum speed 150 mph.
- D-3: Same route as C-2, but operating on elevated tracks in urban areas; TGV technology; maximum speed 185 mph.

For each of these options, capacity restrictions of the existing Canadian Pacific (CP) Railway freight route through Winona, Red Wing and Hastings, Minnesota were studied. It is clear that freight activity will increase significantly on this route in the next 20 years, affecting passenger rail operations and limiting both frequency of service and speeds.

#### **OPERATING PLAN ALTERNATIVES**

Travel times and frequency of service influence ridership and revenue. The LOCOMOTION® Train Performance Calculator was used to develop timetables for each route/technology using both express and local stop trains. Fleet sizes were determined by balancing frequencies against ridership. Following are the key findings. (See Exhibit ES-1 for forecast summary.)

- To make significant improvements in travel times, as recommended by MWRRI, and to service Rochester, Minnesota, 150-mph technology on a new route is necessary.
- Frequency of service should be expanded from six to 18 trains per day between Chicago and the Twin Cities, increasing the base-operating plan by three times.
- A new right-of-way and service to Rochester would eliminate serious train conflicts associated with the CP right-of-way north of Watertown, Wisconsin.
- One hundred eighty-five mph service is fastest, but in urban areas it must be constructed on elevated tracks to avoid conflicts, which is prohibitively expensive.

**Exhibit ES.1**  
**Operating Plan and Ridership Forecast Summary for the Year 2020**

| Option    | Route Option   | Speed   | Express Travel Time | Daily Frequency | Number of Train Sets | Number of Cars | Average Number of Daily Riders | Annual Riders |
|-----------|----------------|---------|---------------------|-----------------|----------------------|----------------|--------------------------------|---------------|
| Base Case | ----           | 110 MPH | 5:27                | 6               | 12                   | 82             | 9,014                          | 2,929,400     |
| Option B1 | Rochester      | 110 MPH | 5:34                | 6               | 12                   | 87             | 8,746                          | 2,842,400     |
| Option B2 | Rochester      | 150 MPH | 4:59                | 18              | 19                   | 147            | 12,840                         | 4,172,900     |
| Option C2 | New Route      | 150 MPH | 4:14                | 18              | 19                   | 174            | 15,219                         | 4,946,100     |
| Option D3 | Urban Elevated | 185 MPH | 3:11                | 23              | 21                   | 156            | 18,175                         | 5,906,900     |

**RIDERSHIP FORECASTS**

The COMPASS<sup>®</sup> demand-forecasting model was used to evaluate the feasibility of high-speed passenger rail service. This was a four-step process: 1) Gather information on market and modal travel patterns. 2) Identify socioeconomic factors that influence the growth of travel demand. 3) Test rail options to identify rail modal-shares. 4) Forecast demand for each option for horizon years. Following are the results of the process:

- The corridor has a very vigorous travel market, and there is extensive travel between the cities in the region.
- Forecasts for income growth are significantly higher than population growth; consequently, travel is expected to increase faster than population or employment.
- The value of time analysis reveals that the travel behavior governing rail use is more similar to air than to auto.
- Rail market shares will increase as frequencies increase and travel times decrease. Shares are estimated at 0.3 percent in the base year; 1.5 percent in 2020 for the 110-mph option through Rochester; 2.2 percent for the 150 mph option through Rochester; and, 3.1 percent for the 185-mph option. Annual ridership estimates range from just under three million in the base year to almost six million for Option D-3 (TGV technology, elevated track in urban areas).

**COST AND REVENUE ANALYSIS**

Operating costs used in this analysis were based on those generated for the MWRRI analysis. They were calculated from study data, input from manufacturers and/or users of the technology, and subject to sensitivity analysis. Infrastructure costs were estimated using engineering inputs to a unit-cost approach. An infrastructure analysis was performed to identify impediments to

optimum operation; track charts and geological gradient maps were reviewed; and, an engineering assessment conducted to measure environmental and energy impacts. The infrastructure costs were subject to capacity analyses, and capital investments were added to the options that utilize the CP track in order to alleviate freight-train constraints. Cost estimates and ridership projections were then used to plan operating timetables.

Revenue analysis assumed optimal fare levels, better-connecting air-passenger services within the corridor, and profit from same-day parcel and on-board services. The assessment assumed no competitive response from air and bus modes. (Exhibit ES.2)

**Exhibit ES.2**  
**System Summary Revenues and Costs**  
**(\$ in Millions)**

|                              | Base Case<br>110 mph | Option B1<br>110 mph<br>Rochester | Option B2<br>150 mph<br>Rochester | Option C2<br>150 mph<br>New<br>Alignment | Option D3<br>185 mph<br>Elevated |
|------------------------------|----------------------|-----------------------------------|-----------------------------------|------------------------------------------|----------------------------------|
| Operating Revenues<br>(2020) | 135.2                | 144.6                             | 294.4                             | 361.7                                    | 480.2                            |
| Operating Costs (2020)       | 83.8                 | 89.7                              | 122.4                             | 148.7                                    | 170.2                            |
| Rolling Stock                | 117.5                | 124.2                             | 351.6                             | 416.3                                    | 253.2                            |
| Infrastructure Investment    | 822.7                | 1,138.7                           | 2,752.5                           | 3,242.8                                  | 8,017.5                          |

### FINANCIAL RETURNS

Financial results were tested using a 30-year horizon. The analysis summarized capital costs, revenues, and operating costs, and then compared them with operating ratio, net present value (NPV) and modified internal rate of return (MIRR). Economic conditions and other influencing factors were addressed in a sensitivity analysis.

It was found that all route/technology options presented are financially viable, replicating previous results. Subsequent to the development of MWRRI, the option projected to have the highest financial return is the Rochester re-route by the year 2012, using the 150-mph alternative and gas turbine technology on a separate right-of-way from the congested CP alignment. Notwithstanding financial return considerations, the capacity analysis showed that an alternative route through Rochester may be necessary in the near future in order to provide reliable high-speed train service under any technology option.

### ECONOMIC ANALYSIS

High-speed passenger rail service will benefit both users and non-users of the system. All options will generate significant economic benefits in terms of consumer surplus (benefits to users in excess of what they pay in fares). The net economic benefits would include higher rates of employment, per capita income, commercial property values, rents, and growth in the regional tax base. Employment, income, and property value benefits should not be construed as over and

above user benefits, but rather mechanisms by which user benefits will be incorporated into the regional economy. All options project a positive NPV and benefit/cost ratio. Consistent with the Financial Analysis, Option C-2, 150-mph gas-turbine service through Rochester, is projected to provide the best benefit-cost ratio and capital constrained consumer surplus. Projected NPV range from \$5.3 million, 1998 dollars, for Option B-1 (Rochester, 150 mph) to \$2,673.3 million for Option D-3 (Rochester, urban-elevated, 185 mph). (Exhibit ES.3)

**Exhibit ES.3**  
**Financial and Economic Overview**  
**(1998 Dollars in Millions)**

| Option    | Total Costs <sup>1</sup><br>PV | Revenue<br>PV <sup>1</sup> | Operating<br>Ratio<br>(2020) | Incremental<br>NPV<br>At 5% | Gross<br>Consumer<br>Surplus PV <sup>1</sup> | Project<br>NPV | Benefit<br>Cost<br>Ratio | MIRR<br>(%) |
|-----------|--------------------------------|----------------------------|------------------------------|-----------------------------|----------------------------------------------|----------------|--------------------------|-------------|
| Base Case | ---                            | ---                        | ---                          | ---                         | ---                                          | ---            | ---                      | ---         |
| Option B1 | \$ 484.6                       | \$ 168.8                   | 1.61                         | \$ 0.3                      | \$ 321.2                                     | \$ 5.3         | 1.01                     | 5.0         |
| Option B2 | \$2,535.8                      | \$2,215.6                  | 2.40                         | \$ 836.2                    | \$1,899.9                                    | \$1,579.7      | 1.62                     | 17.6        |
| Option C2 | \$3,445.3                      | \$3,158.3                  | 2.43                         | \$1,183.1                   | \$2,628.9                                    | \$2,341.9      | 1.68                     | 18.3        |
| Option D3 | \$7,892.6                      | \$4,790.0                  | 2.82                         | \$1,180.0                   | \$5,775.9                                    | \$2,673.3      | 1.34                     | 14.6        |

<sup>1</sup> Five percent discount rate

### FUNDING ALTERNATIVES

Because of the magnitude of the capital requirements and the lack of a proven system of this size in the region, the potential for full private-sector funding of the Tri-State project extremely unlikely. (MWRRI proposed 80 percent federal participation, which would build the Base Case in the state corridor.) It is assumed that each state will fund its own portion of the capital costs using a combination of funding alternatives. Wherever possible, costs allocated to a state should be directly related to the benefits received by that state. Specific funding strategies and structures are outside the scope of this study; however, it is expected that the most likely mechanisms include Federal financial assistance (the U.S. Department of Transportation has designated the Chicago Hub as one of five high-speed corridors throughout the nation, signifying that it is eligible for special funds), cash flow management (TIFIA, GANs), and cost reduction techniques (cross-border leases, COPs).

### CONCEPTUAL IMPLEMENTATION PLAN AND SUMMARY

This study was based on the assumption that the improvements recommended in MWRRI will be completed prior to the implementation of Tri-State II. A full EIS must be undertaken (with a focus on 150-mph technology using the new route between Twin Cities and Ixonia) to eliminate potentially-fatal flaws and increase investor confidence in all cost and revenue forecasts.

The Conceptual Implementation Plan represents the most effective strategy to follow subsequent to the implementation of MWRRI. (Exhibit ES.4) Due to the level of freight activity and

difficulty in providing access for passenger service along the Mississippi River from La Crosse-Twin Cities, the first steps should be an earlier (rather than later) routing through Rochester. It is recommended that this alignment be developed initially to 150-mph standards to prevent costly rework later when the system can support faster speeds (which are anticipated by 2012). During Phases 1 and 2, the EIS, design and construction for the La Crosse-Rochester and Rochester-Twin Cities routes are likely to require seven years to complete. To commence service by 2012, Phase 1 should begin in 2005.

Phases 3 and 4 would progress south from LaCrosse to Portage, and then from Portage to Madison. Phase 5 recommends improvements to 130 mph for Madison-Watertown. Only minor improvements are proposed for the Watertown-Milwaukee-Chicago segments (Phases 6 and 7); due to the investment required to upgrade the service versus the minimal time-savings achieved, these should be last in funding priority.

#### Exhibit ES.4 Proposed Implementation Phases

