

3. Proposed Midwest Regional Rail System

3.1 Introduction

The proposed Midwest Regional Rail System (MWRRS) will operate in nine states, encompass approximately 3,000 route miles and operate on eight corridors. The system will largely use existing railroad rights-of-way owned by the freight railroads and Amtrak. The system has been planned to maximize the extent to which operating costs are recovered from fares and other ancillary revenues, a fundamental precept of the Business Plan.

The MWRRS is planned as a hub-and-spoke operation, with a series of primary and secondary corridors and branch lines off selected corridors. Chicago serves as the hub, with spokes connecting Twin Cities, Green Bay, Detroit/Pontiac, Grand Rapids/Holland, Port Huron, Cleveland, Cincinnati, St. Louis, Kansas City, Carbondale, Quincy and Omaha. The system also provides scheduled service to other regional centers including Milwaukee, Kalamazoo, Ft. Wayne, Toledo, Indianapolis, Springfield, Des Moines, Madison, Lansing, Jefferson City and Iowa City.

Service attributes include new rolling stock operating at significantly faster speeds than existing equipment and offering more on-board amenities designed to meet the needs of business and leisure travelers. Train stations will be renovated to provide comfortable, attractive waiting areas with customer-friendly information services. Larger stations should feature food service, retail space and connections to local transportation. There will be a feeder bus network, shown in Exhibit 3-1, to facilitate access to the stations, and its schedules and fares will be coordinated with the passenger rail schedules to provide essentially “seamless” travel throughout the Midwest region.

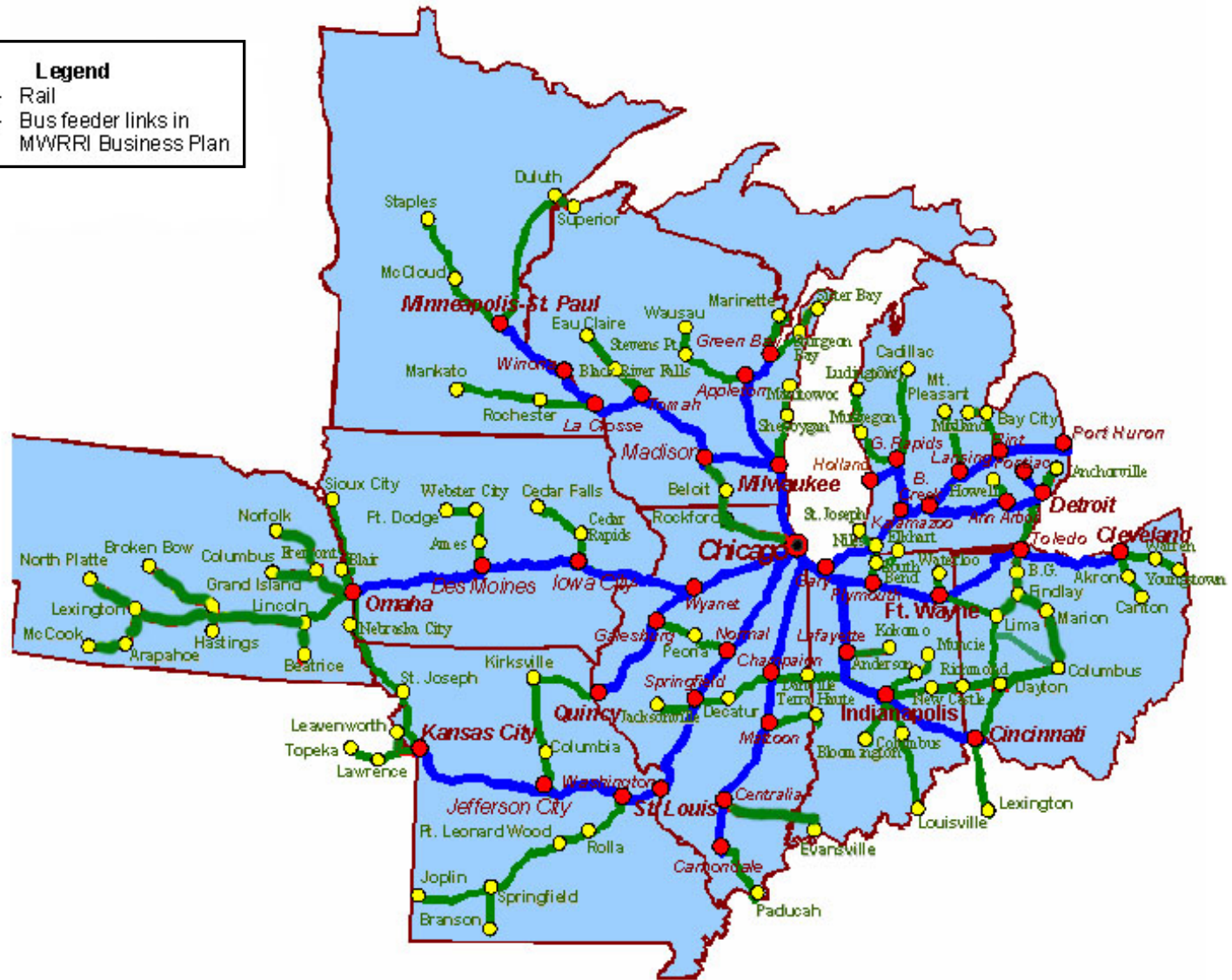
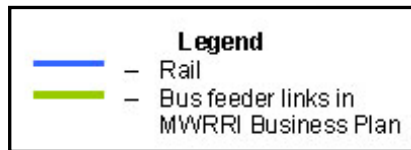
The principal service attributes of the MWRRS are:

- Use of modern equipment
- Improved travel times and frequencies
- Competitive fares that maximize revenue yields
- Improved accessibility and reliability
- On-board and station amenities

On-board food service provides the main source of ancillary revenues, but a same-day priority parcel service is an optional, ancillary business that may also be provided in conjunction with passenger rail service. To be conservative, MWRRS operating ratios and the financial plan were developed *without* inclusion of parcel service. However, a set of operating ratios *with* express parcel service has also been developed as a sensitivity.

A description of these service attributes and the benefits they provide to the passenger rail traveler is given below.

**Exhibit 3-1
Feeder Bus System Map**



3.1.1 Use of Modern Equipment

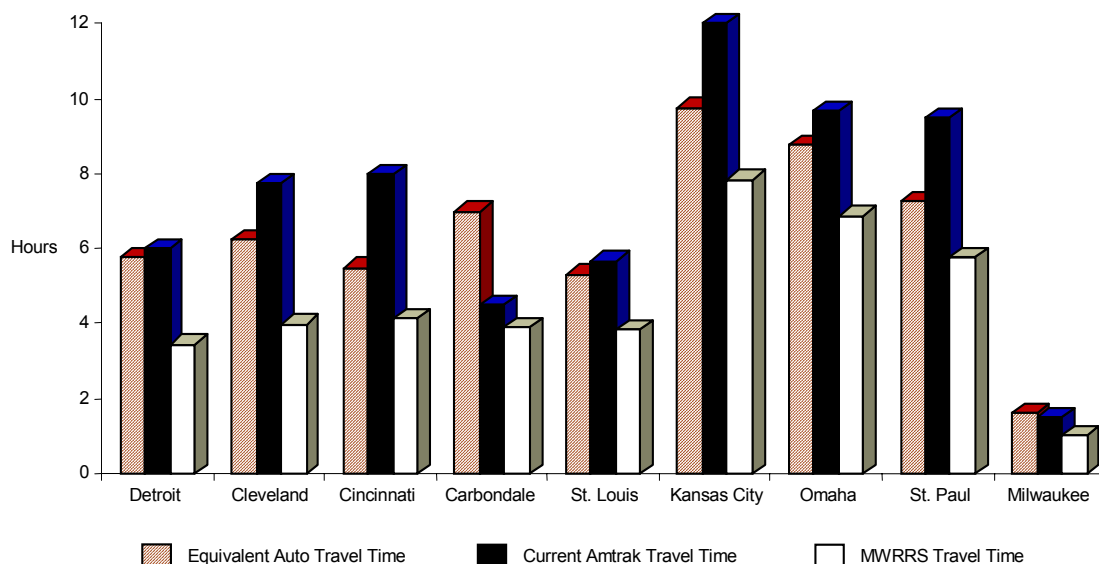
It is proposed that the MWRRS will use modern, cost-effective technology for achieving the desired speed of 110-mph. While a generic train technology has been selected for the purpose of the study, many options should be considered as the MWRRS moves towards implementation. Principal advantages of modern train technology include low operating costs, high performance levels and efficient handling characteristics. Along with anticipated economies of scale, modern technology reduces operating costs when compared to existing Amtrak practice. In the earlier 2000 Plan, European costs were measured at 40 percent of Amtrak's costs. However, in the current 2004 study, train operating costs have been significantly increased to a level that is approximately 80 percent of Amtrak's costs today. This is regarded as a conservative assumption for a modern, 63-train system. Costs assumed in this study are specific to a large operation with economies of scale and may not apply to a smaller system. The modern train provides a wide range of comfort and convenience geared to 21st century travel.

3.1.2 Improved Travel Times and Frequencies

Travel time and frequency of service are the two key factors travelers consider when selecting a mode of travel. The MWRRS will offer an attractive mix of travel times and train schedules to accommodate business as well as leisure travelers. Improved travel times and increased frequency of service will serve to foster connectivity throughout the region and strengthen the overall attractiveness and performance of the MWRRS.

When compared with the travel times of the current passenger rail service, travel time savings on the MWRRS range from 30 percent between Chicago and Milwaukee, to 50 percent between Chicago and Cincinnati. Exhibit 3-2 provides a table comparing MWRRS and existing travel times.

**Exhibit 3-2
Improved MWRRS Travel Times***



As shown in Exhibit 3-3, the improvement in train frequencies, compared with the existing service, generally results in doubling or tripling the level of service currently offered along most of the corridors.

**Exhibit 3-3
Improved MWRRS Train Frequencies**

<i>MWRRS Corridors</i>	<i>Number of Daily Trips per Direction</i>	
	<i>MWRRS</i>	<i>Current Service</i>
Chicago-Detroit	9	3
Chicago-Cleveland	8	2*
Chicago-Cincinnati	5	1*
Chicago-Carbondale	2	2*
Chicago-St. Louis	8	3*
St. Louis-Kansas City	6	2
Chicago-Omaha	4	1*
Chicago-Twin Cities	6	1*
Chicago-Milwaukee	17	8*

* Current Service includes long-distance trains.

3.1.3 Competitive Fares that Maximize Revenue Yields

A key component in the planning of the MWRRS was the use of revenue yield techniques to maximize revenues. While these techniques are widely used by the airline industry, their application to passenger rail service is a recent development. A parametric analysis was used here to optimize fares for specific corridors, route segments and markets. Based on the use of revenue yield techniques, average fares for the MWRRS will range from 18 to 29 cents per mile.

In addition to full fares, a series of market-specific promotional and discount fares will be established to fill off-peak trains and encourage certain segments of the population, in particular students and senior citizens, to travel at off-peak times. A variety of travel cards and other promotional ticketing systems will also be developed to further promote widespread use of the system. Illustrative one-way average fares for selected city pairs on the MWRRS are given in Exhibit 3-4¹.

¹ Full fare comparisons can be misleading since Amtrak seldom is able to actually charge full fare on its current Midwest routes. The MWRRS will charge full fare a higher proportion of the time, especially to business travelers, which accounts for most of the projected increase in average fares. Sample MWRRS point-to-point fares are given in Exhibits 4-34 and 4-35.

Exhibit 3-4
Average One-way Corridor Fares for the Moderate Scenario*
(2002\$)

	<i>Average Fare</i>			<i>Average Trip Length</i>	<i>Cents per Mile</i>
	<i>Business</i>	<i>Other</i>	<i>Overall</i>		
Chicago-Detroit	44.71	31.15	34.67	191	18.45
Chicago-Cleveland	59.05	48.87	51.16	203	25.20
Chicago-Cincinnati	67.96	49.55	54.37	212	25.65
Chicago-Carbondale	27.89	28.43	28.29	121	23.38
Chicago-St. Louis	54.63	38.17	43.49	197	22.08
St. Louis-Kansas City	43.05	30.72	35.18	151	23.30
Chicago-Quincy-Omaha	44.77	37.64	39.25	170	23.09
Chicago-Twin Cities	46.84	39.00	41.30	147	28.10
Milwaukee-Green Bay	32.09	23.02	25.03	86	29.10
Chicago-Grand Rapids	42.88	32.75	34.71	155	22.39
Battle Creek-Port Huron	22.50	17.26	18.58	75	24.77
Entire System	46.71	35.92	38.84	167	23.26

*A full range of fares including discount fares will be provided to ensure revenue optimization.

3.1.4 Improved Accessibility and Reliability

Approximately 80 percent of the region's population lives within a one-hour drive of a MWRRS rail station. Many stations will have intermodal connections to the feeder bus network. Bus and rail schedules will be coordinated to provide seamless travel for passenger rail patrons. The feeder buses will provide easy station access for travelers who are unable to or prefer not to drive to a station. In addition, taxi, rental car, limousine and transit services will be available at all major MWRRS stations.

The design of the feeder bus network was based on past studies and recommendations from the nine participating states. It is proposed that the feeder bus system will operate 4.9 million bus miles annually so that it links most of the region's smaller urban areas to the MWRRS network, and by providing easy access to the MWRRS passenger rail service raises the percentage of the region's population that is served by MWRRS to 90 percent.

The feeder bus system is expected to dramatically enhance the financial performance of the MWRRS as the bus/rail traveler utilizes an otherwise empty seat and has a longer average trip length than the typical rider, thereby paying an average fare of \$50 to \$75 to use the passenger rail system. Costs for the feeder bus system were estimated with the help of Greyhound Lines, Inc. (Greyhound) and were based on the size of the bus and level of ridership.

The feeder bus system for the MWRRS is discussed in more detail in Chapter 4.

3.1.5 On-board and Station Amenities

A range of amenities will be provided both on-board and at stations; station amenities will vary depending on station size and passenger volume. A food concession, newsstand, and convenience items will be available at many stations. At larger stations, a wider array of shopping will be provided, including various types of dining establishments, specialty shopping, business support services and entertainment facilities.

The design of the modern rail car offers on-board amenities that serve to make passenger rail travel superior to air travel. Seating can be bi-directional, (*i.e.*, half the seats face one way and half the other way). The interior of the train can be divided into large flexible compartments with space for wheelchairs, bicycles, strollers and play areas for children. At each seat, there are receptacles for computers and other communications equipment, amenities that are very important to the business traveler. Some modern trains have a socket for a five-channel stereo system and an informational channel. The train has an electronic information system with displays in each passenger compartment providing continuously updated information on arrival and departure times. Special vibration-absorbing mountings and soundproofing contribute to a significant reduction in the noise level, which further adds to the comfort of the passengers.

A list of the typical on-board and station amenities to be provided by the MWRRS is given in Exhibit 3-5.

**Exhibit 3-5
Summary of Station and On-board Amenities**

<i>Access/Egress and Other Travel Improvements</i>	
Internal Station Design	Passenger-oriented decor Restaurant, convenience shopping, basic business services ADA-compliant
Train-to-train and Train-to-other Mode Transfers	Improved signage at stations Improved on-board announcements On-line update status of train arrivals and departures
Station Transportation	Taxi and limousine services Rental car service Telephone link to transportation services Improved parking
Airport Connections	Intermodal links to airports (<i>e.g.</i> , Cincinnati) Stations at selected airports (<i>e.g.</i> , Cleveland, Milwaukee, Gary)
Bus Connections	Connecting feeder buses dedicated to the MWRRS Increased frequencies on existing bus networks and coordinated bus and rail schedules
<i>Station Services</i>	
Weather-protected Platforms	All platforms adjacent to stations or shelters
Station Aesthetics	Improved internal and external appearance of stations
Business, Food, and Retail Services	Choice of type and quality of food. Restaurants and food courts at larger stations Specialty shopping, business support services, and entertainment facilities at larger stations
<i>On-board Amenities</i>	
Business, Food, and Retail Services	Bistro/Trolley Service Power and modem hook-ups at each seat Business-style seating bays (two-by-two)
Seating and Entertainment	Open seating Airline-type business class seating Audio-visual monitors at seats for news, entertainment, and information programs