3.0 ALTERNATIVES INCLUDING PROPOSED ACTION

3.1 INTRODUCTION

Formal assessment of alternatives to address growing traffic problems in the I-494 study area began with the preparation of the *I-494 Corridor Study* (October 1987). The participants, process and findings associated with this study are summarized in Section 2.1.2 of the DEIS. The recommendations from the *I-494 Corridor Study* included land use, transit and travel demand management (TDM) strategies, as well as a roadway plan that outlined concepts for physical improvements to I-494 and adjacent roadways. The recommended I-494 improvements were used as the basis for developing alternatives in an EIS scoping process initiated for the I-494 study area.

The *I-494 Scoping Document*, completed in December 1989, identified six Build alternatives with related interchange improvement options along with a No-Build and a Transportation System Management (TSM) alternative. These alternatives were analyzed in relation to social and economic impacts, people-carrying capacity, traffic service, environmental impacts, and community opinion. Two of these alternatives were eliminated prior to the DEIS phase as documented in the *Scoping Decision Document* (September 1990).

After completion of the DEIS in April 1992, the Public Hearing in June 1992, and the conclusion of the public review period on June 26, 1992, the Commissioner of the Minnesota Department of Transportation identified Alternative 2A from the DEIS as the Preferred Alternative for the I-494 corridor in January 1993. However, in 1994 the 1993 Preferred Alternative was removed from the Metropolitan Council's *Transportation Development Guide/Policy Plan* due to federal requirements for financial constraint in regional transportation planning, and insufficient available funding to construct the 1993 Preferred Alternative. In 2000, Mn/DOT reinitiated the I-494 EIS process with corridor improvements which were reduced in scale and cost relative to the 1993 Preferred Alternative.

Section 3.2 describes alternatives dismissed prior to the DEIS. Section 3.3 describes alternatives addressed in the DEIS. Section 3.4 describes the current Preferred Alternative and provides background regarding design decisions which have been made.

3.2 ALTERNATIVES DISMISSED PRIOR TO THE DEIS

As a result of analysis completed in the Scoping Document and comments received during its public review period, two of the six initial alternatives were screened from consideration. A brief discussion of these two alternative options is provided below.

<u>New Location Alternative</u>

The construction of a new facility within a new right-of-way to replace or supplement I-494 was considered to be unfeasible because the I-494 corridor is intensely developed, and the social, economic, and environmental impacts of this alternative would be substantially greater than

those that would occur with expansion of existing I-494 facilities. The construction of a new facility to supplement I-494 would not address the deteriorated condition or design deficiencies of the present I-494 roadway or bridge structures.

Light Rail Transit

Light Rail Transit (LRT) was dismissed as an alternative in the *I-494 Corridor Study* based on the findings of the Long-Range Transit Analysis, completed by the Metropolitan Council in 1986, and a ridership forecast developed during the preparation of the *I-494 Corridor Study*. The Metropolitan Council study established 23,000 daily riders as the minimum threshold for the viability of LRT in the freeway median. By comparison, a year 2000 patronage forecast prepared by the Metropolitan Council and Regional Transit Board (RTB) staff estimated that LRT in the I-494 corridor would achieve only approximately 6,000 riders per day. This low projected ridership, combined with the high capital cost of LRT on a freeway right-of-way, lead to a very low cost-benefit ratio and very high cost per rider index for LRT in the I-494 corridor.

As a result of the ridership and benefit-cost analyses, the Metropolitan Council does not indicate I-494 as a potential LRT corridor in its most recent *Transportation Policy Plan* (2000) or *Transit 2020 Master Plan* for the Minneapolis-St. Paul Metropolitan Area.

3.3 ALTERNATIVES STUDIED IN THE DEIS AND DISMISSED

3.3.1 NO-BUILD ALTERNATIVE

The No-Build Alternative assessed in the DEIS assumed only maintenance and traffic management improvements underway or committed for construction when the DEIS was prepared (prior to 1992). These projects included bridge redecking or replacement, pavement repair and resurfacing, and ramp metering.

The existing roadway contains a number of deficiencies that would be perpetuated under the No-Build condition. The deficiencies of the existing facility are discussed in detail in Sections 2.3 and 2.4 of this FEIS. The primary deficiencies are identified below:

- Inadequate traffic capacity (travel times, safety, air quality impacts)
- Substandard geometrics and sight distances
- Inadequate shoulder widths
- Inadequate lateral and vertical clearances
- Inadequate ramp spacing
- Poor drainage design/performance (Penn Avenue, and I-35W to TH 77)

The No-Build Alternative was not selected as the Preferred Alternative because existing deficiencies would continue and become more severe as anticipated development in the project area and region will substantially increase traffic levels on the facility in coming years. However, the No-Build Alternative is used as the basis for comparison for the Preferred Alternative in this FEIS. The No-Build Alternative in this FEIS includes the roadway

improvements already implemented in the I-494 corridor area since the DEIS, as described in Section 1.2.2, and construction of a single point interchange at Penn Avenue/I-494 by the City of Richfield (scheduled 2002 completion).

In addition, the No-Build Alternative currently assumes TSM measures including the following:

- Travel Demand Management
- Ramp metering and preferential access for High Occupancy Vehicles (HOVs)
- Increased transit services
- Improvements to and operation of adjacent arterial roadways consistent with the Integrated Corridor Traffic Management System (ICTMS)

Assuming TSM measures to be part of the No-Build Alternative does not change the conclusion that the No-Build Alternative would not adequately meet the corridor needs as described in Sections 2.3 and 2.4 of this FEIS.

3.3.2 TRANSPORTATION SYSTEM MANAGEMENT (TSM) ALTERNATIVE

The DEIS identified TSM as a separate implementation alternative. This alternative was characterized as being able to provide improvements for the I-494 corridor while minimizing many of the environmental impacts associated with major construction activities.

Many of these TSM measures have already been or are being implemented. For this reason TSM is currently considered to be part of the No-Build Alternative. Section 3.4.6 addresses Travel Demand Management (TDM) measures in place or planned for the corridor. Most ramps are currently metered and cameras have been installed to monitor traffic conditions. Seventy-seventh Street in Richfield is being reconstructed and improved to accommodate short and medium length trips currently using I-494 and to serve as a reliever/detour facility during incidents on the freeway. The City of Bloomington started reconstruction of the 79th/80th Street corridor in 1995 and is nearing completion of this roadway (completion anticipated in 2002).

3.3.3 MAINLINE BUILD ALTERNATIVES

The DEIS addressed the following mainline Build alternatives:

- **Alternative 1:** Add one general traffic lane in each direction throughout the entire length of the corridor, except for the section between TH 212/Flying Cloud Drive and TH 100, where two general traffic lanes in each direction would be added. Also, all of the interchanges would be reconstructed.

- **Alternative 1A:** Similar to Alternative 1 except that it would designate the additional lane in each direction as an HOV lane. In addition, the section between TH 212/Flying Cloud Drive and TH 100 would receive one additional general traffic lane in each direction. The HOV lane would be 4.3 meters (14 feet) wide with diamond shapes painted on the pavement to indicate their special purpose. The HOV lanes would not be barrier-separated from the regular traffic lanes, and, therefore, traffic would be able to enter and exit the HOV lanes at any point. However, the additional 0.6 meter (2 feet) of lane width would provide a buffer between the HOV lanes and general traffic lanes.

- **Alternative 2:** Add two lanes in each direction throughout the entire length of the corridor, except for the section between TH 212/Flying Cloud Drive and TH 100 where three general traffic lanes in each direction would be added. One lane in each direction (two lanes between TH 212/Flying Cloud Drive and TH 100) could be added initially, and right-of-way reserved for another lane in each direction to be added as needed in the future.

- **Alternative 2A**: Similar to Alternative 2, except that one lane in each direction would be designated as an HOV lane. With this option, the HOV lanes could be added initially with right-of-way reserved for a general traffic lane in each direction to be added as needed in the future. The HOV lanes would be 4.3 meters (14 feet) wide with the additional 0.6 meter (2 feet) of lane width providing a buffer from the general traffic lanes.

Alternative 2A was identified by Mn/DOT as the Preferred Alternative in 1993 (hereafter referenced to as the "1993 Preferred Alternative"). This alternative provided the greatest overall corridor improvement in terms of meeting the corridor needs discussed in Section 2.0 of the DEIS.

Subsequent to the identification of Alternative 2A as the Preferred Alternative, funding constraints required that this determination be reevaluated. In 1994, the I-494 Reconstruction Preferred Alternative was removed from the Metropolitan Council's *Transportation Development Guide/Policy Plan* due to federal requirements for financial constraint in regional transportational planning, and insufficient available funding to construct Alternative 2A.

3.4 THE PROPOSED PROJECT

The current Preferred Alternative (hereafter referred to as "Preferred Alternative") is reduced in scale relative to the 1993 Preferred Alternative. It combines elements of the various alternatives evaluated in the DEIS to provide many of the benefits of the 1993 Preferred Alternative, but at lower cost. In contrast to the 1993 Preferred Alternative, the current Preferred Alternative does not include designation of an exclusive HOV lane. This change reflects discussions/agreements among FHWA, Mn/DOT and Metropolitan Council staff, as well as the current Metropolitan Council Transportation Policy Plan (TPP) policy regarding HOV accommodations in the I-494 corridor. The current TPP (unlike the 2010 Highway Plan component of the TPP described in Section 2.2.1 of the I-494 reconstruction DEIS) does not specifically recommend a

designated HOV lane on I-494 from I-394 to 34th Avenue. The current TPP decreases emphasis on exclusive HOV lanes, compared to previous plans, acknowledging that the use of bus shoulder lanes, in conjunction with HOV bypass lanes, has become more attractive due to ease of implementation and cost considerations. The proposed I-494 Preferred Alternative is consistent the TPP.

The design features of the Preferred Alternative are described below including, where applicable, the rationale for selecting specific design sub-alternatives (e.g. at interchanges).

3.4.1 LOCATION

The segment of I-494 proposed for reconstruction is located between I-394 and the Minnesota River in Hennepin County. This segment of I-494 serves the Cities of Minnetonka, Eden Prairie, Edina, Bloomington and Richfield and the Minneapolis-St. Paul International Airport. The project segment is 29.3 kilometers (18.2 miles) in length.

3.4.2 LANES AND GEOMETRICS

The Preferred Alternative has the following mainline features:

- One additional through lane in each direction for the full length of the project corridor.
- Auxiliary lanes will be provided as follows: one auxiliary lane each direction between TH 5 (Eden Prairie) and TH 100; two auxiliary lanes each direction between TH 100 and I-35W; one auxiliary lane each direction between I-35W and TH 77.
- Between TH 169 and 24th Avenue, 7.9 meters (26 feet) will be reserved in the median for future transportation needs.
- Outside shoulders will be constructed to accommodate buses during peak travel periods to provide transit preference.

The design concept layouts for the proposed reconstruction are presented as Figures 3.1 through 3.12. Typical cross sections are depicted on Figure 3.13.

3.4.3 INTERCHANGES AND ACCESS

It is currently anticipated that most system-to-system interchange ramps and local access entrance ramps will be metered to control the rate of traffic flow onto I-494. However, Mn/DOT policies regarding ramp meters are currently under review. HOV bypass lanes will be provided at metered ramps consistent with Mn/DOT policies as discussed in Section 1.4 of this FEIS.

The Preferred Alternative includes upgrading the system interchanges (interchanges with other major highways), modifying the local access interchanges to meet current design standards, and improving spacing between entrance and exit ramps. These improvements are presented by interchange area below.

The DEIS included a discussion of the process used to identify and scope alternatives for each of the interchanges on I-494. A number of alternatives were analyzed for each interchange during the scoping phase of the project. The alternatives considered, as well as the alternatives selected for study in the DEIS, are identified in the DEIS. Information regarding the alternative selected at each interchange as part of the Preferred Alternative and the reasons for selecting it is provided under the following headings. Further information regarding access to/from the I-494 corridor is provided in Section 4.3.3.1 of this FEIS.

I-394 Oakland Road Interchange and Oakland Road Access

The I-494 *Scoping Document* identified two primary issues for this area: a) where and how to end the additional lanes on I-494, and b) the need for access to and from the south onto I-494 at Oakland Road.

The northern limit for this project is at I-394. Currently, there are only two through lanes in each direction on I-494 over I-394. The additional northbound lane will begin at the southerly ramp from I-494 to I-394. The additional southbound lane will begin at the loop from westbound I-394 to southbound I-494.

A half diamond interchange was initially considered at Oakland Road as an option for alleviating traffic levels on I-394 and at the I-394/Plymouth Road Interchange. The results of the traffic analysis showed that the proposed half diamond interchange at Oakland Road would not result in a substantial improvement in traffic operations at these locations. In addition, Oakland Road residents were concerned about increases in traffic in their neighborhood associated with this access. Finally, federal policies regarding access to interstate highways recommend that only full access interchanges should be provided. For these reasons, the half-diamond interchange at Oakland Road was not included in the Preferred Alternative; there will be no change in the current condition of no access at Oakland Road (refer to Figure 3.1).

Minnetonka Boulevard Interchange

Only one alternative for the Minnetonka Boulevard interchange was analyzed in the DEIS. The changes proposed at this location were intended to improve operational characteristics by eliminating the "button hook" ramp configuration with McGinty Road, and constructing a folded diamond ramp configuration. Since the time of the DEIS, bridges at the Minnetonka Boulevard interchange were determined to be structurally deficient and in need of replacement; as part of that project, the interchange was reconstructed using the existing "button hook" ramps with McGinty Road. As a result, the current Preferred Alternative proposes to use this existing interchange design (refer to Figure 3.2) rather than require it to be reconstructed again.

Figure 3.1 11 x 17 COLORED

Figure 3.2 11 x 17 COLORED

Figure 3.3 11 x 17 COLORED

Figure 3.4 11 x 17 COLORED

Figure 3.5 11 x 17 COLORED

Figure 3.6 11 x 17 COLORED

Figure 3.7 11 x 17 COLORED

Figure 3.8 11 x 17 COLORED

Figure 3.9 11 x 17 COLORED

Figure 3.10 11 x 17 COLORED

Figure 3.11 11 x 17 COLORED

Figure 3.12 11 x 17 COLORED

Figure 3.13 11 x 17 B&W

TH 7 Interchange

Two alternatives for the TH 7 interchange were analyzed in the DEIS. One alternative was a cloverleaf interchange with collector-distributor roads on I-494. The second alternative was similar except that it had a directional ramp for movements from eastbound TH 7 to northbound I-494.

The cloverleaf option was selected because it accommodates forecast volumes and is less costly in comparison to the directional ramp option (refer to Figure 3.2). Due to fiscal and right-of-way constraints, the collector-distributor roads are not included in the Preferred Alternative.

TH 62 Interchange System

In the DEIS only one alternative, a single point diamond interchange design, was analyzed for this interchange. The Preferred Alternative proposes a diamond interchange (refer to Figure 3.3).

TH 5/212 Interchange System

Two alternatives were analyzed in the I-494 DEIS for this interchange system. Both alternatives proposed the addition of westerly ramps with I-494 from Prairie Center Drive. These new ramps were to be bridged under the TH 212/Flying Cloud Drive and TH 5/312 ramps. The difference between the alternatives involved the ramps along TH 5/312 (future TH 212) between Prairie Center Drive and I-494. One alternative grade separated the Prairie Center ramps from the I-494 ramps, and the other alternative did not include this grade separation. Ultimately, the addition of westerly ramps (and, therefore, the need for bridged ramps) was eliminated from the Preferred Alternative due to funding constraints.

The local access that will be provided to I-494 in this area with the Preferred Alternative is the same as current conditions (refer to Figures 3.4 and 3.5).

TH 169 Interchange

Two alternative interchange designs at TH 169 were evaluated in the DEIS. One was a fully directional, four level interchange. This alternative was considered primarily because of the high traffic volumes forecast for the southbound TH 169 to eastbound I-494 movement, and the northbound TH 169 to westbound I-494 movement. The other alternative was a partial directional interchange, which had loops in the northeast and southwest quadrants of the interchange. The partial directional interchange was selected as the 1993 Preferred Alternative at this location because it had lower construction costs and it had less noise impact for residents of Friendship Village (an apartment complex in the southeast quadrant of the interchange) and the neighborhood located in the southwest quadrant. The Minnesota Department of Transportation concluded that the loop design could accommodate the forecast traffic for the southbound TH 169 to eastbound I-494 movement at an acceptable level of service.

From 1997 to 1999 the I-494/TH 169 interchange was reconstructed because the bridges were in need of replacement. Minnesota Department of Transportation staff selected a reconfigured design for this interchange that provided improvements within existing funding constraints. It eliminated the left turn movements from TH 169 to I-494 by constructing loops in the northeast, northwest, and southwest quadrants, with ramps in all four quadrants. Signals remain on TH 169 at the ramp intersections to accommodate the ramp traffic, and at Highwood Avenue.

The Preferred Alternative does not propose any changes to this interchange area (refer to Figure 3.5).

East Bush Lake Road Interchange

The DEIS analyzed three alternatives for the East Bush Lake Road Interchange. The alternatives included:

- Single Point Diamond Interchange (DEIS Alternative 1)
- Folded Diamond Interchange in the southeast quadrant with regular diamond ramps in the northeast and northwest quadrants (DEIS Alternative 2)
- Folded Diamond Interchange to the east (DEIS Alternative 3)

After completion of the DEIS, it was determined that the Canadian Pacific railroad line immediately west of East Bush Lake Road would remain. Because a single-point diamond interchange would not be compatible with the close proximity of this railroad due to engineering and traffic management factors, this design approach (DEIS Alternative 1) was discounted from further consideration. The Preferred Alternative proposes folded diamond ramps in the southeast quadrant, and standard diamond ramps in the northwest and northeast quadrants similar to DEIS Alternative 2 (refer to Figure 3.6). This design necessitates an at-grade crossing between the westbound freeway entrance ramp and the Canadian Pacific line. The at-grade crossing is adjacent to the ramp's intersection with East Bush Lake Road, which would be signalized. Adequate vehicle storage capacity would be provided on East Bush Lake Road to accommodate all turning movements to the ramp. In addition, the final design will incorporate railroad crossing safety features, as appropriate to ensure the safest possible at-grade crossing.

Concerns have been raised regarding the proposed East Bush Lake Road interchange design due to potential safety issues associated with the at-grade ramp/railroad crossing. Prior to selecting the Preferred Alternative design referenced above, Mn/DOT considered alternate designs which would not involve an at-grade crossing of the Canadian Pacific line. These designs, described individually under the headings below, are not currently preferred by Mn/DOT due to substantial right-of-way impacts and/or operational/safety considerations. Staff from Mn/DOT and FHWA are continuing to review this design issue. The final design will incorporate the design decisions reached between the two agencies. This FEIS includes analysis of the impacts of all three East Bush Lake Road interchange alternate designs where they differ from the Preferred Alternative design, i.e., in right-of-way and economic impacts (Sections 5.2 and 5.3, respectively).

Folded Diamond Interchange to the East

This design, which is similar to DEIS Alternative 3, is depicted in Figure 3.14. The northerly ramps for East Bush Lake Road would be a folded diamond and a mirror image of the southerly ramps associated with the Preferred Alternative design. Specifically, the on-ramp to westbound I-494 would be a loop on the east side of East Bush Lake Road, and the off-ramp from westbound I-494 would be a straight ramp terminating at the same intersection on East Bush Lake Road as the loop. This design would necessitate the acquisition of three multi-story office buildings in the northeast quadrant of the interchange.

FIGURE 3.14 11 x 17 COLORED

Picture Drive Westbound Entrance Ramp I-494

This design is depicted on Figure 3.15. It utilizes a folded diamond to the east for the southerly ramps and a non-standard configuration for the northerly ramps. The westbound I-494 entrance ramp would be accessed from East Bush Lake Road by driving east on 78th Street approximately 450 meters (1,500 feet) to Picture Drive and proceeding south on Picture Drive, which would then turn into the freeway entrance to westbound I-494. The transition point from Picture Drive to the ramp would be a 24-kilometer per hour (15-mile per hour) curve. The Picture Drive ramp then merges with the TH 100 collector distributor (C-D) road to connect to westbound I-494. This C-D road travels under East Bush Lake Road and the railroad bridge, and then merges onto I-494. The off-ramp for westbound I-494 to East Bush Lake Road would be built on a bridge that crosses over the C-D road to connect to East Bush Lake Road.

Westbound Entrance Ramp Under Railroad

This design is presented on Figure 3.16. It utilizes a folded diamond to the east for the southerly ramps and diamond ramps with offset intersections for the northerly ramps. The ramp from East Bush Lake Road to westbound I-494 would begin at East Bush Lake Road in the vicinity of its intersection with 78th Street. The ramp would follow between East Bush Lake Road and the Canadian Pacific railroad line south until a 24-kilometer per hour (15-mile per hour) turn directing the ramp westbound under the railroad bridge and roughly parallel to I-494. The off-ramp from westbound I-494 to East Bush Lake Road would be similar to the design associated with the Preferred Alternative.

TH 100 Interchange

The alternatives analyzed in the DEIS for this interchange included different types of directional interchanges. The major difference between the alternatives was the design of the ramps accommodating the movements between TH 100 and I-494. The 1993 Preferred Alternative, which included directional ramps from northbound and southbound TH 100 to I-494, provided a relatively direct route for the large traffic volume between TH 100 and I-494.

Grade separated ramps between France Avenue and TH 100 were also analyzed in the DEIS. However, it was determined that sufficient separation could be provided between the France Avenue ramps and the TH 100 ramps and that the ability to get from TH 100 to France Avenue via I-494 was important. The Preferred Alternative interchange at I-494 and TH 100 consists of a semi-directional interchange with loops in the southeast and northwest quadrants. The flyover ramps to the north are bridged with the TH 100 and 77th Street interchange ramps, as are the northerly I-494 ramp and the westbound I-494 exit ramp to East Bush Lake Road. Additionally, a westbound I-494 ramp will exit directly to 77th Street via the TH 100 east frontage road.

TH 100/77TH Street Interchange Options

Two options were analyzed in the DEIS for the 77th Street interchange on TH 100. One option perpetuated the existing folded diamond interchange configuration. The other option had a folded diamond on the west side of TH 100, and standard diamond legs on the east side of TH 100. The Preferred Alternative assumes the former of these configurations with the southerly ramps bridged as noted above.

France Avenue

The existing interchange configuration at France Avenue is perpetuated under the Preferred Alternative (refer to Figure 3.8). No other alternatives were considered in the DEIS. As addressed in the DEIS, the ramps and loops associated with this interchange will have to be relocated slightly to accommodate the added width of the I-494 mainline.

I-35W Interchange Area

This interchange area also includes the I-494 interchanges at Penn Avenue and Lyndale Avenue, as well as the I-35W interchanges at 76th Street and 82nd Street. Two alternatives for this interchange were addressed in the DEIS. Both of the options would improve operations between I-494 and I-35W. One alternative had a one-way frontage road system connecting ramps at Lyndale Avenue, 76th Street, Penn Avenue, and 82nd Street. The other alternative had overlapping ramps with full access at each of the above cross streets. The I-494 DEIS referenced the I-35W DEIS document (March 1992) for design and impact analyses at the I-35W/I-494 interchange areas since it was anticipated at that time that the I-35W improvements, including reconstruction of this interchange, would occur prior to the I-494 reconstruction project.

The current Preferred Alternative proposes to eliminate the loops in the northeast and southwest quadrants of the I-35W/I-494 interchange by providing northbound to westbound and southbound to eastbound directional ramps (refer to Figures 3.8 and 3.9). The easterly Penn Avenue ramps and the westerly Lyndale Avenue ramps would be bridged with the I-35W ramps, and the I-35W ramps would be bridged with the northerly 82nd Street ramps.

The Penn Avenue interchange is to be reconstructed by the City of Richfield in 2001-2002 as a single-point diamond design in conjunction with a local development project. It is currently anticipated that Mn/DOT will provide HOV bypass lanes at the Penn Avenue interchange as part of the I-494 reconstruction. The Lyndale Avenue interchange is proposed under the Preferred Alternative to be reconstructed as a single point diamond design (refer to Figure 3.8).

Portland Avenue (Nicollet Avenue; 12th Avenue)

The interchanges at Nicollet Avenue and 12th Avenue will be eliminated to provide better traffic operations and improve interchange spacing. A single point diamond interchange at Portland Avenue is included with the Preferred Alternative (refer to Figure 3.11). This was the only option analyzed in the DEIS.

TH 77 Interchange

The DEIS referenced previous analysis of options for this interchange performed as part of the TH 77/I-494 Improvement Project DEIS. The concept identified in the I-494 reconstruction DEIS included a directional flyover ramp for the southbound TH 77 to eastbound I-494 movement. This concept has been maintained in the Preferred Alternative (refer to Figure 3.11).

FIGURE 3.15 11 X 17

FIGURE 3.16 11 X 17

24th Avenue and 34th Avenue

The existing interchanges at 24th Avenue and at 34th Avenue were perpetuated under the 1993 Preferred Alternative, and are also perpetuated under the current Preferred Alternative. However, the ramps from 24th Avenue to the east would be bridged over the westerly 34th Avenue ramps, eliminating the ability of drivers to enter I-494 from 34th Avenue and exit at 24th Avenue, and vice versa (refer to Figures 3.11 and 3.12). The parallel reliever roadways (77th Street to the north, and 80th Street to the south) constructed by the cities of Bloomington and Richfield and the Metropolitan Airports Commission (from 24th Avenue to 34th Avenue on the north side of I-494) provide the connection between these two interchanges.

3.4.4 FRONTAGE ROAD SYSTEM

I-394 to TH 212/Flying Cloud Drive

This segment of the corridor does not currently have a frontage road system, and no frontage roads are proposed. The predominantly residential character of the area does not necessitate the access and circulation features provided by frontage roads.

TH 212/Flying Cloud Drive to East Bush Lake Road

This segment of the corridor currently has frontage roads from Prairie Center Drive to West Bush Lake Road. The Preferred Alternative includes intersection improvements at West Bush Lake Road.

East Bush Lake Road to TH 77

Much of the existing frontage road system through this portion of the project area will be modified to accommodate the expanded mainline and interchange facilities. The new frontage road system (discussed below) consists of parallel (reliever) arterials, constructed separately by the cities of Bloomington, Richfield and Edina, not as part of the I-494 reconstruction process.

The parallel arterial concept focuses on enhancing the existing parallel street system immediately north and south of the I-494 alignment. This system will provide access to the commercial/office uses along the corridor and help keep local trips from the I-494 mainline.

The first portion of this system, 77th Street in Richfield, between I-35W and TH 77 has been partially completed. The portion near TH 77 is currently under construction. This project, which is being led by the City of Richfield, connects with 76th Street west of I-35W. It is being funded in part by federal demonstration funds. Seventy-sixth Street continues into Edina until west of Xerxes Avenue where it becomes 77th Street and Edina Industrial Boulevard. Future City of Richfield plans call for extending 77th Street on the east end under TH 77 and connecting it with 24th Avenue adjacent to the airport. On the south side of I-494, the 79th/80th Street corridor being developed by the City of Bloomington. The first phase of this project upgrades

existing 79th and 80th Streets between 34th Avenue and TH 100, including a bridge across I-35W planned for construction in 2001-2002. Portions of this phase have already been completed. The second phase calls for an extension west from TH 100 to East Bush Lake Road via Bridge Road and Norman Center Drive. Portions of this section have also been completed, including the bridge over TH 100/Normandale Boulevard.

3.4.5 TRANSIT FACILITIES

The proposed project contains features to encourage and facilitate transit usage within the I-494 corridor. Preferential access will be provided to HOV vehicles at ramp meters, consistent with Mn/DOT policies in effect at the time of construction. The facility will also be designed with outside shoulders that will accommodate buses during peak travel periods. Section 4.4 describes how the transit provisions of the Preferred Alternative compliment the transit system in the study area.

3.4.6 TRAVEL DEMAND MANAGEMENT (TDM)

In addition to the transit service concepts summarized above, there is strong support for travel demand management (TDM) strategies in the I-494 corridor to minimize trip demand during peak travel periods. Promoting TDM and Transportation System Management (described in Section 3.4.7) was one of the recommendations of the 1987 *I-494 Corridor Study*. The I-494 Corridor Commission ("Corridor Commission"), a joint powers entity, was initially formed by Richfield, Bloomington, Edina, Eden Prairie and Minnetonka to coordinate land use and transportation, and to facilitate TDM. The cities of Plymouth and Maple Grove joined the Commission in 1994. Some TDM efforts that the Corridor Commission is currently undertaking are listed below:

- The Corridor Commission is currently working with the Metropolitan Council on a project to review TDM ordinances which have been put in place elsewhere in the country. The goal is to use lessons learned from this type of effort to develop such an ordinance which would be workable for the I-494 corridor. The goal of such an ordinance would be to reduce and/or manage (reduce peaks) vehicle trips in the corridor before, during and after reconstruction of I-494.

- The Corridor Commission is working to promote and support Transportation Management Associations (TMAs). These are groups of businesses, typically located in congested traffic areas, which work together to achieve TDM goals.

- The Corridor Commission is working to get standardized TDM language included in the comprehensive plans for all cities within the reconstruction project corridor, as well as Plymouth and Maple Grove.

- The Corridor Commission has a transit provider's sub-committee which meets monthly to discuss issues pertaining to provision and improvement of transit services within the corridor.

3.4.7 TRANSPORTATION SYSTEM MANAGEMENT (TSM)

Transportation system management (TSM) is an integral part of the Preferred Alternative for I-494. Traffic on I-494 will continue to be managed by Mn/DOT's Traffic Management Center using TSM features that promote more efficient operation of the metro region's highways including:

- **Ramp Metering:** To control the rate of traffic entering the regional highway system. [Note: The Mn/DOT ramp meter policy is currently under review.]

- **HOV Bypass Lanes**: Meter bypass lanes for vehicles with two or more people (HOV preference). [Also under review in conjunction with the ramp meter policy.]

- **Vehicle Detector System:** Vehicle detectors to measure traffic flows and identify potential problems so they can be addressed before major disruptions occur.

- **Camera Monitoring System:** An extensive system of cameras to monitor freeway operations in the corridor.

- **Changeable Message Signs:** To advise drivers of specific operational conditions on I-494.

- **Highway Advisory Radio:** To advise drivers of operational conditions on I-494.

- **Integrated Corridor Traffic Management:** An integrated corridor traffic management system for I-494 that integrates traffic control systems on the parallel and intersecting arterials with the freeway ramp meters to allow adjustment of signal timing based on current traffic flow rates. Variable message signs (VMS) and trailblazer signs on arterials alert motorists of alternate routes when accidents occur on I-494.

- **Advanced Incident Detection and Management:** Several of the systems described above will facilitate managing I-494 during incidents and accidents. I-494 traffic could be rerouted to parallel streets to alleviate congestion on I-494. Improvements to 76th/77th and 79th/80th Streets described previously are key aspects of the incident management program.

- **Intelligent Transportation System (ITS) Technology:** To provide real time information on I-494 conditions to motorists.

- **Accident Investigation Sites:** The need for and location of sites for investigation of accidents on I-494 will be evaluated. Initially, the reserved space in the median may be used for this purpose.

- **Highway Helper:** To help motorists with car trouble in order to reduce traffic delays caused by these minor incidents.

3.4.8 PEDESTRIAN AND BICYCLIST MOVEMENT

Existing crossings of the I-494 mainline will be replaced at or near their present locations. Bridges replaced by Mn/DOT will be rebuilt to current standards (see *Minnesota Bicycle Transportation Planning and Design Guidelines*, Mn/DOT, June 1996). Mn/DOT staff will work with communities and agencies with facilities in the corridor to assure that any existing or committed pedestrian/bicycle facility improvements are coordinated with I-494 reconstruction plans. All improvements will be in compliance with the Americans with Disabilities Act.

3.4.9 RAILROAD BRIDGES

All of the existing railroad crossings in the corridor will be perpetuated. These crossings include the Burlington Northern underpass north of Minnetonka Boulevard, the former Chicago and Northwestern and existing CP Rail/Soo Line underpasses north of TH 62, the CP Rail/Soo Line overpass at East Bush Lake Road, and the Soo Line overpass between Lyndale and Nicollet Avenues. The former Chicago and Northwestern railroad right-of-way is now owned by the Hennepin County Regional Railroad Authority, but is temporarily being used as a trail corridor (refer to Figure 2.3 in Chapter 2.0 of this FEIS). This corridor may be developed in the future for rail transit or interim busway use. Interstate-494 will be designed to allow for these potential future uses.

3.4.10 RIGHT-OF-WAY

The proposed project will be built within the existing right-of-way to the extent possible. However, additional right-of-way will be needed for the project, in particular at the system interchanges. Anticipated right-of-way acquisition areas associated with the Preferred Alternative are depicted on the project layouts (Figures 3.1 through 3.12). Section 5.2 details right-of-way impacts and relocation considerations.

3.4.11 PROJECT COST

The anticipated construction costs (total construction costs, including grading/pavement, bridge work, utilities, surface water conveyance and treatment, engineering, etc.) for the overall corridor project are presented below, by corridor segment.

- TH 5 to TH 100: $50 million
- TH 5 (Eden Prairie) to I-394: $60 million
- TH 100 to Penn Avenue: $110 million
- Penn Avenue to Lyndale Avenue (includes I-35W/I-494 interchange): $125 million
- Lyndale Avenue to 34th Avenue: $105 million

Total: $450 million

Right-of-way acquisition and relocation costs were calculated with a Mn/DOT-approved method as addressed in Section 5.2 of this FEIS. These costs are presented below:

- Total Acquisitions/Relocation: Residential: $11.7 million
- Total Acquisitions/Relocation: Non-Residential: $39.7 million
- Partial Acquisitions: Residential*:* $5.1 million
- Partial Acquisitions: Non-Residential: $106.3 million

Total: $162.8 million