

7.0 CONSTRUCTION IMPACTS

Construction impacts and associated mitigation measures associated with the I-494 reconstruction were addressed in Section 5.4 of the DEIS.

7.1 INFORMATION FROM THE DEIS THAT REMAINS UNCHANGED

The DEIS discussed anticipated impacts and mitigation measures that would occur during construction of any of the Build alternatives addressed in that document. The overall Build impacts have not changed substantially since the DEIS.

7.2 CHANGES IN THE IMPACTS OR TECHNICAL ANALYSIS THAT HAVE OCCURRED SINCE THE DEIS

Although the general assessment of project impacts, as described in the DEIS, has not changed, this FEIS discussion provides some additional information specific to the impacts of the Preferred Alternative.

7.3 PREFERRED ALTERNATIVE IMPACTS AND MITIGATION

7.3.1 TRAFFIC AND ACCESS IMPACTS

Impact Assessment

Disruption of traffic will be one of the most evident impacts of the proposed I-494 reconstruction. Construction activities will result in reduced capacity on the roadway, causing traffic delays and frequent lane shifts and access changes. To avoid delays and inconveniences, drivers will seek alternate routes of travel, may shift their times of travel when possible, and may seek alternate travel modes. Traffic volumes will likely increase on parallel local streets during reconstruction. Drivers may experience increases in travel time due to detours and construction delays.

Temporary access changes will be necessary during reconstruction. This may disrupt travel patterns to and from businesses and community facilities. These changes may cause driver confusion, particularly for those who do not regularly travel through the area. These impacts will be of limited duration, only occurring during the reconstruction of given phases of adjacent freeway areas. While points of access may have to be modified, access to all properties will be provided during all periods of construction.

Mitigation

The reconstruction of I-494 will require extensive planning efforts to minimize the disruption associated with construction activities. A construction management plan will be developed during preliminary and final design which will be used to minimize disruptions and detours and to ensure access to affected properties. A Mn/DOT Corridor Coordinator will oversee construction phasing and activities to limit impacts to the degree practicable.

The maintenance of traffic during reconstruction activities will be a high priority. At least two traffic lanes in each direction will be maintained during peak periods to the extent practicable. This requires the staging of reconstruction into logical and usable sections that can be constructed in two- to three-year time periods. This approach lengthens the total duration of reconstruction of the corridor, but reduces the magnitude of short-term impacts. Frontage roads and proposed collector-distributor roads may be used to carry traffic during construction. Temporary routes and bypasses will also be constructed where needed.

Disruption of freeway-to-freeway movements at interchanges will be minimized. Local street interchanges may be closed for limited periods of time; however, simultaneous closure of adjacent interchanges will be avoided when possible.

An evaluation will be made to determine which access points and cross routes are critical for emergency vehicles. Disruption of access for emergency vehicles and to public facilities will be minimized to the extent possible and will be coordinated with appropriate agencies. Emergency access throughout the corridor will be maintained at all times during the reconstruction project.

Travelers will be informed of on-going construction activities and traffic conditions. Informational signage including changeable message signs will be used to advise drivers of access changes and other shifts in alignment as the reconstruction progresses. Whenever possible, motorists will be advised of upcoming reconstruction activities that may impact their travel plans. Traffic control measures, in accordance with the *Minnesota Manual on Uniform Traffic Control Devices*, will be used to protect both motorists and construction workers. Freeway lighting will be maintained wherever possible, particularly in critical areas.

Other public information activities may include distribution of newsletters and brochures, press releases, and promotional activities coordinated with neighborhoods, cities, retailers, employers, and other groups. Mn/DOT's Traffic Management Center will coordinate the dissemination of incident and construction information to the public. Mn/DOT will work with the I-494 Corridor Commission to provide construction-related information to users of the roadway and affected businesses. The I-494 Corridor Commission is also working with cities and businesses adjacent to the I-494 corridor on plans for improving transit, carpool and other shared ride services as well as other travel demand management (TDM) measures to help alleviate congestion during the I-494 reconstruction process.

7.3.2 AIR QUALITY

Impact Assessment

Construction activities will have the following air quality impacts:

- Congestion from traffic and access disruptions increasing concentrations of air emissions from vehicles, most notably carbon monoxide.
- Emissions from construction-related equipment and vehicles.
- Construction/grading activities disrupting ground cover, resulting in fugitive dust emissions.

These impacts will be temporary, limited by the staging of construction activities. Emissions from construction equipment will be dispersed over relatively large construction areas, and any single piece of equipment will not result in adverse impacts to the project area. Truck traffic to and from the construction sites will be a small percentage of overall traffic volumes in the project area.

Mitigation

Congestion associated with traffic and access disruption will be controlled and minimized through the measures identified in Section 7.3.1 above. Construction contractors will be required to control dust and other airborne particulates in accordance with Mn/DOT specifications. This will include measures such as applying water to exposed soils, and limiting the extent and duration of exposed soil conditions. Contractors will be required to conform with all applicable federal, state, and local regulatory requirements.

7.3.3 NOISE

Impact Assessment

The construction activities associated with implementation of the Preferred Alternative will result in increased noise levels relative to existing conditions. These impacts will primarily be associated with construction equipment. These conditions will be of relatively limited duration due to the anticipated phasing of construction activities.

Table 7.1 shows peak noise levels monitored at 15 meters (50 feet) from various types of construction equipment. This equipment is primarily associated with site grading/site preparation, generally the roadway construction phase associated with greatest noise levels. Pile driving equipment may be another source of construction noise for the I-494 reconstruction project.

**TABLE 7.1
TYPICAL CONSTRUCTION EQUIPMENT NOISE LEVELS AT 15 METERS (50 FEET)**

Equipment Type	Manufacturers Sampled	Total Number of Models in Sample	Peak Noise Level (dBA)	
			Range	Average
Backhoes	5	6	74-92	83
Front Loaders	5	30	75-96	85
Dozers	8	41	65-95	85
Graders	3	15	72-92	84
Scrapers	2	27	76-98	87
Pile Drivers	NA	NA	95-105	101

Source: Reagan, Jerry A. and Charles A. Grant, *Highway Construction Noise: Measurement, Prediction and Mitigation*, Special Report HEV-21, U.S. Department of Transportation, FHWA, Office of Environmental Policy, Washington, DC, 1977. *Noise From Construction Equipment and Operations, Building Equipment and Home Appliances*. U.S. EPA, Washington, DC, 1971.

Mitigation

Elevated noise levels are to a degree unavoidable for this type of project. Mn/DOT will require that construction equipment be properly muffled and that the contractor(s) comply with applicable state and local noise restrictions. Advance notice will be provided to affected communities for any necessary blasting and/or abnormal loud construction activities. While night construction would sometimes be required to minimize traffic impacts, construction will be limited to the daytime hours (7:00 a.m. to 10:00 p.m.) as much as possible. Permanent noise walls (see Section 6.2.5) will be built as early as practicable during construction.

7.3.4 WATER RESOURCES AND WETLANDS

Impact Assessment

During construction activities, sediment from erosion of exposed soils can potentially enter surface water runoff and impact wetlands and surface waters in the vicinity of the project area. Dewatering activities may be required for some construction phases associated with the Preferred Alternative. As addressed in Section 6.7.3, some wetland areas will be filled during construction of the Preferred Alternative.

Mitigation

Mitigation measures for erosion and sedimentation impacts associated with construction activities are addressed in *Mn/DOT's Standard Plans and Plates for Erosion Control Measures*, and *Standard Specifications for Construction*. These specifications will be used for Preferred Alternative construction activities. In addition, an erosion control plan and associated best management practices (BMPs) in compliance with National Pollutant Discharge Elimination System (NPDES) requirements will be prepared and implemented. Appropriate NPDES construction permits will be obtained by Mn/DOT prior to each phase of construction.

Any dewatering activities associated with construction of the proposed improvements will comply with applicable state and local permitting and regulatory requirements.

As discussed in detail in Section 6.7.4, any wetland impacts required for construction of the Preferred Alternative will be mitigated in accordance with applicable Wetland Conservation Act, Minnesota Department of Natural Resources, and Corps of Engineers requirements.

7.3.5 VISUAL IMPACTS

Impact Assessment

Visual impacts associated with the project will include the introduction of construction equipment and disruption of the landscape in association with construction operations into the project area. These impacts will be most noticeable to drivers traveling through the corridor, but may also be evident to residents living adjacent to the corridor.

Mitigation

Some visual impacts are unavoidable for this type of project. However, the impacts will be temporary and of relatively short duration.

7.3.6 BORROW/DISPOSAL OF MATERIALS

Impact Assessment

The reconstruction of I-494 will utilize some mineral resources, primarily for pavement and sub-base. Use of borrow material for fill will be minimized, as project design can balance cut and fill volumes.

Most excess construction materials represent limited environmental concern, other than the sheer volume of the materials involved. Many of these materials can be reused or recycled, thereby minimizing these “volume” impacts. Treated wood used in noise wall construction does contain preservatives, and will be disposed of in compliance with applicable environmental regulations.

Mitigation

Recycled materials from I-494 and other roadway construction projects can be utilized in the roadway reconstruction to minimize the need for use of new mineral resources. This also decreases the amount of excess material produced by the roadway reconstruction.

Excess materials (including vegetative and plant materials) will be salvaged for reuse whenever viable. If the materials have economic or engineering value, but will not be used on the I-494 project, Mn/DOT will locate a storage site in a suitable area. Materials which could be salvaged include signs, light fixtures, and treated wood from noise walls.

During construction, in-place materials will be salvaged for re-use on the project, or will be disposed of in an environmentally responsible manner and in accordance with applicable federal, state, and local regulations. Concrete and bituminous pavement can be recycled into pavement or sub-base materials. Vegetation that cannot be saved by relocation may be chipped and used as mulch. Disposal of excess materials will not occur in wetlands, floodplains, or other sensitive areas.