

Design Issues:

1 MAINLINE AT EXIT 6 TO THE SOUTH

Horizontal curves are being driven at higher than 55 mph design speed (R=1000 ft). Reverse curves combined with the proximity of interchange ramps and high speed creates conflicts, congestion, and safety issues.

2 EXIT 6 NB OFF-RAMP/MAINLINE

The NB off-ramp routinely queues back onto the mainline shoulder. The mainline curvature (R=1000 ft), combined with vegetation and snow banks, restricts sight lines creating dangerous conditions that are further exacerbated by high speeds. During the most congested times, NB exiting traffic blocks travel in the outside through lane.

3 EXIT 6 "SOUTHERLY" SB ON-RAMP

The short acceleration lane (300 ft, R=150 ft, 25 mph) in conjunction with the SB reverse curve compromises safety at this merge condition, especially during peak hours when there are few gaps in the mainline to accept the ramp traffic.

4 EXIT 6 SB OFF/SB ON-RAMPS

Accidents frequently occur at this short weave section (approximately 450 ft). Substandard horizontal and vertical geometry forces the peak hour on-ramp traffic to stop at the ramp nose and wait for a gap in the mainline traffic. This condition results in the mainline exiting traffic slowing (20± mph) to avoid conflict with on-ramp traffic attempting to accelerate from a stop to merge into the mainline flow.

5 EXIT 6 AMOSKEAG CIRCLE TOPSIDE OPERATIONS

The Amoskeag Circle flows in a counter-clockwise direction connecting the local roadway network to I-293. The easterly and westerly sections of the circle include at-grade braided ramps that are not adequate to manage the flow of weaving traffic. Lack of sidewalk along the westerly portion of Eddy Road results in circuitous pedestrian routing and disconnects neighborhoods and businesses.

6 EXIT 6 NB ON-RAMP

Vehicles accessing the NB on-ramp from the west side of I-293 must travel the circuitous Amoskeag Circle, encumbered by several congested weave/merge maneuvers. The 900 ft NB on-ramp approaches I-293 on a 3.3% downgrade; the acceleration lane is only 300 ft which forces ramp traffic to immediately merge with the mainline. During peak hour congestion, on-ramp vehicles are sometimes forced to stop to wait for a gap in the mainline flow. This is further complicated by the mainline NB flow which is accelerating to 65 mph after having traversed the congestion at the Exit 6 SB off-ramp.

Environmental Issues

1 HISTORICAL RESOURCES

Historic mill buildings within the corridor are protected by Section 106 of the National Historic Preservation Act and Section 4(f) of the USDOT Act. Areas adjacent to the Merrimack River may be deemed archaeologically sensitive as well.

2 POTENTIAL OIL AND HAZARDOUS MATERIAL CONCERNS

With the corridor's long history of industrial and commercial activity, several properties within the corridor have potential sources of soil and groundwater contamination which could raise issues for design and construction of possible roadway solutions.

3 PROXIMITY TO THE MERRIMACK RIVER

From West Bridge Street to Exit 6, the existing Turnpike alignment is extremely close to the bank of the Merrimack River along the outside of a meander bend, which raises potential water quality, floodplain and fluvial erosion hazard concerns.

4 POTENTIAL THREATENED/ENDANGERED SPECIES HABITAT

Several endangered species are known to occur in the study area including bald eagles along the banks of the Merrimack River and even a rare bird species which uses the open grassland at the former landfill.

5 NOISE BARRIERS

The proximity of the Interstate to the condominium developments at Riverfront Drive and at Country Club Drive raises the possibility that noise barriers would need to be installed to mitigate sound impacts if the highway is expanded closer to these residential developments

6 BLACK BROOK

With the Merrimack River on the east and the floodplain wetlands associated with Black Brook on the west, improvements in this vicinity will need to be designed carefully to minimize any potential impacts to natural resources.

7 WETLANDS

Freshwater wetlands in the vicinity of the existing Exit 7 present a constraint to the design of any improvements in this area.

8 FORMER MANCHESTER LANDFILL

Avoiding impacts to the former landfill will limit cost, liability, geotechnical and groundwater issues.

9 HACKETT HILL CONSERVATION AREA

Protects a highly valuable "Exemplary Natural Community" including an Atlantic White Cedar Swamp, as well as stands of Giant Rhododendron and Black Gum. Protecting these resources will be an important consideration for the project alternative analysis.

10 PUBLIC WATER SUPPLY

The study area encroaches on the wellhead protection area associated with a 90 GPM well serving a nearby commercial facility.

Corridor Issues



Manchester I6099 FEET/I-293, Exit 6-7 Planning Study

Legend

NHDOT Exit 7 Concept

Corridor Issues

Design

Environmental

Surface Water

Stream

Wetland

FEMA 100-Yr Floodplain Boundary

NHDES Wellhead Protection Area

2008 Digital Tax Parcels

Conservation/Public Land



0 300 600 Feet