

**Purpose and Need  
Environmental Assessment  
Improvements to I-293 (FE Everett Turnpike), Exit 6 & 7  
(Manchester 16099)**

The draft Purpose and Need outlined here is intended to describe and support the Environmental Assessment which is being developed pursuant to the National Environmental Policy Act (NEPA). The Purpose and Need helps to establish the basis for the development of alternatives, and is used to compare the effectiveness and the impacts of the Proposed Action against the No Action Alternative. The Purpose and Need statement is fundamental to the analysis of a project under NEPA, the Clean Water Act (Section 404), and other environmental regulations.

**Purpose**

The purpose of this project is to address capacity, safety, and access related deficiencies along a 3.5-mile portion of Interstate 293 (FE Everett Turnpike) in Manchester, New Hampshire, beginning north of Exit 5 (Granite Street) and ending north of Exit 7 (Front Street) by:

- Correcting geometric and safety deficiencies while reducing congestion at problem locations within the Study Area;
- Accommodating future traffic growth related to commuter trips and the transportation of commercial goods and services through the corridor; and
- Improving access to the highway consistent with the long-term vision of the communities of Manchester and Goffstown.

**Need**

Interstate 293 (FE Everett Turnpike) is a north-south toll highway in central-southern New Hampshire which serves as a major transportation corridor linking the state capitol of Concord to the residential, industrial, and commercial centers in Manchester, Nashua, and north-central Massachusetts. Interstate 293 connects other regional highways including I-93, US 3, and NH 101 and serves as a major route for commuters and commercial activity. The Turnpike is part of the National Highway System, reflecting its significance as an important transportation link in the state and regional system.

Within the Study Area, I-293 consists of an urban, four-lane, median divided limited access highway. A Transportation Feasibility Study completed in 2013 identified a number of issues and needs associated with this portion of I-293:

Geometric and Safety Deficiencies

The existing reverse curves in the mainline segment of the highway south of Exit 6, in combination with traffic entering and exiting the highway at Exit 6, create congestion and unsafe vehicle operations. The sight line for northbound traffic decelerating and exiting at Exit 6 is poor due to the highway's curvature and vegetation on the riverbank, especially during the weekday evening peak hours when traffic from the off-ramp queues back onto the I-293 mainline.

The existing Exit 6 northbound on-ramp taper for merging traffic is substandard. Northbound ramp traffic entering must rapidly accelerate to mainline speed often using the shoulder to merge with through traffic. The southbound on-ramp and off-ramp are configured such that traffic must weave when entering or exiting the highway. The existing weaving geometry is substandard, which hinders traffic operations and safety. Exiting southbound traffic often decelerates in the through traffic lane to exit onto the 25 mph

ramp. The southbound off-ramp is short, resulting in the exiting traffic often queuing back into the weaving section with the southbound on-ramp traffic. The southbound on-ramp is steep and traffic often stops while attempting to safely merge into the mainline through traffic. The congestion within this weave section of I-293, especially in the morning peak hour, often affects the safe operations of through traffic.

To the south, the short southbound on-ramp from Eddy Road is operationally similar to the northbound on-ramp. The ramp acceleration area for traffic merging into the southbound mainline is substandard. The on-ramp traffic must accelerate rapidly, often using the shoulder to merge with through traffic. The southbound on-ramp merges with I-293 on the outside of a sharp curve creating additional conflict between the through traffic and the entering ramp traffic.

Exit 7 is currently a partial interchange, which only provides connectivity for motorists traveling to and from the south on I-293 via a southbound on-ramp and northbound off-ramp.

The northbound off-ramp is substandard including the deceleration area for exiting traffic and the intersection layout with Front Street. Left-turning traffic from the northbound off-ramp onto Front Street often creates queues backing onto I-293 during peak hour conditions resulting in an unsafe operating condition.

#### Accommodating Future Growth

Traffic volumes measured during weekday periods in August of 2015 range from approximately 56,400 vehicles per day (vpd) to 60,500 vpd. This volume is expected to increase by approximately 1% per year, and traffic operations, already poor in a number of locations within the Study Area, are expected to continue to deteriorate. Capacity analyses performed for the existing I-293 freeway segments and ramps under a future year 2035 traffic volume forecast show substantial degradation in traffic operations. By the future year 2035, many of the freeway segments and ramp junctions are expected to degrade to unacceptable Levels of Service E or F.

#### Regional Highway Access and Compatibility with the Community's Vision

Access to the highway is currently poor due to the congestion and safety issues discussed above. Additionally, the location of Exit 7 and its configuration as a partial interchange further constrain access. During the public process associated with the 2013 Transportation Feasibility Study, many local citizens and public officials emphasized the need for improved access to allow for economic benefits within a broader regional context.

Improvements to Exit 6 would allow for better connectivity between downtown Manchester and points north and south. Downtown Manchester serves as a regional employment and financial services hub within the State of New Hampshire. Due to the availability of existing office and light industrial/research & development (R&D) space, it has the capacity to increase the workforce. Easier access to and from the downtown area may accelerate existing economic development trends, leading to higher employment within the region.

Similarly, improvements to Exit 7 could enhance accessibility to existing and potential job generation areas. For example, the Hackett Hill Master Plan calls for a total build-out of over a million square feet of office and research and development space on land owned by the City. And, an improved highway facility could provide a better link between I-293 and industrial-zoned land in the Town of Goffstown. This improved access may accelerate development of this property and increase the tax base for both communities.