



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

REGION 1

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OFFICE OF THE  
REGIONAL ADMINISTRATOR

January 19, 2006

Ralph Rizzo  
Transportation Planner  
Federal Highway Administration  
380 Westminster Mall  
Providence, Rhode Island 02903

RE: Final Environmental Impact Statement Improvements to the U.S. Route 6/ Route 10  
Interchange, Providence, Rhode Island CEQ # 20050519

Dear Mr. Rizzo:

The Environmental Protection Agency-New England Region (EPA) has reviewed the Federal Highway Administration's (FHWA)/Rhode Island Department of Transportation's (RIDOT) Final Environmental Impact Statement (FEIS) for improvements to the U.S. Route 6 / 10 Interchange area in Providence, Rhode Island. We submit the following comments in accordance with our responsibilities under the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act.

The FEIS describes transportation improvement alternatives intended to correct existing deficiencies in the Route 6/Route 10 Interchange. The deficiencies include the deterioration of existing bridges and congestion on the road and in adjacent communities, especially in north-to-west travel movement. The FEIS identifies reconstruction of the Route 6/10 interchange on new alignment as the preferred alternative.

While we have no objection to the preferred alternative, the attachment to this letter highlights a number of recommendations related to air quality, environmental justice and water quality for your consideration as you develop the Record of Decision.

617-918-1010

Internet Address (URL) • <http://www.epa.gov/region1>

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Thank you for the opportunity to comment on the FEIS for the proposed project. Please contact Timothy Timmermann (617-918-1025) of EPA's Office of Environmental Review with any comments or questions about this letter.

Sincerely,

  
Robert W. Varney  
Regional Administrator

attachment

cc:

Edmund T. Parker, Jr., P.E.  
Chief Engineer  
Rhode Island Department of Transportation  
Capital Hill  
Providence, RI 02903

## **Additional Detailed Comments on the FEIS for Improvements to the U.S. Route 6/ Route 10 Interchange, Providence, Rhode Island**

### **Air Quality**

#### Emissions from Diesel Construction Equipment

The FEIS lacks a commitment to implement measures we recommended in our DEIS comments: (1) retrofit of construction equipment; (2) restriction of idling diesel vehicles; (3) establishment of truck-staging zones for diesel powered vehicles; (4) use of transportation grade (0.05 weight percent sulfur) or better diesel fuel in all construction equipment; and (5) including Contract Specification Language for emission reduction measures. RIDOT's November 1, 2005 response to EPA's DEIS comments states

"... during final design, emission reduction measures for construction equipment shall be considered, which could be incorporated into the final contract documents."

While this is helpful, EPA New England would like to see a firm commitment in the Record of Decision to implementing the above emission reduction measures, rather than a statement to consider and possibly include language in the final contract document for the Improvements to the U.S. Route 6/Route 10 Interchange Project. We believe implementation of these measures will further reduce the potential for impacts from the project to the at-risk population in the area described below. Similar language geared at reducing construction related emissions has been successfully incorporated in contract documents for transportation projects in the New England Region in Connecticut and Massachusetts.

#### Transportation Conformity

The FEIS satisfactorily addressed EPA's DEIS comments on transportation conformity.

#### Incident Management Program

According to the FEIS, the preservation of and potential enhancements to the existing traffic reporting system will be addressed during final design for this project. The FEIS satisfactorily addressed EPA's comments on incident management program.

### **Environmental Justice**

The FEIS presents alternative designs that reduce the residential acquisitions of concern associated with this project from a total of 43 units originally described in the DEIS to 1 unit, thereby alleviating EPA's concern about the disproportionate impact that the relocations would have on low-income families in the area. The FEIS has also responded to our requests to consider the cumulative effect of this project in conjunction with other planned construction projects in the area and expand the environmental justice analysis to include noise and air quality impacts. However, based on the high levels of asthma among the population in the project area that are detailed in 3.2.2, Social and Demographic Characteristics, we believe that more could be

done to ameliorate the potential for air quality impacts to environmental justice communities during construction. As described in our air quality comments above, EPA continues to recommend a firm commitment to diesel-reduction measures during construction, including retrofitting construction vehicles and using ultra-low sulfur diesel fuel to mitigate impacts on the at-risk population in the area.

## **Water Quality**

### Pollutants

The FEIS includes pollutants (excess algal growth/chlorophyll-A and dissolved oxygen) that were previously omitted from the DEIS analysis that our comments on the DEIS noted are also on the federal Clean Water Act §303(d) list of impaired waters prepared by the State. We appreciate the inclusion of these additional pollutants in the analysis.

### Pollutant Removal Rates

We were not able to locate a response in the FEIS to our request for additional information regarding the selection of a 90% removal target for TSS (and implicitly for other target pollutants). We raised this issue in response to the a statement in the DEIS that 90% removal of TSS is required based on the RI Storm Water Design and Installation Manual and RI DEM requirements for discharges to degraded waters. Our reading of the storm water manual is that it suggests that greater than 80% removal may be required for degraded waters and that other regulatory requirements must be met. In this context, we also referenced the need of the project to comply with Section 9 of RI's Water Quality Regulations, which directs that activities not further degrade low quality waters.

The FEIS responded to our comment regarding the ability of swirl separators to consistently remove 90% of pollutants with additional information and revised tables. In our opinion, the response is based on an optimistic estimate of the technology's removal efficiency and the assumption that the removal efficiency assumed for TSS can be extrapolated to other pollutants of concern. The FEIS also asserts that since the proposed technology is effective at removing particles larger than 100 microns ( $\mu\text{m}$ ) and because 90% of the pollutant particles of concern are above this size, the system will remove 90% of the pollutants in storm water (FEIS, p. 35). This analysis seems to suggest that 1) 100 percent of the particles larger than 100  $\mu\text{m}$  are captured and 2) swirl separators are equally efficient at removing pollutants other than suspended solids.

Studies of swirl separators, however, including from EPA's Environmental Technology Verification Program (ETV), demonstrate that swirl separators frequently exhibit lower pollutant removal efficiencies than projected in the FEIS and that they are even less efficient at removing heavy metal and nutrients than suspended solids.<sup>1</sup>

Even if the assertion that swirl separators can remove 100% of pollutant particles larger than 100

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<sup>1</sup> [http://www.epa.gov/etv/pdfs/vrvs/09\\_vs\\_vortechs.pdf](http://www.epa.gov/etv/pdfs/vrvs/09_vs_vortechs.pdf)

$\mu\text{m}$  is accepted, a review of the new Table 4-10A (FEIS, p 4-35) shows that significant proportions of the loadings of other pollutants (25% of the heavy metals, 28% of the phosphates and 38% of the nitrogen particles) in storm water tend to be smaller than 100  $\mu\text{m}$  and will presumably not be captured by the separator. By overestimating the percentage of the particles that are larger than 100  $\mu\text{m}$ , the FEIS likely overestimates the removal efficiency that can reasonably be attained by the proposed technology.

In conclusion, we do not believe that it is possible to conclude that the proposed pollution controls will effectively address the increase of pollutants associated with the preferred option. We continue to believe that FHWA/RIDOT should provide more information regarding its basis for selecting the 90% removal target. Moreover, we recommend that the ROD take into account and reflect the uncertainty regarding likely removal efficiencies of the proposed mitigation measures and we suggest that they be revised to conservatively reflect this uncertainty. Given that current storm water discharges from the existing roadway may not be receiving any treatment, even with lower estimates of pollutant removals, RIDOT may be able to demonstrate that there is a net reduction in the total loadings of pollutants of concern associated with its preferred alternative.