



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 1

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OFFICE OF THE
REGIONAL ADMINISTRATOR

August 1, 2005

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

RE: Draft Environmental Impact Statement Improvements to the U.S. Route 6/ Route 10 Interchange, Providence, Rhode Island CEQ # 20050226

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) Draft Environmental Impact Statement (DEIS) 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 DEIS 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 DEIS identifies reconstruction of the Route 6/10 interchange on new alignment as the preferred alternative.

We believe the alternatives described in the DEIS present a reasonable range of options to improve the existing Route 6/10 interchange. The attachment to this letter highlights a number of concerns related to water quality, air quality, and environmental justice for your consideration as you develop the Final Environmental Impact Statement (FEIS) for the proposed project.

Thank you for the opportunity to comment on the DEIS for the improvement alternatives. Based on our review of the DEIS we have rated the EIS "EC-2 - Environmental Concerns-Insufficient

617-918-1010

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Information" in accordance with EPA's national rating system, a description of which is attached to this letter. 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 DEIS for Improvements
to the U.S. Route 6/ Route 10 Interchange, Providence, Rhode Island**

The Woonasquatucket River, west and south of Routes 6 and 10, flows 18 miles from North Smithfield to upper Narragansett Bay. Although its upper reach is relatively pristine and rural, the urban portion below the Smithfield line received pollution and industrial waste for more than a century. EPA-New England has been actively involved with the Woonasquatucket River since 1996, when the agency's Urban Environmental Program (UEP) Team first learned that urban residents were subsistence fishing and eel trapping in parts of the river. A subsequent EPA-sponsored sampling effort revealed dioxin contamination in the lower river, which led to a "catch and release" fish advisory that has been in place since fall 1996. EPA continues to work with state and local partners to determine the extent of the dioxin contamination and how it should be cleaned up.

The river currently is listed as an impaired waterbody and is under assessment for developing a TMDL. Despite its impaired condition, however, local advocates have continued to work for its revival, and in August 1998 the river was nationally recognized as an American Heritage River. Since then, EPA and other stakeholders in the watershed have identified and undertaken significant habitat and water quality restoration projects; in addition, the Woonasquatucket River has become a key focal point for urban revitalization in Providence. As the river becomes cleaner and more inviting, it increasingly is seen as a critical asset to encourage redevelopment of historic mill complexes, to promote smart growth principles, and to generate new economic and recreational opportunities, including increased open and public space for an underserved community. Already, a number of mills have been converted to condominiums and artist space, and for some of them, an important marketing point has been proximity to the recreational resources of the river and walkability to Federal Hill and Downcity neighborhoods.

EPA's active involvement in the Woonasquatucket has focused primarily on water quality issues, and our comments specifically on water quality impacts, especially stormwater, are provided below. However, the proposed alternative also offers an extremely timely opportunity to coordinate with the intensive process underway in Providence to re-zone city neighborhoods, including Olneyville, for mixed and pedestrian-friendly uses; to revise the city's comprehensive plan to better link the Woonasquatucket with downtown and the Providence River and Narragansett Bay; and to promote alternative transportation modes, including bicycle access from the suburban bikeways into the city.

Given our involvement with the Woonasquatucket, we reviewed the DEIS with particular attention to the following issues:

Water Quality

RIDOT provides some data regarding the impact of the existing and likely new storm water discharges from the new structures. A number of previous studies, including an intensive

reconnaissance of the entire Woonasquatucket River in 1998/99, found significant sources of pollution from RIDOT outfalls and storm drains and prioritized specific outfalls for remediation. As a regulated entity under federal phase 2 stormwater regulations, RIDOT has specific stormwater management requirements. This project proposes to increase the impervious surface contributing additional pollutant loadings to an already impaired waterbody, but does not explain clearly how the existing and new stormwater will be treated prior to discharge.

- Under “Existing Water Quality” (p. 3-47), the DEIS correctly indicates that the Woonasquatucket River is included on the State 303(d) list of impaired waters for cadmium (Cd), copper (Cu), lead (Pb), mercury (Hg), biodiversity impacts, PCBs, dioxin, and pathogens. The DEIS omits that the river is also listed for excess algal growth/chlorophyll-A and low dissolved oxygen (Group 5 of the State 303(d) list).
- Page 4-69 of the DEIS states that as an “impaired” waterbody, new or enlarged outfalls to the Woonasquatucket River will be required to meet a 90% total suspended solids (TSS) removal rate for any additional discharge flows, citing the RI “Stormwater Design and Installation Manual” (storm water manual) and RIDEM requirements. Page 6 of the referenced storm water manual indicates that greater than the default 80% removal target may be required for degraded waters. Further, the manual stipulates that applicants must comply with all other regulatory requirements. Rule 9 of RI Water Quality Regulations direct that “activities shall not further degrade low quality waters.”
- Alternative 4 increases the impervious area approximately 25% (from 41 to 51.5 acres impervious). Peak discharges and pollutant loads are projected to increase by a proportional 25%. The DEIS should include more detail regarding DOT’s ability to meet the proposed removal rates of additional loads. Removal efficiencies for swirl separators (one of the options discussed) range from 50-90 percent, depending on manufacturer, influent flow rates and particle size. In addition, it would be helpful if the analysis discussed the applicability of Rule 9 of RI Water Quality Regulations described above. To the extent that TSS, or other pollutants discharged (see 4, below) are associated with the impairments identified above, additional contributions associated with this project may not be permissible.
- Table 4-10 describes the annual loading for phosphorous, nitrogen, Cu, Pb, and Zn associated with the 4 proposed alternatives. (More information regarding how these increased loadings are calculated would be helpful.) As these pollutants may be causing or contributing to existing impairments, the DEIS should explicitly identify the measures that will be taken to reduce additional loadings of these pollutants consistent with the storm water manual and RI’s water quality regulations.

Given these concerns, as well as the extensive construction and demolition that will occur as part of the proposed realignment, we believe this project could represent a rare opportunity to address discharges innovatively and with more public benefit than would be possible in the absence of

this project. We encourage RIDOT/FHWA to adopt the approach taken for the Sakonnet River bridge to address the potential impacts of all the storm water associated with this project.

Air Quality

Transportation Conformity

On April 15, 2004, EPA designated and classified the "Providence, Rhode Island" area moderate nonattainment for the 8-hour ozone national ambient air quality standard. The designation and classification was published in the Friday, April 30, 2004 Federal Register (69 FR 23858 - 23951) and became effective on June 15, 2004. The City of Providence, Rhode Island was redesignated to attainment for carbon monoxide on November 4, 1991. While currently attaining the national ambient air quality standard for carbon monoxide, Providence is a maintenance area for carbon monoxide.

Page 4-65 of the DEIS incorrectly refers to the proposed project being "U.S. Route 6 C-3 / I-295 to Hartford Avenue" and included in the current conforming plan and TIP. However, based on conversations with FHWA we understand that the proposed project is included in the current Rhode Island Statewide Transportation Plan and will also be part of the 2006-2011 Rhode Island Transportation Improvement Program. The U.S. Route 6/ Route 10 Interchange Improvements Project will continue to be included as part of the air quality conformity regional emission analyses prepared for the Providence 8-hour ozone nonattainment area, and the Providence carbon monoxide attainment area with a maintenance plan.

The carbon monoxide micro-scale air quality analyses conducted in the project area as part of the DEIS demonstrates that all existing and future carbon monoxide concentrations will be below the 1- hour and 8-hour national ambient air quality standards (NAAQS) for carbon monoxide. Project level hot-spot analyses required by the Transportation Conformity Rule have been satisfied.

Incident Management Program

Rhode Island's Intelligent Transportation System Incident Management Program (Transportation Management Center's Rhodeway Program, also known as Rhode Island WAYS) has at least three closed circuit television surveillance cameras in the project area: (1.) Routes 10/6 @ Dean Street; (2.) Routes 10/6 @ Tobey Street; and (3.) Route 10 @ Route 6. This new high-tech system monitors, assesses and responds to roadway emergencies. The new system aids in managing traffic on Rhode Island's major interstates (I-95, I-195, and I-295) as well as other local routes throughout the state (Route 146, Route 4, Route 6, and Route 10.) EPA requests that the FEIS address the preservation of the existing traffic reporting system, and explore potential enhancements of the system which could include additional camera locations, and additional message signs [variable message signs (VMS), dynamic message signs (DMS) and changeable message signs (CMS)] in the project area. We support these measures as they help to smooth traffic flow and reduce auto-related pollution. Implementation of incident management measures before construction would identify construction-traffic delays to the Traffic Operation Center,

and allow the Traffic Operation Center to inform motorists of delays and alternative routes on the variable message signs, on RI DOT's/Transportation Management Center's web site, on RI DOT's Traffic Advisory Radio, and through Rhode Island's 511 Traffic Information Service.

Emissions from Diesel Construction Equipment

During the construction phase of the project, emissions from construction equipment may contribute to air quality problems in Providence. This is particularly true of diesel-powered equipment which has the potential to contribute high levels of particulate matter (PM) emissions. In 1998, EPA adopted new emission standards for diesel engines used in a wide range of non-road construction applications. Standards for hydrocarbons, oxides of nitrogen (NO_x), carbon monoxide, and PM will be implemented in two tiers over ten years (1999-2008), with different standards and start years for various engine power ratings. The new standards will reduce emissions from a typical nonroad diesel engine by up to two-thirds from the levels of previous standards. By meeting these standards, manufacturers of new nonroad engines and equipment will achieve large reductions in the emissions (especially NO_x and PM) that cause air pollution problems in many parts of the country. However, it will be a number of years before the newer, cleaner construction equipment is in widespread use, and until then there will be many older pieces of diesel-powered construction equipment that will emit high levels of particulate matter and other pollutants.

The emissions from older diesel engines can, however, be controlled with retrofit pollution control equipment. Retrofit control equipment includes either oxidation catalysts or particulate filters installed on the exhaust of the diesel engine. This control equipment is designed to reduce particulate matter, hydrocarbons, and carbon monoxide emissions and has proven to be a cost effective way to reduce these emissions. Retrofits have been successfully applied to many diesel engines across the country and oxidation catalyst technology has been successfully applied to construction equipment used on the Central Artery/Third Harbor Tunnel project in Boston. Based on this success, some New England States (e.g., Massachusetts and Connecticut) have instituted initiatives that will require construction equipment to be retrofitted with retrofit control devices or use clean fuels. Connecticut DOT's controls require all construction equipment with diesel engines greater than or equal to 60 Hp in size that are on the project for more than 30 days be outfitted with emission control devices (such as oxidation catalysts) and/or use clean fuels. In addition Connecticut's controls also limit the idling of diesel vehicles to three minutes or less. EPA encourages Rhode Island Department of Transportation to develop language in this project's contract specifications to establish truck-staging zones for diesel powered vehicles that are waiting to load or unload material at the contract area. Such zones should be located where the diesel emissions from the trucks will have minimum impact on abutters and the general public. Idling of delivery and/or dump trucks, or other diesel powered equipment should not be permitted during periods of non-active use, and it should be limited.

EPA further recommends the use of transportation grade (0.05 weight percent sulfur) or better diesel fuel in all construction equipment to further reduce emissions of particulate matter, carbon monoxide and volatile organic compounds. In the case of retrofits, cleaner fuels are often

required to prevent poisoning of the catalysts and insure maximum emission reduction benefits.

There are many mechanisms to encourage the use of these controls, such as through contract specifications or other means. In addition, there are also many ways to secure funding for diesel retrofits, such as by acquiring federal highway money under the Congestion Mitigation and Air Quality Program (CMAQ) or through EPA grant mechanisms. Therefore, EPA strongly advocates retrofits on the construction equipment for this project and is willing to assist RI DOT in promoting construction equipment retrofits.

Environmental Justice

We recommend that the environmental justice analysis of each alternative be expanded to consider (1) environmental and human health effects on the low-income and minority communities in the project area, and (2) the cumulative risk posed to these communities when combined with environmental and health impacts associated with existing and anticipated facilities and activities in the area. As written, only one adverse socioeconomic impact—the relocation of 43 residences—is discussed. No information is presented to support the conclusion that Alternatives 2 and 3, to rehabilitate or reconstruct existing bridges, respectively, would not have any adverse impacts on minority and low-income families. Noise and air quality impacts are two examples of adverse effects on low-income and minority communities in the project area under Alternatives 2, 3 and 4 that should be fully explored in this section. Mitigation measures for these and any other identified adverse impacts, especially the potential loss of affordable rental housing units, should also be included. You may wish to refer to the Council on Environmental Quality's "Environmental Justice Guidance Under the National Environmental Policy Act," December 1997, for more specific direction on how to conduct an environmental justice analysis.

Because of the potential vulnerabilities of the communities in the project area, we advise DOT to continue to evaluate the proposed project in light of environmental justice principles. EPA defines environmental justice to mean the fair treatment of people of all races, cultures, and incomes with respect to the development, implementation, and enforcement of environmental laws and policies, and their meaningful involvement in the decision-making process of the government. DOT should strive to involve residents that will be impacted by this project. Enhanced public involvement activities may be required to reach low-income and minority populations in these areas, particularly if they are non-English speaking. EPA is willing to work with DOT to help shape the evaluation so that environmental justice principles are fully considered. Please feel free to contact Davina Wysin, Environmental Justice Specialist, EPA New England's Office of Civil Rights & Urban Affairs, at 617-918-1020 to discuss how EPA can assist DOT in this analysis.

We also note that the Rhode Island Department of Environmental Management has a draft Environmental Equity Policy. Michele Musselman, Senior Environmental Planner, Rhode Island Department of Environmental Management is the point of contact for environmental justice

Summary of Rating Definitions and Follow-up Action

Environmental Impact of the Action

LO--Lack of Objections

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC--Environmental Concerns

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

EO--Environmental Objections

The EPA review has identified significant environmental impacts that must be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU--Environmentally Unsatisfactory

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the CEQ.

Adequacy of the Impact Statement

Category 1--Adequate

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2--Insufficient Information

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

Category 3--Inadequate

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.