UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
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San Francisco, CA 94105-3901

November 5, 2009

Abdelmoez A. Abdalla
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Federal Highway Administration
705 N. Plaza, Suite 220
Carson City, NV 89701

Subject: Draft Environmental Impact Statement for the I-15 Corridor and Local Arterial Improvements, Las Vegas, Nevada (CEQ #20090323)

Dear Mr. Abdalla:

The Environmental Protection Agency (EPA) has reviewed the above-referenced document pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), and Section 309 of the Clean Air Act. Our detailed comments are enclosed.

EPA has concerns about the proposed project's impacts on environmental justice communities due to residential relocation and noise impacts. We also have concerns about noise, air quality, and near-roadway health impacts to the residents that will be in close proximity to the highway. Therefore, we have rated this document EC-2, *Environmental Concerns, Insufficient Information*. Please see the enclosed "*Summary of Rating Definitions*" for a description of our rating system.

EPA is concerned about the project's relocation impacts to an estimated 850 people in 345 households. Given the magnitude of impacts estimated by the project, EPA requests that the FEIS include a discussion of other less-disruptive alternatives and why they were not analyzed. It is unclear if alternative roadway designs aiming to reduce community disruption were considered. While we recognize the potential health benefits of relocating 345 residences to locations further away from the high-volume I-15 (and thereby lessening existing near-roadway health impacts), those benefits cannot be confirmed or concluded (as on page 3-16) without identification of the specific locations where displacees will be moved. EPA recommends that FHWA provide specific location information for proposed relocation efforts and confirm that relocation housing be sited sufficiently away from other high-volume roadways in the vicinity.

Further, EPA is concerned about the availability of replacement housing and the cumulative displacement impacts to residences in the vicinity of this project given that 1) alternatives being considered for the future expansion of I-515, directly to the east of this project, may also result in the disruption of hundreds of residences, and 2) the recently completed

improvements to US 95 also resulted in the displacement of approximately 396 residences. The Draft Environmental Impact Statement (DEIS) states that "housing of last resort" would likely be necessary to successfully relocate the portion of displaced residents who currently reside in below-market rental units, and that sufficient options would be available to ensure that the needs of all of these residents would be met. While FHWA and NDOT provide general commitments for managing displaced residents on page 3-32 (taken from the *Draft Project NEON Relocation Study)* we recommend that the Final Environmental Impact Statement (FEIS) be improved to include commitments for 1) specific timelines for relocation, 2) confirmation of financial support where needed, 3) specific locations for replacement housing options, 4) additional policy measures, and 5) achievable solutions that would ensure the relocation of all displaced residents to decent, safe, and sanitary replacement housing that is within the residents' financial means and capable of occurring in a timely manner.

While the DEIS states that the project would not have a disproportionately high and adverse effect on low-income or minority residents and would therefore have no environmental justice impacts, EPA also recommends this determination be revisited or further justified given that the area of impact includes multiple census tract/block groups that are identified as higher percentages minority and low-income than the reference population. In the attached detailed comments, EPA also expresses concerns about noise, air quality, and mobile source air toxics impacts to remaining residences and other sensitive receptors. We recommend mitigation of these impacts, particularly in areas where residences and environmental justice communities would be adversely affected. We recommend that issues surrounding cost as a barrier to implementing noise mitigation be revisited and justified.

We appreciate the opportunity to review this DEIS. When the FEIS is released for public review, please send one hard copy and one electronic copy (on CD) to the address above (mail code: CED-2). If you have any questions, please contact me at 415-947-4161 or dunning.connell@epa.gov or Carolyn Mulvihill, the lead reviewer for this project, at 415-947-3554 or mulvihill.carolyn@epa.gov .

Sincerely,

Connell Dunning

Connell Dunning, Transportation Team Supervisor
Environmental Review Office
Communities and Ecosystems Division

Enclosures:
Summary of EPA Rating Definitions
EPA's Detailed Comments

cc: Steve Cooke, Nevada Department of Transportation
Lewis Wallenmeyer, Clark County Air Quality Management District
Carl Rowe, Housing Authority of the City of Las Vegas

EPA DETAILED COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE I-15 CORRIDOR AND LOCAL ARTERIAL IMPROVEMENTS, NOVEMBER 5, 2009

Displacement of Residents

The Environmental Protection Agency (EPA) is concerned about the project's direct and cumulative displacement of residents. While we recognize the potential health benefits of relocating 345 residences to locations further away from the high-volume I-15 (and thereby lessening existing near-roadway health impacts), those benefits cannot be confirmed or concluded (as on page 3-16) without identification of the specific locations where displacees will be moved. The Final Environmental Impact Statement (DEIS) should be revised to support the conclusion on page 3-16 that mobile source air toxics impacts will be greater under the No-Build alternative than under the build alternatives. Specifically, EPA recommends that FHWA provide specific location information for proposed relocation efforts and confirm that relocation housing be sited sufficiently away from other high-volume roadways in the vicinity.

The Draft Environmental Impact Statement (DEIS) states that of the 345 households that would be relocated by either of the proposed project alternatives, about 300 of those households are described as living in multi-family rental housing that charges below-market rents. In addition to these relocations, the DEIS states that recently completed improvements to US 95 resulted in the displacement of approximately 396 residences. EPA also understands that alternatives being considered for the future improvements to I-515 east of the project area may require relocation of hundreds of residences. EPA is concerned about the cumulative impacts of these various relocations. Specifically, we are concerned about the availability of replacement housing for all of the displaced residents. Current economic conditions may increase the adverse impacts of these relocations, since the high number of recent home foreclosures in the Las Vegas area may have increased pressure on the rental housing market.

The DEIS states that the I-15 project team met with members of the I-515 project team to discuss the projects' impacts on the real estate market. The teams identified a concern with the number of households that would be relocated by the projects and the availability of affordable housing (page 3-30). The DEIS lists a variety of options to deal with these issues, such as providing funding to the Housing Authority of the City of Las Vegas for the development of attainable housing for residents potentially relocated by this project, but does not commit to any specific actions, timing, or locations for such building. The DEIS also states that "housing of last resort" would likely be necessary to successfully relocate the portion of displaced residents who currently reside in below-market rental units, and that sufficient options would be available to ensure that the needs of all of these residents would be met. We note that the list of commitments identified on page 3-32 (taken from the *Draft Project NEON Relocation Study)* provides a starting point and listing of optional solutions and general guidance. However, we recommend that the FEIS include commitments to 1) specific timelines for relocation, 2) confirmation of financial support where needed, 3) specific locations for replacement housing options, 4) additional protective policy measures, and 5) achievable solutions specific funding options or other policy measures that would ensure the relocation of all displaced

residents to decent, safe, and sanitary replacement housing that is within the residents' financial means and capable of being completed in a timely manner.

In addition, EPA is concerned with how FHWA and NDOT have characterized the residences that will be affected by the proposed project. On page 3-6, the DEIS states that the relocation of residents would not impact community cohesion because "the residences along Desert Lane are not an integral part of the Las Vegas Medical District," according to City of Las Vegas planning staff. Regardless of whether these residences are considered to be part of a specific neighborhood, the residents in that area would certainly be impacted by the complete removal of their residential community. Given the high number of residents that would be relocated (approximately 850) and the area's low-income and minority populations, it is critical that the adverse impacts to these residents be recognized and appropriate mitigation commitments be provided by FHWA and NDOT.

Recommendations:

- Commit to specific mitigation measures to minimize the impacts of displacement and relocation on low-income and minority populations, with particular attention to the needs of those living in below-market rental housing. Identify each measure along with a description of the responsible party, timing for implementation, and length of time anticipated for complete implementation.
- Include in the FEIS commitments to specific funding options or other policy measures that would ensure the relocation of all displaced residents to decent, safe, and sanitary replacement housing that is within the residents' financial means.
- Discuss specifics of how and where potential relocation could occur, including reference to actual locations where housing can either be built or currently exists. Include a clear timeline, with responsible parties identified, to indicate the schedule for proposed relocations compared with the schedule for the proposed construction of the project.
- Include a more comprehensive vision of the future proposed relocation plan for this project as well as the I-515 project. Both planned projects should have shared assumptions, estimates, and projections for where displaced residences will ultimately live. The DEIS provided no indication that actual solutions are achievable.
- Conduct interviews with all potential displacees to determine relocation needs. Confirm that those who have special needs will be accommodated with a plan for assistance as needed. Based on the results from the interviews, consider additional measures to minimize the impacts of relocation, such as providing translations services, transportation to visit potential replacement housing, and/or additional relocation specialists to work with these communities.
- To mitigate community character and cohesion impacts to low-income and minority communities, conduct public workshops and work directly with

affected populations to identify effective and creative ways to minimize or mitigate these impacts.

Environmental Justice

EPA has concerns about the proposed project's impacts on low-income and minority residents in the project area. Executive Order 12898 directs federal agencies to make achieving environmental justice part of their missions by identifying and addressing, as appropriate, disproportionately high adverse human health or environmental effects of their activities on minority and low-income populations. In addition, Title VI of the Civil Rights Act of 1964 prohibits discrimination on the basis of race, color or national origin.

Data in the DEIS indicate that a number of neighborhoods that would be impacted by the project are home to low-income and minority populations. First, the DEIS states that there are notable differences in the percentage of households below the poverty threshold within the socioeconomic study area, as compared with the City of Las Vegas and with Clark County. Secondly, Table 3-1 indicates that the study area contains higher percentages of minority residents than either the city or the county. (The text summarizing Table 3-1 states that the city and county have higher percentages of minority residents, but this appears to be an incorrect statement, as the numbers in Table 3-1 for the city and county appear to contain miscalculations.).

In the FEIS, FHWA and NDOT should include additional information about the existing health of the affected population as a part of the Environmental Justice analysis. There is a growing body of evidence that environmental justice communities are more vulnerable to pollution impacts than other communities[1]. As discussed in EPA's *Framework for Cumulative Risk*[2] and the National Environmental Justice Advisory Council's *Ensuring Risk Reduction in Communities with Multiple Stressors: Environmental Justice and Cumulative Risks/Impacts*[3], disadvantaged, underserved, and overburdened communities are likely to come to the table with pre-existing deficits of both a physical and social nature that make the effects of environmental pollution more, and in some cases, unacceptably, burdensome. Thus, certain subpopulations may be more likely to be adversely affected by a given stressor than is the general population. Given the magnitude and complexity of the multiple transportation and development projects in the project vicinity, EPA recommends that FHWA and NDOT consider providing health related information about the neighboring population to better characterize the impacted community. EPA is available to discuss potential sources of

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[1] O'Neill M, Jerrett M, Kawachi I, Levy J, Cohen AJ, Gouveia N, Wilkinson P, Fletcher T, Cifuentes L, Schwartz J.. Health, Wealth, and Air Pollution: Advancing Theory and Methods. Environmental Health Perspectives. Vol 111, No 16, December 2003. This article evaluated 15 different studies of particulate air pollution and socioeconomic conditions and found the majority of the studies evaluating individual-level characteristics did show effect modification with higher health impacts (such as mortality or asthma hospitalizations) among those with lower socioeconomic position. Low educational attainment seemed to be a particularly consistent indicator of vulnerability in these studies.

[2] Available at: http://cfpub.epa.gov/ncea/raf/recordisplay.cfm?deid=54944

[3] Available at: http://www.epa.gov/environmentaljustice/nejac/past-nejac-meet.html

information regarding health data and analyses which can help to better understand the scope of potential impacts to already disadvantaged, underserved, and overburdened communities.

The DEIS concludes that "the analysis determined that Project NEON would not have a disproportionately high and adverse effect on low income or minority residents." It does not appear that there is supporting information in the DEIS to justify the determination that the project will have no disproportionate impacts to low-income or minority populations.

Recommendations:

- EPA recommends revising the Environmental Justice Analysis to identify whether the Census tract and block groups with high percentages of minority and low-income populations, as indicated in Table 3-5, will be impacted by relocation, noise, or other project impacts. If impacts will occur, identify in the FEIS that environmental justice impacts will occur and provide mitigation measures to reduce these impacts.
- Determine whether there are disproportionately high and adverse impacts, as detailed in CEQ's "*Environmental Justice: Guidance Under the National Environmental Policy Act*" by considering the following three factors to the extent practicable for all identified potential environmental justice concerns:
  (a) Whether the health effects, which may be measured in risks and rates, are significant (as employed by NEPA), or above generally accepted norms. Adverse health effects may include bodily impairment, infirmity, illness, or death;
  (b) Whether the risk or rate of hazard exposure by a minority population or low-income population to an environmental hazard is significant (as employed by NEPA) and appreciably exceeds, or is likely to appreciably exceed, the risk or rate to the general population or other appropriate comparison group; and
  (c) Whether health effects occur in a minority population or low-income population affected by cumulative or multiple adverse exposures from environmental hazards.
- Include additional information about the existing health of the affected population as well as a description of potential additional stressors existing in the project area.
- Should FHWA and NDOT continue to determine that this project will have no disproportionate impacts to minority or low-income populations, the FEIS should include additional supporting information and rationale to justify that determination.
- Verify the figures in Table 3-1 to ensure that accurate information is included in the FEIS. Specifically, the percentages presented to not appear to be accurate.

Noise Impacts

The DEIS states that proposed mitigation for noise impacts (construction of new noise barriers along segments of the proposed project where noise would exceed or approach the Noise Abatement Criteria level) would not be reasonable from a cost standpoint. EPA encourages mitigation of noise impacts, particularly in areas where residences and environmental justice communities would be impacted.

Recommendations:

- Commit to implementing measures to mitigate noise impacts in residential areas and environmental justice communities.
- Should FHWA and NDOT continue to determine that measures to reduce impacts from noise are too costly, the FEIS should justify this decision by providing examples of similar projects where FHWA and NDOT have decided not to incorporate noise mitigation measures based on cost. In addition, the rationale for the cost threshold should be provided in the context of the complete costs of mitigation for the project. For example, costs of mitigating noise impacts should be compared with other mitigation costs, such as the costs associated with relocation of approximately 850 residents. Given that the population in the project area contains high percentages of low-income and minority residents, it is critical that the FEIS affirm that noise mitigation measures proposed for this project are comparable to those implemented for similar projects in areas that do not have high percentages of low-income and minority residents.

Air Quality

Air Quality Monitoring Data and Hot Spot Analyses

The DEIS includes air quality monitoring data for the years 2003 to 2007. Data for 2008 is now available and 2009 may be available in time for publication of the FEIS. This updated data will impact the determination of background concentrations of carbon monoxide (CO) and subsequent hot spot analysis. More information is available at http://www.epa.gov/airtrends/values.html.

On page 3-53, the background CO concentrations used in the microscale monitoring (5.5 ppm and 2.7 ppm) are lower than the CO monitoring network values shown in Table 3-19. Please include additional information in the FEIS explaining why the values are lower than the monitored values show in Table 3-19.

On page 3-54, the DEIS states that the proposed project is not considered a project of air quality concern, which determines whether a PM_{10} hot spot analysis is required. However, while the criteria for determining whether a project is a project of air quality concern is listed in the DEIS, no information is included to support the determination that the proposed project is not a project of air quality concern. The FEIS

should include additional information, such as a comparison of the project's attributes to the included criteria, to explain that decision. For comparison, EPA's *Transportation Conformity Guidance for Qualitative Hot-spot Analyses in $PM_{2.5}$ and PM_{10} Nonattainment and Maintenance Areas*, dated March 2006, provides two examples of projects of air quality concern (page 24): 1) A project on a new highway or expressway that serves a significant volume of diesel truck traffic, such as facilities with greater than 125,000 annual average daily traffic (AADT) and 8% or more of such AADT is diesel truck traffic; and 2) expansion of an existing highway or other facility that affects a congested intersection (operated at Level-of-Service D, E, or F) that has a significant increase in the number of diesel trucks. The FEIS should include the answers to the questions: Does the proposed project contain AADT less than 125,000? Are there no sensitive land uses close to the freeway?

Finally, on page 3-51, Table 3-18 contains a footnote which should be updated. The footnote states: "No methodologies for determining impacts relating to $PM_{2.5}$ have been developed or adopted by federal, state, or regional agencies. Additionally, no strategies or mitigation programs for $PM_{2.5}$ have been developed or adopted by federal, state, or regional agencies." However, EPA's *Transportation Conformity Guidance for Qualitative Hot-spot Analyses in $PM_{2.5}$ and PM_{10} Nonattainment and Maintenance Areas*, contains methods for examining the impacts of transportation projects on PM_{10} and $PM_{2.5}$. In addition, as discussed on page 3-60 of the DEIS, EPA now requires low sulfur diesel fuels and has provided funds to many areas to reduce diesel emissions through the federal Clean Diesel Campaign. Clark County has applied for these funds and is also using Congestion Mitigation and Air Quality Improvement Program funds to reduce diesel (e.g. fine particulate) emissions. Please revise the footnote appropriately.

Recommendations:

- Include up-to-date monitoring data in the FEIS. Update calculations of background CO concentrations and potential CO hot spots and include this data, and any measures to mitigate potential impacts, in the FEIS.
- Explain in the FEIS why the CO concentrations used in the hot spot analysis are lower than the monitored values show in Table 3-19.
- Include additional information in the FEIS, such as a comparison of the project's attributes to the included criteria, to support the determination that the proposed project is not a project of air quality concern. Alternatively, if the project is determined to be a project of air quality concern, then complete a PM hot spot analysis per EPA's *Transportation Conformity Guidance for Qualitative Hot-spot Analyses in $PM_{2.5}$ and PM_{10} Nonattainment and Maintenance Areas.*
- Update the footnote to Table 3-18 to reflect current guidance and available methodologies and mitigation strategies for $PM_{2.5}$ impacts.

Construction Impacts

The DEIS states that construction impacts were evaluated qualitatively due to the limited availability of detailed information regarding equipment staging during construction. The FEIS should include sufficient information about construction staging, so that potential air quality and other impacts to sensitive populations can be determined.

On page 3-60, after a discussion of use of low sulfur fuels and reduction of idling and addition of diesel emission control devices, the document indicates that FHWA and NDOT will commit to implementing certain measures on a mandatory basis. Please include additional information in the FEIS on what measures FHWA and NDOT will commit to and how the commitment will be documented.

Recommendations:

- Include information about construction staging areas in the FEIS so that potential air quality and other impacts to sensitive receptors can be determined.
- Include commitments in the FEIS to mitigation measures to minimize construction-related air quality impacts.

Mobile Source Air Toxics

Mobile source air toxics (MSATs) have been and continue to be a topic of discussion between EPA and FHWA, at both the regional and national level. EPA has a particular interest in MSAT impacts in the Las Vegas area due to existing air quality in the area, the proximity of highway expansion projects to sensitive receptors, and the fact that MSAT concerns have been raised in the past for other projects.

MSAT impacts were the primary concern of the Sierra Club in its legal challenge to a US 95 widening project in Las Vegas *(Sierra Club v. Mineta,* D. Nev., No. CV-S-02-0578-PMP-RJJ, settlement announced 6/27/05). The settlement agreement in this case requires FHWA and NDOT to install air pollution monitoring and filtration systems at three schools adjacent to US 95, relocate portable school buildings and playgrounds, help redesign a nearby high school to minimize exposures, and retrofit diesel school buses to reduce emissions.

The DEIS states that Year 2030 traffic volumes along most segments of the project corridor will exceed 200,000 vehicles per day. Given the highly developed nature of the project area and the existence of both residential and commercial property adjacent to the corridor, it is likely that there are sensitive receptors close enough to the roadway to experience MSAT impacts. Many studies have measured elevated concentrations of pollutants emitted directly by motor vehicles near large roadways. These elevated concentrations generally occur within approximately 200 meters of the road, although the distance may vary depending on traffic and environmental conditions. Pollutants measured with elevated concentrations include benzene, polycyclic aromatic

hydrocarbons, carbon monoxide, nitrogen dioxide, black carbon, and coarse, fine, and ultrafine particles. For a thorough review of near-roadway monitoring studies, see Section 3.1.3 of EPA's "Regulatory Impact Analysis: Control of Hazardous Air Pollutants from Mobile Sources" (February 2007, http://www.epa.gov/otaq/regs/toxics/fr-ria-sections.htm).

The DEIS states that if the roadway is widened as planned, and as a result moves closer to some receptors, the localized level of MSAT emissions could be higher than if the freeway were not widened. It also states that these increases could be offset by increases in vehicle speeds and reductions in congestion on the road, but that the concentrations and duration of exposures are uncertain and the health effects of these emissions cannot be reliably estimated. EPA strongly disagrees with this conclusion.

A large number of recent studies have examined the association between living near major roads and various adverse health endpoints. Several well-conducted epidemiologic studies have shown associations with cardiovascular effects, premature adult mortality, and adverse birth outcomes, including low birth weight and size. Traffic-related pollutants have been repeatedly associated with increased prevalence of asthma-related respiratory symptoms in children. Also, based on toxicological and occupational epidemiologic literature, several of the MSATs, including benzene, 1,3-butadiene, and diesel exhaust, are classified as known and likely human carcinogens. Thus, cancer risk, including childhood leukemia, is a potential concern in near roadway environments. For additional information on MSATs, please see EPA's MSAT website (http://www.epa.gov/otaq/toxics.htm).

For most transportation projects, EPA recommends that the following levels of MSAT analysis be considered (in order of increasing complexity):

1. Qualitative discussion,
2. Quantify emissions,
3. Toxicity-weight emissions,
4. Dispersion modeling, and
5. Risk assessment.

These analyses are further described in the March 2007 report entitled "Analyzing, Documenting, and Communicating the Impacts of Mobile Source Air Toxic Emissions in the NEPA Process" conducted for the American Association of State Highway and Transportation Officials (AASHTO) Standing Committee on the Environment and funded by the Transportation Research Board (http://www.trb.org/NotesDocs/25-25(18)_FR.pdf). Procedures for toxicity-weighting, which EPA has found to be especially useful for the targeting of mitigation, are described in EPA's Air Toxics Risk Assessment Reference Library (Volume 3, Appendix B, beginning on page B-4, http://epa.gov/ttn/fera/data/risk/vol_3/Appendix_B_April_2006.pdf).

In general, when considering appropriate and useful levels of analysis, EPA recommends that the lead agency consider the following:

- The likelihood of impact and potential magnitude of the effect, including both the magnitude of emissions and the proximity of the project emissions to potential residential and sensitive receptors, such as schools, hospitals, day care facilities, and nursing homes;
- The severity of existing conditions;
- Whether the project is controversial and whether air toxics concerns have been raised by the public for this project or for other projects in the area in the past;
- Whether there is a precedent for analysis for projects of this type, either under NEPA or other environmental laws; and
- Whether the analysis could be useful for distinguishing between alternatives, informing design changes, and targeting mitigation.

For this project, FHWA and NDOT performed an MSAT "emissions burden" analysis using MOBILE6.2 to estimate the total daily MSAT emissions along individual segments of I-15. EPA commends FHWA and NDOT for performing this initial analysis; however, because MSAT impacts tend to be highly localized, an analysis of total daily MSAT emissions along segments of the corridor does not capture the potential for MSAT impacts that are likely to occur at specific locations along the corridor. This information should be determined through dispersion modeling. Without dispersion modeling, it is impossible to determine whether impacts to sensitive receptors at specific locations will occur.

Other transportation agencies have either recently performed, or plan to perform, analyses of localized MSAT impacts for transportation projects. Dispersion modeling and a health risk assessment was performed by the Alameda Corridor Transportation Authority for the Schuyler Heim Bridge Replacement and SR-47 Expressway Project in Los Angeles County (See the Appendix Q, www.acta.org/projects_planning_SR47.htm), and the California Department of Transportation (Caltrans) plans to perform dispersion modeling and a health risk assessment for the Interstate 710 Corridor Project, also located in Los Angeles County. EPA would be happy to work with NDOT and FHWA to identify how these examples relate to the proposed I-15 project.

EPA has previously offered technical assistance to NDOT and FHWA regarding available modeling tools and other data necessary for appropriate analysis of MSAT impact. We continue to offer this assistance for this project and other NDOT projects. EPA believes a robust MSAT analysis should be undertaken for the proposed I-15 project because 1) the project is a potentially large expansion of an already major freeway; 2) the project is in close proximity to residences and other sensitive receptors; and 3) there is an increasing public awareness of air quality impacts associated with transportation projects. We recommend that NDOT and FHWA perform dispersion modeling to determine potential localized impacts to sensitive receptors, given the strong scientific evidence that mobile-source related pollutant concentrations are significantly higher in close proximity

to roadways (see, for example, Zhu *et al.*, *Atmospheric Environment*, Volume 36, pages 4323-4335, 2002; and Zhou and Levy, *BMC Public Health,* Volume 7, 2007).

Recommendations*[4]*:

- Provide a map indicating the location of residences and sensitive receptors in close proximity to the project (for example, within 1,000 feet).
- Perform dispersion modeling of MSAT emissions to determine exposure concentrations for residences and sensitive receptors along the corridor, and how these concentrations may change with project build alternatives.
- Provide specific mitigation measures for impacts to each sensitive receptor location identified and provide a timeline and responsible party for implementing each mitigation measure.

Green Design and Construction

Industrial Materials Reuse and Recycling

The DEIS discusses the energy required for raw materials and equipment to build or maintain the proposed project. For the construction of new infrastructure, EPA recommends industrial materials recycling, or the reusing or recycling of byproduct materials generated from industrial processes. Nonhazardous industrial materials, such as coal ash, foundry sand, construction and demolition materials, slags, and gypsum, are valuable products of industrial processes. Industrial materials recycling preserves natural resources by decreasing the demand for virgin materials, conserves energy and reduces greenhouse gas emissions by decreasing the demand for products made from energy intensive manufacturing processes; and saves money by decreasing disposal costs for the generator and decreasing materials costs for end users. EPA recommends that the FEIS identify how industrial materials recycling can be incorporated into project design. More information can be found at: http://www.epa.gov/epawaste/conserve/rrr/imr/index.htm.

Green Infrastructure

Considering the increase in impervious surface resulting from the project, EPA encourages aggressive efforts to manage stormwater runoff to minimize additional introduction of pollutants. While EPA realizes that the project area is highly developed, we recommend that "green infrastructure" be integrated wherever possible, for example as a part of landscaping or in onsite stormwater management features, such as bioretention areas, vegetated swales, porous pavement, and filter strips. These features can serve as both stormwater treatment and visual enhancements. More detailed information on these forms of "green infrastructure" can be found at http://cfpub.epa.gov/npdes/home.cfm?program_id=298.

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[4] We recognize that the recommendations in this letter and the recommendations included in the report for AASHTO referenced above, differ substantially from the FHWA Interim Guidance Update on Mobile Source Air Toxic Analysis in NEPA Documents (September 2009). While FHWA's guidance acknowledges potential MSAT concerns, EPA continues to disagree, nationally, with major elements of its approach.

Recommendations:

- Implement industrial materials recycling whenever practical in project design and construction to reduce the energy and other impacts of use of virgin materials. Document plans to use recycled materials in the FEIS.
- To mitigate the impacts of increased impervious surface in the project area, implement aggressive stormwater management, including green infrastructure where possible and identify commitments to specific stormwater management techniques in the FEIS.

SUMMARY OF EPA RATING DEFINITIONS*

This rating system was developed as a means to summarize the U.S. Environmental Protection Agency's (EPA) level of concern with a proposed action. The ratings are a combination of alphabetical categories for evaluation of the environmental impacts of the proposal and numerical categories for evaluation of the adequacy of the Environmental Impact Statement (EIS).

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 should 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 Council on Environmental Quality (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 analysed 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 analysed in the draft EIS, which should be analysed 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.

*From EPA Manual 1640, Policy and Procedures for the Review of Federal Actions Impacting the Environment.