THE OHIO RIVER BRIDGES
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Project Office: Forum Office Park III, 305 N. Hurstbourne Parkway, Suite 100, Louisville, KY 40222

May 26, 2011

Ms. Janice Osadczuk
Engineering Services Team Leader
FHWA, Indiana Division Office
575 N. Pennsylvania St., Room 254
Indianapolis, IN 46204

Subject: Proposed Highway Traffic Noise Modeling for the Louisville-Southern Indiana Ohio River Bridges Project

Dear Janice Osadczuk,

The revised draft highway traffic noise policies for Indiana and Kentucky and applicability for the supplemental Final Environmental Impact Statement for the LSIORB project have been reviewed. The Indiana and Kentucky noise policies outline the measurement of existing noise receivers, the modeling of predicted noise levels utilizing FHWA's TNM 2.5 and the abatement feasibility/reasonableness criteria for barrier abatement. The policies do not contain direction for the incorporation of theoretical and/or research methodologies for refining the noise prediction, but rather rely on the federally approved TNM 2.5 to model the noise impacts and attenuation. The federally approved noise prediction models have been utilized throughout the project to provide a documented framework for alternative comparison and as an assessment of barrier feasibility and reasonableness.

During the recent conference call regarding a project-wide direction for noise abatement, questions were raised about the ability to model for receptors located near bridges. It was noted that there are noises that occur underneath structures that do have an effect on receptors that are in close proximity to overhead structures. However, it was discussed that while some additional noise could theoretically be analyzed as a result of the affect of overhead structures, there is no practicable mitigation other than to utilize best practices for quiet pavements and joint applications on the structures.

The Indiana and Kentucky noise policies outline the requirements for measurement of existing noise levels, the modeling of predicted noise levels utilizing FHWA's TNM 2.5 and the abatement feasibility/ reasonableness criteria for barrier abatement. The policies do not contain direction for the incorporation of theoretical and/or research methodologies for refining the noise prediction, but rather rely on the federally approved TNM 2.5 to model the noise impacts and

attenuation. The federally- approved noise prediction models have been utilized throughout the project to provide a documented framework for alternative comparison and as an assessment of barrier feasibility and reasonableness. While novel methods may be more accurate in some instances, it is not necessary or prudent to utilize them in the NEPA process. The federally approved TNM 2.5 model is used consistently in NEPA studies for wide range of FHWA projects; it is appropriate to use that standard model for this project as well. All impacts, including noise, should be evaluated in accordance with prescribed guidelines that are consistently applied within each state for developing projects.

The case of FHWA's TNM 2.5 model not accurately predicting the noise level for receivers within approximately 50 feet of bridge decking are an isolated instance that can be accounted for within the standard procedures. The goal of the noise assessment is to identify noise impacts and abatement feasibility and reasonableness. While the TNM 2.5 model may not accurately predict the noise level at a receiver that is both within 50 feet of the facility and aligns with bridge decking, any receiver that is this close to this facility with the ADT associated with the project is going to have a noise level that approaches or exceed the NAC and, therefore, will be identified as an impact. The modeled result may yield a lower predicted noise level for these unique receivers but the attenuation will be proportional and the feasibility to mitigate the impact identified in the field measured noise level can be ascertained from the TNM 2.5 model.

Based on these considerations, KYTC and INDOT recommend using the standard TNM 2.5 noise model to carry out the noise impact assessment for the LSIORB project, in accordance with the newly adopted noise polices of Indiana and Kentucky as written. We do not recommending using novel methods that are intended to account for sound level contributions from bridge deck noise. We request FHWA's concurrence in this recommendation.

Respectfully,

Gary Valentine
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Louisville – Southern Indiana
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Kentucky Transportation Cabinet

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