

Air Management Division Comments on  
Draft EIS For North-South Tollway

Steve Rothblatt, Chief  
Air and Radiation Branch (5AR-26)

William Franz, Chief  
Environmental Review Branch

We have reviewed the draft EIS for the North-South Tollway. Our review focused on those portions of the EIS that dealt primarily with air quality modeling (Section 4.56, 4.71, 4.77, and 4.80). Comments on these sections are provided below.

Section 4.56 Air Quality-Carbon Monoxide

On March 3, 1986, we sent you comments on the CO modeling. On April 17, 1986, we received a response to these comments from the ISTHA's consultant (Envirodyne). The comments in this memo apply to Envirodyne's April 17, 1986 letter. In general, Envirodyne has resolved most of our previous comments. A few remaining comments are worth noting.

1. Surface Roughness - Envirodyne assumed a surface roughness of 150 cm. This value appears to be too high for the general rural setting of much of the proposed tollway. A lower, more realistic value should be developed in conjunction with IEPA. Sensitivity analyses may then be necessary to determine the effect of this change on Envirodyne's modeling results. (Note, The CALINE3 User's Guide states that the model is "relatively sensitive to surface roughness for near parallel wind conditions", which are important here.)
2. Receptor Locations - As we understand it, several candidate receptor sites were initially considered at each intersection (mainline and off-alignment) and toll plaza/ramp tolls. Based on distance from the roadway (queue zones) and queue emission rates, only one or two receptor locations were actually modeled. While this procedure is generally acceptable, the documentation to support the receptor locations at each intersection should be made available upon request.
3. Mainline Concentrations - Although Envirodyne's qualitative argument is convincing to us, we still recommend that actual concentration estimates be provided. Such quantitative information would be more responsive to any concerns on air quality impacts.

Section 4.71 Air Quality-Airborne Lead

Envirodyne's April 17, 1986 letter satisfies our previous comments.

#### Section 4.77 Air Quality-Total Pollutant Burden

1. Alternatives - Envirodyne's comment concerning Alternatives B and D (i.e., not within jurisdiction of ISTHA) is acknowledged.
2. HC Emissions - Envirodyne has not responded to our previous comment concerning 1989 and 2008 HC emissions relative to 1987 HC emissions. We renew our comment.

#### Section 4.80 Morton Arboretum Salt Spray Study

Our comments on this subject are based on our review of "Dispersion Modeling Assessment of Vehicular Induced Salt Spray Transport and Deposition at the Morton Arboretum", December 1985. This study was the basis for the conclusions in the EIS. Please note that our comments have been coordinated with the Office of Air Quality Planning & Standards in RTP.

1. Model/Model Input Data - In view of the gross underprediction of the ISCST model results, further consideration should be given to the appropriateness of the model and the accuracy of the model input data. The model to be used should be able to simulate deposition from line sources. Since there are several candidate models (e.g., ISC, PAL-DS, CALINE3), a technical and performance evaluation should be performed to identify the appropriate model which does not underpredict high deposition values. (Note, the field data should be used for the performance evaluation, not for model calibration.) The model input data should also be reevaluated, with special emphasis on the emissions inventory (e.g., emissions as a function of precipitation type/amount, temperature, and wind speed) and meteorological data (e.g., availability of site-specific data from the Arboretum).
2. Salt Deposition Projection - The choices of worst-case year and worst-case receptor locations are questionable. It was assumed that the worst-case year was the year with the most salting events, not the year with the most salt. It was also assumed that the worst-case concentrations would occur at the monitor sites, not other locations. If these assumptions cannot be justified, then the analysis should be revised accordingly. In addition, further justification for the effect of the mitigation measures is necessary.
5. Results - The results are discussed only in a relative sense (i.e., future conditions compared to current conditions); no absolute evaluation is provided. The chronic and short-term effects of the salt loadings for the future scenarios should be discussed directly.

#### Conformity Determination/State Coordination

We renew our comments on this issue.

COB  
5/16/86

WJW

WJW 5/16/86  
JWP

Koerber 5/13

MK 5-16-86

MK for CTN 5-16-86

5/29/86