

Project-Specific Data Preparation for Air Quality Modeling: Lessons from the Phoenix Area Hot-Spot Analysis

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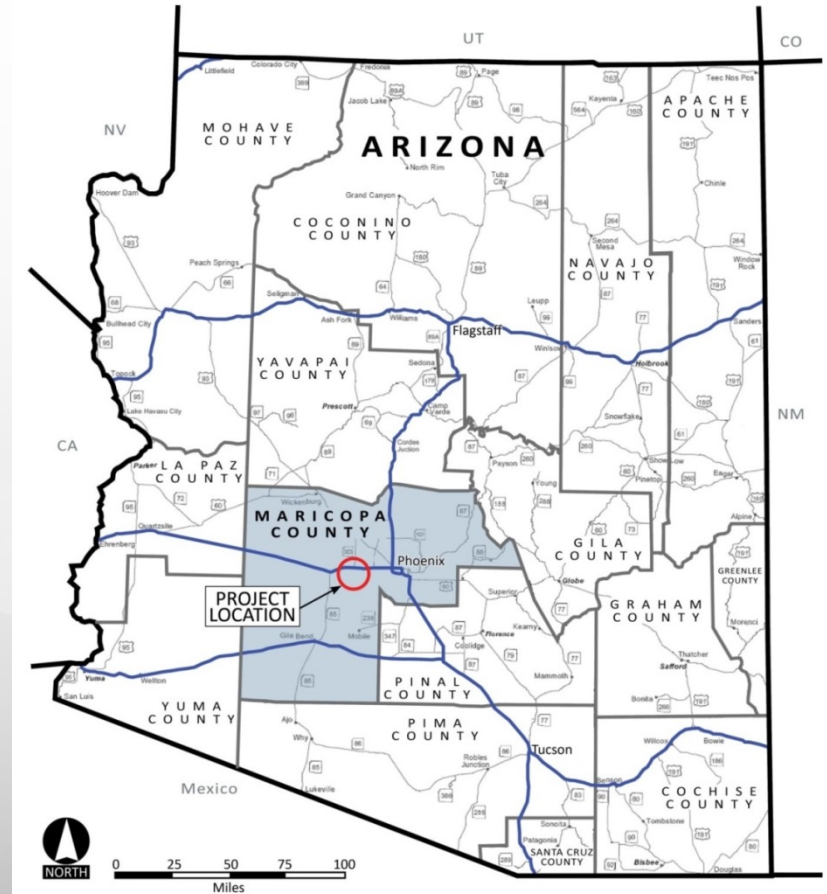
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Research Summary

- Hot-spot analysis data issues for EPA MOVES and Air Dispersion Models (CAL3QHCR, CAL3QHC, AERMOD, etc.)
- Require project-specific input data
- Require modification of travel demand model (TDM) outcomes
- Lack of an appropriate state-wide TDM
- Depend on MPO's TDM data and MOVES inputs used for Regional Conformity Analysis
- Need to develop a tool to transform the regional data into project-specific data

SR303 Project in Phoenix Area

- Located in PM10 Nonattainment and CO Maintenance areas
- A Project of Air Quality Concern
 - Increases truck traffic volume: PM
 - Worsens Level of Service (LOS): CO
 - Requires hot-spot analyses for both PM and CO



Project-Specific Data Problems

- Link-specific data required for MOVES and Air Dispersion Models
 - No detailed traffic information for the links available
 - Should estimate traffic data with Regional Conformity Analysis (RCA) inputs and MOVES defaults
 - Should run Level of Service (LOS) models separately
- Other MOVES input issues using RCA data, for examples,
 - RCA uses different MET calculations
 - Time (month and year) in RCA does not match the existing/build periods for hot-spot analysis

Conclusion: Development of a Practical Tool

- Current (temporary) methods:
 - Request MPO for special TDM runs
 - Hire consultants to run Intersection Capacity Analysis for LOS estimates
 - Use MOVES defaults and EPA Conversion Tools for MOVES inputs
- Developing integrated conversion software including:
 - MPO TDM conversion module
 - State-wide TDM conversion module for rural areas
 - Other project-specific MOVES input module (MET, Fuel, I/M, etc.)
 - Integrated GUI for GIS, MOVES and AERMOD