



Jeff A. Houk

*Transportation / Air Quality Analyst
and Emissions Modeler*

Mr. Houk joined Sonoma Technology in 2019. He is a nationally recognized expert on transportation-related air quality with over 30 years of experience assisting federal, state, and local partners. Prior to joining Sonoma Technology, Mr. Houk spent 17 years as an air quality specialist with the U.S. Federal Highway Administration's (FHWA) Resource Center Air Quality Team, and 16 years with the U.S. Environmental Protection Agency's (EPA) Region 8 Office and Office of Transportation and Air Quality. His work covers on- and off-road criteria pollutant and air toxics emissions modeling; transportation conformity assessments; climate change program and greenhouse gas (GHG) assessments; State Implementation Plan (SIP) support; transportation controls; and interagency consultation. He uses his extensive experience to help Sonoma Technology clients evaluate mobile source emissions and control strategies.

Emissions Modeling. Mr. Houk has considerable expertise with EPA's MOVES emissions model. He has taught over 20 MOVES training courses and has partnered with EPA on the development of MOVES training materials and guidance. He has also worked with state and local agencies to use traffic data to develop MOVES inputs and troubleshoot MOVES runs. He has experience using MOVES to estimate emissions of criteria air pollutants in support of both regional- and project-scale analysis, and to estimate mobile source air toxic and greenhouse gas emissions. He has used MOVES to assist many state departments of transportation (DOTs) with analyzing proposed highway projects and presenting the findings in environmental documents. He has also worked with state DOTs and FHWA offices to develop air quality procedure manuals and analysis guidance, and respond to litigation on highway project approvals.

Climate Change. Mr. Houk has advised agency leaders on the contribution of highway vehicles to climate change and has worked to develop strategies to reduce this contribution. He has evaluated methods for assessing the greenhouse gas impacts of highway projects, and he was a leader in developing FHWA's Infrastructure Carbon Estimator, which is used in the assessment of energy consumption and greenhouse gases associated with highway and transit project construction. He has also developed a custom version of this tool for a state client using state-specific infrastructure parameters and vehicle emissions rates. Mr. Houk has developed and presented workshops on climate change to transportation agencies and has assisted agencies in addressing climate change in environmental documents.

Training and Research Collaboration. Mr. Houk has long-standing experience with developing and providing training programs. In addition to MOVES training and climate change workshops, he delivered training on EPA's MOBILE6 model more than 15 times; he also developed and delivered FHWA's Project Level Air Quality course (10+ times), Mobile Source Air Toxics course (8+ times), and Transportation Conformity 101 course (5+ times). He played a major role in designing FHWA's Mobile Source Air Toxics guidance, and he collaborated with EPA on developing the first particulate matter hotspot guidance. Mr. Houk has served on several National Cooperative Highway Research Program panels overseeing development of research products, and has authored or co-authored papers for the Air & Waste Management Association and the Transportation Research Board.

Education

B.S. Chemical Engineering, Michigan State University

Training Courses Conducted (partial listing)

- MOVES Modeling
- Mobile Source Air Toxics Analysis
- Greenhouse Gas Analysis
- Transportation Conformity
- Particulate Matter Hot-Spot Analysis
- NEPA Air Quality Analysis
- Transportation Control Measures