

Course Title: Modeling Supply Chain Transportation Disruptions

Abstract: Freight transportation in the United States can be characterized by a series of supply chains often requiring multiple modes of transport. A “supply chain” consists of the transportation of commodities from suppliers to consumers across a complex network involving multiple operations and transportation infrastructure. This course will explore several supply chain freight transportation scenarios that, if disrupted, would have negative impacts on supply chain operations and cost. Freight transportation modeling techniques will be introduced at the metropolitan and state level to illustrate how several jurisdictions have modeled supply chain disruptions using several different scenarios. Course outcomes include a high-level introduction to freight transportation models and techniques, exposure to the FHWA Freight Analysis Framework (FAF), which is the basis for most freight transportation models, how state DOTs use FAF data to document existing and proposed freight costs and volumes across the National Multi-modal Freight Network and how freight transportation models can be employed to show how commodity flows may shift between transportation modes when a supply chain disruption occurs.

Organization: Cambridge Systematics

Website: www.camsys.com



Instructor(s): Instructor’s Name

Mr. Willauer has more than 26 years of experience in multimodal transportation and emergency planning, including rail passenger and freight plans; hazmat commodity flow studies, evacuation time estimates, transportation safety studies, bus and ferry feasibility studies; and port infrastructure planning. He served for 15 years as Planning Director for the Greater Portland, Maine Council of Governments and for 11 years in consulting as a senior transportation and emergency management subject matter expert. While in Portland he instructed several courses on transportation planning and operations as an Adjunct Professor at the Muskie School of Public Policy at the University of Southern Maine. Mr. Willauer has managed or contributed to statewide freight plans and statewide hazmat plans in eight states. While at Cambridge Systematics, he has managed projects including a risk assessment of surface transport of liquid natural gas, several statewide freight plans and a DOT continuity of operations plan. In 2017, he managed the modeling portion of a TRB Study: *Improving Freight Transportation Resilience in Response to Supply Chain Disruptions* (still in progress). Mr. Willauer has also operated passenger ferries and other vessels along the eastern seaboard and abroad and holds a current USCG Captains License to operate up to 100 ton vessels.

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