

Develop a GIS-based Megaregion
Transportation Planning Model
(#CM2-25 and #CM2-49)

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Project Information Form:
<http://sites.utexas.edu/cm2/files/2018/06/Year-3-Qisheng-Pan-GIS-based-Planning-Model.pdf>

GIS-based MEGAREGION TRANSPORTATION PLANNING MODEL

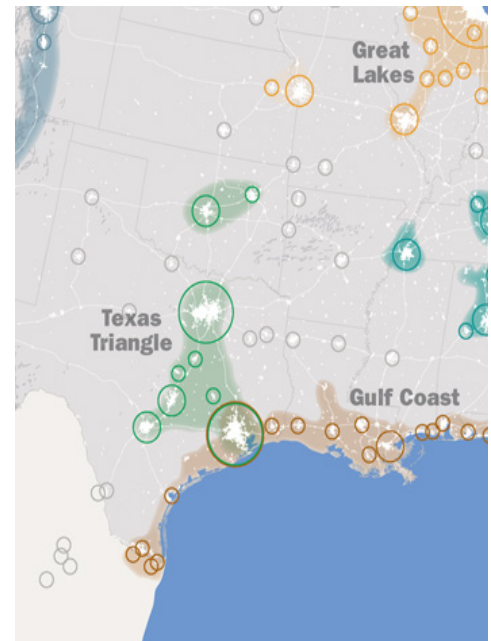
There are few academic studies or professional programs focusing on the development and implementation of megaregional transportation models. It is also a big challenge to build such kind of models because they need to ensure theoretical soundness and methodological validity in academic and professional studies while at the same time to meet the expectation of public agency on the models for reliability, efficiency, and user friendliness. This study intends to fill the gaps to develop a GIS-based model for megaregion transportation planning. It aims to balance the priorities in both the academic research setting and operational planning setting.

The leader of this research team has developed and maintained the Southern California Planning (SCPM), which is a Lowry-type spatial planning model combining the functions for economic impact analysis, spatial allocation, and transportation modeling. This research will extend the spatial scale of the SCPM from region to megaregion, which will accommodate larger areas, more passenger and freight trips, and more complex transportation networks. It will put together transportation models with economic input-output models and spatial allocation models to trace spatial socio-economic impacts and support policy analysis in megaregions.

This research is a two-year project. On the base of the analytical framework and GIS functions developed for the Megaregion Transportation Planning Model (MTPM) in the first year, the research in the second year focuses on the implementation of the analytical framework to build a GIS-based Megaregion Transportation Planning Model (MTPM). It adopts Texas Triangle as an empirical case to demonstrate the procedure of data inventory and model applications.



TEXAS SOUTHERN UNIVERSITY



Source: America 2050 Map

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