Project Information Form

Project Title	Micro-Dynamics of Business Location and Growth and its Effects on the Transportation Network and Congestion in Georgia and the Southeast Region
University	Georgia Institute of Technology
Principal Investigator	Dr. Vivek Ghosal and Dr. Frank Southworth
PI Contact Information	vivek.ghosal@econ.gatech.edu frank.southworth@ce.gatech.edu
Funding Source(s) and Amounts Provided (by each agency or organization)	Georgia DOT: $ 134,907 Woodruff Foundation: $ 100,172 UTC (NCTSPM): $ 58,538
Total Project Cost	$293,616
Agency ID or Contract Number	GDOT: 2006T03; Woodruff Foundation: 2005A61
Start and End Dates	06/01/12 – 04/01/2014
Brief Description of Research Project	The research explores the little understood linkages between the micro-foundations of industry dynamics and economic activity, and the macro-congestion aspects of freight transport. The automobile manufacturing industry in the southeast GA, and specifically the Kia Motors manufacturing plant near West Point, GA was selected for in-depth empirical analysis. A major goal of the project is to identify and collect detailed economic activity and supply chain data associated with the growth of manufacturing plant activities both within the plant and among the many parts suppliers that have moved into the area to serve it. It also involves a detailed functional and spatial mapping of the domestic and international supply chain inputs and outputs and the demands they place on the region's transportation system. Of interest from a transportation planning perspective are any freight movement bottlenecks that exist or are projected to exist in the future as a result of the anticipated growth in highway and rail traffic, and that may hinder future industrial growth within Georgia and the SE region.
Describe Implementation of Research Outcomes (or why	A detailed database has been developed that includes multi-sourced economic activity data that allows us to measure changes in a number

not implemented) (Attach Any Photos)	variables, including regional area populations, migration, income, occupations (manuf., retail, education, healthcare, etc,) and education. Comparisons between the 2005-2007 pre-auto plant opening situation and the 2007-2010 post-plant operating situation have been drawn and growth multipliers developed for the above data sources , including estimates of the dollar increases in mean and median household incomes in the region since the plant opened, compared to other areas in the state. Data on the size and geographic location of the region's auto parts suppliers has been complied and geo-coded, along with detailed multi-year data on imported parts shipments from Asia and Europe. These flows have been mapped in GIS software, using a multimodal (truck-rail-waterway) representation of the US transportation network linked to a global network of trans-oceanic shipment routes, and including intermodal connections through major US and supply-chain identified foreign seaports. A multi-modal least cost path finding routine has been developed for estimating network-based source-to-destination shipment costs by mode of transport on a US continental and global basis.
Impacts/Benefits of Implementation (actual, not anticipated)	
Web Links • Reports • Project website	