



## **Market Adoption and Willingness to Pay for Advanced Vehicular Technologies**

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and Environmental Engineering, Georgia Institute of  
Technology

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**3:30-4:20**

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### **Bio sketch**

Ram M. Pendyala is the Frederick R. Dickerson Chair and Professor of Transportation Systems in the School of Civil and Environmental Engineering at Georgia Tech. Prior to joining Georgia Tech in the Fall of 2014, he served on the faculty at Arizona State University and the University of South Florida. He teaches courses and conducts research in multimodal transportation systems planning and transport demand forecasting and modeling. He has published extensively and completed more than \$6 million in sponsored research. He is the Chair of the Planning and Environment Group of the Transportation Research Board and Associate Editor of Transportation Research Part D. He has his PhD and Master's degrees from the University of California at Davis and his undergraduate degree from the Indian Institute of Technology-Madras in India.

### **Abstract**

Rapid developments in vehicle automation and connectivity have spurred considerable debate on the extent to which these technologies may affect traveler behavior and transform the transportation system in terms of its performance, character, and energy and environmental impacts. Advanced vehicular technologies, such as connected and automated/autonomous vehicle systems, represent a new generation of disruptive forces that continue to evolve (thus rendering real-world experimentation difficult), with considerable speculation regarding their market penetration and adoption, impacts, and behavioral implications. Given that most long range transportation plans cover 20-30 year forecast periods, it is very conceivable that these technologies will be available to the traveling public, commercial entities, and public fleets within the planning horizons of metropolitan agencies. This presentation offers a comprehensive conceptual framework for characterizing the types of behavioral responses that may be realized as a result of the increasing market penetration and adoption of these disruptive technologies. However, there is very limited research on consumer preferences for advanced vehicular technologies that is vitally needed to inform travel forecasts. The deployment and penetration of advanced vehicular technologies in the marketplace, and planning for possible market adoption scenarios, calls for the collection and analysis of consumer preference data related to these emerging technologies. Following the presentation of a conceptual framework, this research aims to address this need, offering a detailed analysis of consumer preference for alternative fuel types and technology options using data collected in stated choice experiments conducted on a sample of consumers from six metropolitan cities in South Korea. The results indicate that there is considerable heterogeneity in consumer preferences for various smart technology options such as wireless internet, vehicle connectivity, and voice command features, but relatively less heterogeneity in the preference for smart vehicle applications such as real-time traveler information on parking and traffic conditions.