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ABSTRACT

The transportation sector has been identified as a collective societal behavior leading to environmentally significant consumption and a major contributor to worldwide environmental and ecosystem degradation and climate change through its consumption of fossil fuels, its emissions of air pollutants, and the mobility it has afforded our collective society. The sector has been a major focus of Federal, State, regional and local air quality control programs; the shifting of daily commuting traffic from single occupancy motor vehicle modes (private cars and trucks) to multiple occupancy transportation modes (buses, trains, subways, carpools) could alleviate the quadruple impacts of this component of transportation: the daily congestion of roads, the substantial use of energy resources, the growing global environmental consequences, and the attendant adverse local and regional air quality impacts.

A mail survey was conducted during the Spring 2006, following a Fall 2005 pilot study, to assess whether the emotional experience of commuters differ across the three principal daily commuting modes: driving alone, participating in a carpool as either a driver or a passenger and using mass transit (subway, bus or train) and, if so, what factors

influenced the differential emotional experience of commuters among the three modes. Another key hypothesis tested during this research concerned the opinion of the three categories and six options of transportation modes by individual commuters, especially their opinions of modes and options different from the one they used on a regular basis.

A modified version of the Day Reconstruction Method, developed by Kahneman et.al (2004a), was used to gather emotional response data for the morning (home to work) commuting period, the afternoon (work to home) commuting period, and the evening period. Data were also gathered to assess demographic characteristics and patterns, environmental attitudes, and social values of the respondents.

Survey packages were mailed to 2200 households in the Northern Virginia area, located west of Washington, D.C., following the Dillman protocol for mail surveys. Response rates were good and yielded sufficient information to test the major hypotheses for this research. The data were analyzed using the SAS statistical software. Major findings included:

1. Commuters who drove alone for their commutes experienced more positive emotional experiences during their commutes than other commuters.
2. The principal two individual emotional determinants of the differential emotional experience realized by the commuters who drove alone for their commutes were the In Control and Comfortable emotions.
3. Although commuters held favorable to very favorable opinions of the transportation mode they used for commuting, all commuters held favorable opinions of the mass transit category, especially the subway option, and

commuters who participated in a carpool (either as a driver or as a passenger) or used mass transit options held unfavorable or very unfavorable opinions of the drive alone mode.

4. Among the three periods of the day assessed in this research, respondents experienced the most positive emotional experiences during the evening period and the least positive emotional experience during the afternoon (work to home) commuting period.