

Exhibit D – Research Project Requirement Template

Determinants of Vehicle Holding Time and Scrappage

Recipient/Grant (Contract) Number: The University of Texas at Austin/Grant # 69A3552344815 and 69A3552348320

Center Name: National Center for Understanding Future Travel Behavior and Demand (TBD)

Research Priority: Improving Mobility of People and Goods

Principal Investigator(s): Don MacKenzie

Project Partners: N/A

Research Project Funding: \$60,000

Project Start and End Date: 8/16/25 – 8/15/26

Project Description: The average age of vehicles on U.S. roads has reached a record high of 12.6 years, indicating that people are holding on to cars longer than ever before retiring them. This project will investigate how vehicle attributes, age, cumulative mileage, and ownership and maintenance history affect consumers' decisions to sell or retire vehicles. Understanding the drivers of vehicle holding time and scrappage (retirement) are essential to forecasting demand for demand for vehicle travel, traffic, and new vehicle sales. We will compile large-scale data from vehicle history reports (e.g., CARFAX) and online used-car listings to analyze the determinants of used vehicle survival and list price. Key vehicle factors such as repair history and price, along with household characteristics such as ages of individuals, rural versus urban residence, and number of workers, will be evaluated for their effects on vehicle disposition. The research will yield insights into how evolving vehicle features and market conditions affect fleet turnover. Anticipated outcomes include guidance on how to anticipate and model the effects of changing vehicle lifetimes on the US transportation sector, auto market, growth of features and attributes fleetwide.

US DOT Priorities: This section is left blank until USDOT's new priorities and RD&T strategic goals are available in Spring 2026.

Outputs: Research outputs will include: (1) a comprehensive dataset of vehicle ownership durations and associated factors (the first of its kind at this granular level), which can be used for further analysis by the research community (with appropriate anonymization); (2) one or more analytical models or algorithms for predicting vehicle holding time (e.g., a calibrated Tobit model or machine learning model) that could be applied by policymakers or insurers to forecast fleet turnover under various scenarios; (3) a final report and a technical paper documenting the findings – we anticipate submitting a paper to a peer-reviewed journal (such as Transportation) and a conference (e.g. Transportation Research Board Annual Meeting); and (4) presentation materials and possibly a simple interactive visualization or dashboard illustrating key results. These tangible products (data, models, publications, and tools) constitute the outputs directly resulting from this research.

Outcomes/Impacts: By elucidating factors shaping vehicle life, this project will increase understanding and awareness among transportation planners and policymakers of an emerging issue in travel behavior. We anticipate that our findings will enable more accurate forecasting of automotive sales and fleet size, and how new vehicle features permeate the vehicle fleet over time. An understanding of factors shaping vehicle lifetime and scrappage could help federal, local, and state planners and decisionmakers to anticipate how mobility patterns evolve. Finally, the research assistant's training and exposure through this project will contribute to the "enlargement of the pool of trained transportation professionals."

Final Research Report: A URL link to the final report will be provided upon completion of the project.