

FOREWORD

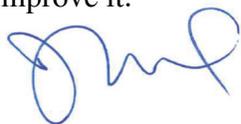
Welcome to this 31st edition of the Transportation Energy Data Book. This edition builds on a 36-year tradition of Data Books supported by Philip Patterson, whose recent retirement marked the end of an era for a long-time asset and shining example both for the Department of Energy (DOE) and the transportation energy community. Twenty-two editions of this Data Book have been produced by Stacy Davis; DOE is grateful for the dedication, consistency, and skill she has brought to this effort.

I would like to bring to your attention some of the data that are new in this edition:

- **Table 1.8. Imported Crude Oil by Country of Origin, 1973-2011** – a new table added this year from historical data in EIA’s *Monthly Energy Review*
- **Table 1.9. Crude Oil Supplies, 1973-2011** – another new table from historical EIA data
- **Table 3.1. World Production of Cars and Trucks, 2000-2010** – a new table comparing global production of passenger vehicles today and ten years ago
- **Table 4.9. Definition of Non-Truck Sport Utility Vehicles in Model Year 2011** – a list of two-wheel drive SUVs that are considered cars under new Corporate Average Fuel Economy rules
- **Table 4.25. List of Model Year 2011 Cars with Gas Guzzler Taxes** – an updated list for model year 2011 of vehicles subject to the Gas Guzzler Tax levied by the IRS
- **Table 6.4. Hybrid and Plug-in Vehicle Sales, 1999-2011** – this new table shows trends in hybrid and plug-in vehicle sales, both in absolute units sold and relative to total light vehicle sales, since 1999
- **Table 8.4. Annual Household Expenditures for Transportation, 1985-2010** – this new table relates various transportation expenditures (vehicle purchases, gas expenditure, public transit fares, etc.) to average annual household income

Additionally, it’s worth making special note that since the Federal Highway Administration (FHWA) discontinued their VM-1 series showing car and light truck vehicle miles and fuel use, ORNL developed a model to estimate data for cars and light trucks to continue existing car and light truck data series presented in this data book. The model uses data from FHWA Highway Statistics 2010, Environmental Protection Agency’s Light-Duty Automotive Technology, Carbon Dioxide Emissions, and Fuel Economy Trends: 1975 Through 2011, and R.L. Polk to estimate the number of vehicles, vehicle-miles of travel, energy use, and fuel efficiency of cars and light trucks. Documentation of the model will be published in an ORNL report, forthcoming.

I hope you find value in this data book. Stacy and I welcome suggestions on how to improve it.



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ACKNOWLEDGMENTS

The authors would like to express their gratitude to the many individuals who assisted in the preparation of this document. First, we would like to thank Jacob Ward and the Vehicle Technologies Program staff for their continued support of the Transportation Energy Data Book project. We would also like to thank Lindsey Marlar for the cover. This book would not have been possible without the dedication of Debbie Bain, who has masterfully prepared the manuscript since 1998.

Edition 31 is the first edition of this series without Phil Patterson at the helm. Though he was certainly missed, his leadership, guidance, and vision through the years have allowed us to continue this report into the future with the same level of excellence. The authors and the transportation research community will be forever grateful for his efforts.

ABSTRACT

The *Transportation Energy Data Book: Edition 31* is a statistical compendium prepared and published by Oak Ridge National Laboratory (ORNL) under contract with the U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, Vehicle Technologies Program. Designed for use as a desk-top reference, the Data Book represents an assembly and display of statistics and information that characterize transportation activity, and presents data on other factors that influence transportation energy use. The purpose of this document is to present relevant statistical data in the form of tables and graphs. The latest edition of the Data Book is available to a larger audience via the Internet (cta.ornl.gov/data).

This edition of the Data Book has 12 chapters which focus on various aspects of the transportation industry. Chapter 1 focuses on petroleum; Chapter 2 – energy; Chapter 3 – highway vehicles; Chapter 4 – light vehicles; Chapter 5 – heavy vehicles; Chapter 6 – alternative fuel vehicles; Chapter 7 – fleet vehicles; Chapter 8 – household vehicles; Chapter 9 – nonhighway modes; Chapter 10 – transportation and the economy; Chapter 11 – greenhouse gas emissions; and Chapter 12 – criteria pollutant emissions. The sources used represent the latest available data. There are also three appendices which include detailed source information for some tables, measures of conversion, and the definition of Census divisions and regions. A glossary of terms and a title index are also included for the reader's convenience.

INTRODUCTION

In January 1976, the Transportation Energy Conservation (TEC) Division of the Energy Research and Development Administration contracted with Oak Ridge National Laboratory (ORNL) to prepare a Transportation Energy Conservation Data Book to be used by TEC staff in their evaluation of current and proposed conservation strategies. The major purposes of the Data Book were to draw together, under one cover, transportation data from diverse sources, to resolve data conflicts and inconsistencies, and to produce a comprehensive document. The first edition of the TEC Data Book was published in October 1976. With the passage of the Department of Energy (DOE) Organization Act, the work being conducted by the former Transportation Energy Conservation Division fell under the purview of the DOE's Office of Transportation Programs. This work continues today in the Vehicle Technologies Program.

Policymakers and analysts need to be well-informed about activity in the transportation sector. The organization and scope of the data book reflect the need for different kinds of information. For this reason, Edition 31 updates much of the same type of data that is found in previous editions.

In any attempt to compile a comprehensive set of statistics on transportation activity, numerous instances of inadequacies and inaccuracies in the basic data are encountered. Where such problems occur, estimates are developed by ORNL. To minimize the misuse of these statistics, an appendix (Appendix A) is included to document the estimation procedures. The attempt is to provide sufficient information for the conscientious user to evaluate the estimates and to form their own opinions as to their utility. Clearly, the accuracy of the estimates cannot exceed the accuracy of the primary data, an accuracy which in most instances is unknown. In cases where data accuracy is known or substantial errors are strongly suspected in the data, the reader is alerted. In all cases it should be recognized that the estimates are not precise.

The majority of the statistics contained in the data book are taken directly from published sources, although these data may be reformatted for presentation by ORNL. Consequently, neither ORNL nor DOE endorses the validity of these data.

