1. Transportation for the Handicapped  
   November 1969  
   AD-698 292

2. Aircraft Noise and Sonic Boom  
   December 1969  
   AD-699 915

3. The Department of Transportation  
   June 1970  
   AD-718 127

4. Airport Problems: Access and Air  
   Traffic Congestion  
   February 1971  
   AD-722 206

5. Hijacking  
   July 1971  
   AD-729 414

6. Urban Mass Transportation  
   September 1971  
   AD-733 773

7. Aircraft and Air Pollution  
   December 1971  
   AD-735 943

8. Transportation for the Handicapped  
   April 1975  
   AD-A013 117

9. Women's Rights  
   December 1975  
   AD-A021 123

10. General Aviation  
    June 1977  
    AD-A046 079
This is a selected, partially annotated listing of periodical articles, reports and books held by the Department of Transportation Library on the subject of energy use in transportation.
ENERGY USE

IN

TRANSPORTATION

Selected References

Bibliographic List No. 11

August 1980

Department of Transportation
Office of Administrative Operations
Library Services Division
Washington, D. C. 20590
INTRODUCTION

This is a selected, partially annotated listing of periodical articles, reports and books held by the Department of Transportation Library on the subject of energy use in transportation.

The period covered is approximately from the time of the energy crisis of 1973-74 until completion of this bibliography, late 1979. A few earlier references are included as background. Citations are representative of the types of material available rather than indicative of the extent of the collection; some 200-300 additional citations were not used simply in order to hold the document to reasonable size. Not all references in certain subject categories are directly addressed to transportation but are included to provide overall energy background material, especially in such areas as economics, forecasts, and planning and policy.

Arrangement is by subject, with personal author and corporate source indexes. Sources used were in-house catalogs and periodical index files.

AVAILABILITY OF PUBLICATIONS

The Department of Transportation Library has all of the publications referred to in this bibliography. The library's call number, e.g., TJ163.3.T83, or accession number in the case of technical reports located in the 10A Services Branch, e.g., TR 79-0189, follows the citation. The symbols HQ and/or 10A following the call number indicate whether the document is held by the main library, the branch library, or both. Where known, numbers beginning with AD-, PB-, N-, COM-, etc., appear following the library symbol and indicate availability of the document through the National Technical Information Service, 5285 Port Royal Road, Springfield, Va. 22161.

Individuals outside the Department of Transportation are urged to consult their own local libraries before requesting publications on loan from this library. The Department of Transportation Library does not have a capability to furnish copies of documents or articles cited.

Compiled by:

Anne B. La Foy
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ENERGY

GENERAL

Compendium of energy related articles from SCIENCE magazine.

What is really happening, where the energy crisis is taking us, and what can be done to solve it.

Analyzes consequences of new worldwide energy situation in which industrialized countries remain dependent on oil imports while control of those resources has passed to an increasingly small number of less-developed countries whose interests do not necessarily coincide with the consumers'.

A tripartite report by fifteen experts from the European community, Japan, and North America meeting in Brussels. Conference sponsored by the European Community Institute for University Studies, the Japan Economic Research Center, and the Brookings Institution.

5. EIC ENERGY DIRECTORY UPDATE SERVICE. New York, Environment Information Center, Inc., Energy Reference Department, Sept. 1975– (REF HD9545.E74) HQ, 10A
Supersedes THE ENERGY DIRECTORY.

6. THE ENERGY DIRECTORY. New York, Environment Information Center, Inc., Energy Reference Department, 1974– (REF HD9545.E74) HQ, 10A
Includes federal, regional, and state government, trade, professional, and research organizations, information sources, solar energy update. Superseded by EIC ENERGY DIRECTORY UPDATE SERVICE.

Annual guide to the key energy literature of the year, including articles, government documents, statistics, research reports, conference proceedings, books, films.

Compilation of government and non-government source material selected for potential contribution to decision-making process.
in energy regulation. Also contains text of law establishing Department of Energy.


Assesses practical engineering feasibility of major production programs in specific energy areas for time frame up to 1985, identifies government and industry action needed to implement them, and physical, technical, cost, and schedule aspects thereof.

Series of papers on the problem, its impact, international implications, and energy policy and politics.

A report to the U.S. Environmental Protection Agency.

20. O'Toole, James and the University of Southern California Center for Futures Research. ENERGY AND SOCIAL CHANGE. Cambridge, Mass., Massachusetts Institute of Technology Press, 1976. xxi, 185 p. (HD9502.U52085) HQ, 10A
Explores potential of futures methods to contribute useful long-range data to top management in both public and private sectors.

"...a provocative position paper and a detailed outline of imperative reforms and changes." - author.

Guide to energy sources, energy related terminology, economics, and all factors related to the search for, extraction of, production, and utilization of the major and alternative sources of energy.

Survey contributed to by 74 nations.
ENERGY AND TRANSPORTATION

GENERAL

In response to receiving the 21st Theodore M. Matson Memorial Award for outstanding contributions to the advancement of traffic engineering.

Papers presented at a forum organized by the SAE Fuels and Lubricants Activity and held as part of the 1975 National Automobile Engineering Meeting. Papers cover passenger cars, heavy-duty trucks, aircraft, and other forms of transport, as well as availability of energy as petroleum and in alternate forms.

Transportation directly consumes one-quarter of total energy used in United States.

Role of petroleum; impact of 1973-74 oil embargo; the automobile; long-term, self-help conservation strategies; land use; relationship to urban revitalization.

Predictions of world's petroleum supplies and primary dependence of transportation systems on petroleum indicate depletion of these supplies in the next 50 years unless major changes in transportation, energy planning, and policy making are forthcoming.

Discusses near-term transportation energy demand, vehicle design considerations, and transportation energy conservation opportunities. Concludes that additional conservation can tide us over until appropriate socioeconomic solutions materialize for alternative transportation energy resources other than petroleum.

30. INTERNATIONAL SYMPOSIUM ON THE EFFECTS OF ENERGY SHORTAGE ON TRANSPORTATION BALANCE. Transportation Research (Great Britain), v. 8(4-5), Oct. 1974: entire issue.
Resources, conservation, consumption, economics, modal impacts. HQ, 10A

32. Kouskoulas, Vasily, and others. INFORMATION SYSTEM FOR TRANSPORTATION ENERGY. Transportation Engineering Journal of the ASCE, Proceedings of the American Society of Civil Engineers, v. 103(TE5), Sept. 1977: 635-650. HQ, 10A
Development of framework of an information system for transportation energy consumption to measure socioeconomic and technological trends in relation to transportation energy.

Evaluation of fuel savings to be realized through use of more economical cars and partial shift of automobile, air, and truck traffic to rail and urban transit.

Author is Secretary of the Department of Transport and Power, Republic of Ireland. Topics include energy crisis, international reactions, energy consumption in transport, private cars, reducing fuel consumption, road haulage, railways, shipping, air transport, substitute fuels.

35. MAINTAINING MOBILITY IN AN ENERGY SCARCE ERA. Transportation USA, v. 5(4), Summer 1979: 2-15. HQ, 10A
A changing America, a new kind of car, railroad survival, solar energy for transportation.

Near term transportation energy conservation best effected by pricing measures; long term will rely on technological changes, mode shifts, and land use.

Goal of conference was to bring experts and interested participants together for free exchange of information and data, and to find ways for conserving energy in transportation sector.
Synthesis of large body of literature documenting efficiency of various transportation vehicles under various conditions; includes specifics of circumstance, assumptions, and sources.


40. Peterson, Francis S. PETROLEUM ENERGY. Lubrication (Texaco), v. 61, Oct.-Dec., 1975: 57-72. HQ
Estimates of oil reserves, current United States major energy sources; the automobile in the United States; conservation; systematic use of energy; energy consumption by various modes of transportation in the United States.


42. TRANSPORTATION AND ENERGY. Santa Monica, Calif., June 1973. 20 p. P-5025. (IR 74-0004) 10A Reasons for growth in energy use by transportation, and modal shifts due as petroleum supplies decrease.


44. TRANSPORTATION AND ENERGY: WHO DOES WHAT WITH HOW MUCH? Railway Age, v. 174(12), June 25, 1973: 40-41. HQ For transportation, implications of whole energy situation are immense, especially with inescapable tie-in of energy and environment.

45. TRANSPORTATION FACILITIES WORKSHOP: PASSENGER, FREIGHT AND PARKING. Proceedings of a conference, May 22-24, 1974, co-sponsored by the American Society of Civil Engineers, Carnegie-Mellon University, the Transportation Research Institute, and the Metropolitan Association of Urban Designers and Environmental
Forty-eight papers on air, ground transport, energy, environment, governmental policy.


Compilation of energy utilization factors for use in assessing energy effects of transportation alternatives.

Broad overview of current and projected transportation energy situation in the United States; energy statistics, supply, and utilization forecasts; evaluation of conservation alternatives.

An adequate supply of energy for the transportation sector would have repercussions through the nation's economy.

Fuel economy management handbook for directors of pupil transportation, school district administrators, transportation department managers.

Series of five booklets prepared to help school districts set up their own fuel conservation program in their own fleets.


54. CHANGES IN LIFE STYLE TERMED VITAL TO ENERGY CONSERVATION. Automotive News, v. 50(4551), July 7, 1975:6. HQ
"Energy consciousness" - the deliberate choice of car-pooling, forebearance from unnecessary trips, substitution of walking and cycling, high-density living.


Over half of all petroleum is used for transportation and 40% for highway transportation. A projected 70% improvement in miles per gallon, trip consolidation, shifts to walk and bicycle, and shifts to transit, in that order, could cut highway fuel use in half, absorb more than a doubling of fuel price with no cost increase to the operator, and accommodate forecast increases in travel by 1985.

57. FUEL ECONOMY. Automotive Engineering, v. 85(11), Nov. 1977: entire issue. HQ, 10A

History, conservation opportunities, implementation.

60. HOW SHALL WE CONSERVE ENERGY? Technology Review, v. 76(4), Feb. 1974: entire issue. HQ, 10A

Report in response to Secretary of the Interior's request to analyze possibilities for conservation, determine patterns of future energy use, and assess impact of such measures in future energy posture. Work assigned to six task groups and divided into two time frames: 1974-1978, and 1979-1985 and beyond.

Appraises short-term measures applicable to six basic transport modes: highways, airways, railways, waterways, urban public transit and pipelines.


64. National Research Council, Transportation Research Board. TRANSPORTATION ENERGY CONSERVATION AND DEMAND. Washington, 1976. 68 p. Transportation Research Record No. 561. (TE5.3.H5A31 no. 561) HQ
Six reports prepared for the 54th annual meeting of the Transportation Research Board on energy, the automobile, and gasoline consumption.

Prototype systems in the United States; federally funded research activities; evaluation of the social and economic impacts; areas for further research.

Guidelines for planning and implementing conservation programs, prepared under the Research Applied to National Needs (RANN) program.
Presents synthesis of existing technologies, a guide to what is now known about energy conservation.

Papers presented at the 10th Institute, June 26-29, Aspen, Colo., sponsored by the Rocky Mountain Oil and Gas Association and the Denver Research Institute.

69. SPECIAL ENERGY CONSERVATION ISSUE. Catalyst for Environmental Quality, v. 6(4), 1979: 6-32. HQ, 10A
Costs, technology, ways to conserve.

Chicago area transportation planners and researchers, and Energy Research and Development Administration conservation representatives explore current situation in urban transportation energy use in terms of strategies available to reduce energy consumption in the future.

Directed to citizen leaders, public officials, and others in a position to promote understanding of need for energy conservation and to encourage practice on a broad scale by the American people. Brings together a factual account of the problem and some well-documented steps to do something about it.


Some of recommended realizable conservation measures involving transportation are shifting intercity freight from highway to rail, intercity passengers from air to ground, and urban passengers from automobiles to mass transit.
Search for means of reducing huge amounts of valuable oil burned in private cars, primarily by solution of technological problems.

Organizational details and observations on attendance at and value of the series.

77. CERTIFICATION TESTING VS. CUSTOMER DRIVING: A FUEL MEASUREMENT DILEMMA. Automotive Engineering, v. 87(2), Feb. 1979: 52-58. HQ, 10A
Problems exist in search for good estimates of new-car fuel consumption rates.

Focuses on energy needs of Washington National and Dulles International airports, but also considers Andrews Air Force Base and region's general aviation airports.

When speeds of large trucks are increased, fuel consumption per mile also increases.

Analyzes variations in energy consumption among nine highly industrialized countries; considers sectors such as household-commercial, transport, industrial.

Describes instrumented car capable of gathering realistic data in a wide variety of surroundings, from motorways to heavily congested urban roads.
82. Evans, Leonard. DRIVER BEHAVIOR EFFECTS ON FUEL CONSUMPTION IN URBAN DRIVING. Human Factors, v. 21(4), Aug. 1979: 389-398. 10A
With drivers instructed to drive other than normally in traffic, for each 1% of increase (decrease) in trip time, fuel consumption increases (decreases) by 1.1%.

Forecasts decline in gasoline usage in next 10 years (due to small car demand and increased fuel efficiency) which will provide time for needed research in alternative fuels and engines.


85. STATE DIFFERENCES IN THE DEMAND FOR GASOLINE: AN ECONOMETRIC ANALYSIS. Energy Systems and Policy, v. 3(2), 1979: 191-212. HQ
Report on household highway gasoline use at the state level.


Computer simulation testing of traffic control scenarios to determine effects of various traffic conditions, network configurations and traffic engineering techniques on consumption of fuel by vehicles in a network.

One of a series of jointly sponsored projects relative to energy consumption.

Analysis of changes indicates technology of energy use efficiency not improving as rapidly as in past; by 1980 technology will actually result in increased use.


93. THE REAL GAS USERS. Cars & Trucks, v. 49(7), July 1977: 40. HQ Which state has the worst track record in gas consumption. The answer depends on how the figures are broken down. In total gallons consumed, California devours the biggest slice, Hawaii the smallest.

94. Reynolds, Reid. LONG DAY'S JOURNEY. American Demographics, v. 1(3), Mar. 1979: 42-43. HQ More than half of work force still travels to work alone; chart shows major modes of transport to work.


98. SUPPLYING GASOLINE FOR TOMORROW'S CARS. Automotive Engineering, v. 85(9), Sept. 1977: 46-51. HQ, 10A

Before 1985, U.S. gasoline consumption is expected to increase slightly, level off, and then begin a slow decline. Gasoline shortages are not foreseen, but changing product demands and uncertain government regulations will present challenging problems to refiners.


Joint effort of the Society of Automotive Engineers and the U.S. Dept. of Transportation is aimed at monitoring fuel mileage by heavy-duty and straight trucks.


The purpose of this project was to develop estimates of excess mileage flown in the terminal area, to estimate excess fuel burn due to air traffic control delay maneuvers, and to develop a method to analyze the effect of future ATC concepts to reduce delay.


Provides tool for determining impact changes in the mix (by fuel consumption category) of new vehicles annually would have on total fuel consumption.


Aid to local transportation planners, traffic engineers, and administrators, especially on short-term basis.


Examines factors affecting fuel consumption such as engine and alternative means of propulsion, tires, and aerodynamic shaping.
Attitudes toward gasoline rationing and higher gasoline costs examined in terms of segments of conservation-oriented consumers.

Develops estimates of price elasticities of gasoline, diesel, and jet fuel consumption for use in determining effectiveness of price policies for fuel conservation.

106. **CONSERVING TRANSPORT ENERGY: PENNIES AND NICKELS.** Technology Review, v. 76(7), June 1974: 54-55. HQ, 10A
Close scrutiny of gasoline saving proposals produces results only in pennies, nickels, and dimes.

107. **COST OF 1985 RULES PUT AT $945.** Automotive News, v. 54(4757), May 21, 1979: 10. HQ
Meeting 1985 fuel economy, safety and emission standards could add $945 to average car cost, not reflecting inflation.


Impact of fuel shortage on aviation.


Effects of quadrupled oil prices on the U.S., Western Europe, Japan, developing countries, the international financial system, and the international oil market.
Collection of papers emphasizing relationship between energy sector and the general economy.

114. Jacops, Marie-Annick. AIR TRANSPORT CONFRONTED WITH THE INCREASE IN FUEL COSTS. ITA (Institut Du Transport Aérien) Study, 1974/7-E. 91 p. 10A

Prototype study on use of Multiregional Input-Output (MRIO) models in systematic analysis of regional economic policies in general and of energy and transportation policies in particular.


A teacher and professional economist writes for layman, without specialized jargon.

118. Murphy, Joseph S. THE ABCs OF AIRLINE ECONOMICS. Air Transport World, v. 11(11), Nov. 1974: 92. 10A
Maintains price of fuel will ruin airline industry unless government intervenes.

119. THE AIRLINES AND THE OIL CRISIS. Air Transport World, v. 12(8), Aug. 1975: 54. 10A
Airlines need special price relief.

Will rising prices spoil traffic boom?

"Crude oil prices - and products' prices - should represent the starting point, not the outcome, of any meaningful economic analysis of the industry, and this fundamental change in philosophy is the predominating feature of this survey's informal approach to crude oil prices." - author.

Effects of governmental policy options that, directly or indirectly, cause the costs of owning and operating an automobile to increase.


A rise of 15-20% expected by 1985.


Economic studies encompassing three options: 1) retrofit modifications of present aircraft; 2) fuel-efficient derivatives of existing production aircraft; and 3) new advanced turboprop.


126. U.S. Federal Aviation Administration, Office of Aviation Policy. OIL PRICE DECONTROL IMPACT ON THE AIR TRANSPORT INDUSTRY: AN OVERVIEW. Washington, June 1975. 35 p. (IR 76-1220) 10A

Statement of issues involved and positions of interested organizations and government agencies.


Economic impact analysis and environmental impact assessment.


FORECASTS

Technological process will be constrained by outside influences such as a rapid rise in fuel costs and need to conserve energy.

Annual forecast by Energy and Fuels Committee, prepared from data furnished by ATA member airlines and about 25 non-member airlines.


Results highlight certain trends and suggest areas for further investigation but should not be regarded as definitive or final. One of series of reports supporting ORNL's transportation energy program.

Purpose of report is to supply decision-makers with information on transportation energy use and factors important in projecting future requirements for the transportation systems they create.

Substantial gains in local rail, commuter trolley, and local bus transport foreseen.


Report by study group sponsored by the Ford Foundation, administered by Resources for the Future.

Examines world energy outlook to 1990 as an aid to planning and as a means of assessing implications of the changing world energy environment.

Petroleum liquids, natural gas, coal, nuclear energy, solar, hydropower.

In spite of predictions of fuel shortages and crippling costs, this is a forecast of stability in world energy supplies and prices.

141. MAJOR SHIFT IN TRANSPORTATION MODES FORESEEN OVER NEXT 25 YEARS. American Highway & Transportation Magazine, v. 54(3), July 1975: 29. HQ
Market research study concludes energy conservation will bring about shift by year 2000.

Near term to 1985 demands.

Highlights chapters of final report, states 33 major recommendations.

Eighty specific recommendations to improve system to meet growing demand.

Recommendations for an accommodation between the world's major oil-exporting and -importing countries, proposing the framework of a negotiated agreement.


Uncertainty about fuel availability and prices have dampening effect on traffic growth forecast by the Federal Aviation Administration for 1980-1991.
Future petroleum commitments; urban transport energy needs; projected total energy and transport outlook; human energy as a transport standard; long-run energy implications.

Four potential socioeconomic futures for the United States and their implications through 2025. Part 1 presents scenarios and analyses of energy, demographic, economic, and urban implications of each. Part 2 provides demand and technology forecasts.


Assessment and forecast of fuel supply and demand. More options will exist after 1985 than in near-term.


Workshop involved 75 leaders of business, industry, government, and academia, representing 15 countries.

Final report of the Workshop.

Third technical report of the Workshop. Chiefly tables.

Second technical report of the Workshop.


On basis of analysis of 32 jet fuel samples produced from shale oil and coal syncrudes, shale oil preferred to coal as petroleum substitute for jet fuel production.


164. Baker, John. AVIATION FUELS PRESENT AND FUTURE. Airport Services Management, v. 18(6), June 1978: 32-33. 10A
Fuel research advocated in speech before National Air Transportation Association, Apr. 1978.


166. LIQUID HYDROGEN APPEARS MOST LIKELY CANDIDATE TO POWER AIRLINERS AND CORPORATE AIRCRAFT OF THE FUTURE. Professional Pilot, v. 11(8), Aug. 1977: 42-43, ff. 10A

167. Chambers, R. S., and others. GASOHOL: DOES IT OR DOESN'T IT PRODUCE POSITIVE NET ENERGY? Science, v. 206(4420), Nov. 16, 1979: 789-795. HQ, 10A

168. Chausse, Ron. ALTERNATE ENERGY; LET'S GET ON WITH IT! Private Pilot, v. 12(7), July 1977:20-21. 10A
Needed — a research body like the National Aeronautics and Space Administration for fuel development.

169. Churchill, A. V., and others. FUTURE AVIATION TURBINE FUELS. Journal of Aircraft, v. 15(11), Nov. 1978: 731-734. 10A
Air Force studies on possible alternative fuels.


171. ENERGY: FUELS OF THE FUTURE. Time, v. 113(24), June 11, 1979: 72-73, ff. HQ, 10A

Electric vehicles and alcohol-and-gasoline blends will have little influence on motor fuel demand till 2000.

174. GASOHOL: PROBLEMS AND POSSIBILITIES. Motorland, v. 100(3), May-June 1979: 46. HQ
Tests reveal both advantages and disadvantages.

First of a series. This article addresses present U.S. problems with conventional energy resources. Following articles will cover development of alternatives and their application to aviation.

176. AVIATION AND ENERGY ALTERNATIVES. Air Line Pilot, v. 46(3), Mar. 1977: 24-26, ff. 10A
Energy series, part 2. No substitute on the horizon for petroleum as a source of fuel for jet engines.


179. International Civil Aviation Organization, Secretary General. FUTURE AVAILABILITY OF AVIATION FUEL. Montreal, 1979. ii, 48 p. ICAO Circular 149-AT/52. (TL704.7.178) 10A

Should the government subsidize nonconventional energy supplies?

So far turbine aircraft fuel is available, but now is time to consider the future.

Experts question whether gasohol is all it is claimed to be.

Sugarcane sugars are directly fermentable to alcohol, indicating possible use as substitute for fossil fuels.
Survey of world oil supply and prices, and examination of liquid hydrogen as alternative aviation fuel.


Plans of NATO countries to increase fuels from all sources and to relieve demand for petroleum products by shifting to other energy sources.

188. SPECIAL REPORT: **FUELS FOR AMERICA'S FUTURE.** U.S. News and World Report, v. 87(7), Aug. 13, 1979: 32-40. HQ, 10A
Synfuel, coal, gasohol, exotics.

189. **STANDARDS FOR BIOMASS FUELS WOULD AID NATIONAL ENERGY CONSERVATION REPORT.** ASTM Standardization News, v. 7(7), July 1979: 33. HQ, 10A
Production from plant matter of alcohol for mixing with gasoline seems best immediate prospect for expanding fuel supply. Corn or other high sugar content substances could be used.

Effect on industry and some technical palliatives.

191. **HYDROGEN FUEL STANDS BY FOR TAKE-OFF.** New Scientist, v. 82(1158), June 7, 1979: 818-820. HQ, 10A
Present airliners could be last to be designed around hydrocarbon fuels.

President's proposed program calls for equivalent of 2.5 million barrels of oil a day in synthetics; technologies are in various stages of development.

193. **SYNTHETIC FUELS: WHAT WE HAVE AND WHAT WE NEED.** Technology Review, v. 81(8), Aug.-Sept. 1979: 24-43. HQ, 10A
Develops economic analysis for supply of 2500 ton/day of liquid hydrogen produced from coal and nuclear fuel reserves.


Summarizes conclusions of a study to assess potential of alcohol fuel as an alternative source of energy; sets forth recommendations to stimulate use of alcohol fuels from renewable resources.


Compilation of references dealing directly and indirectly with possible future use of hydrogen as a fuel.

Physical and chemical property data for hydrogen compared to methane and gasoline with eye to suitability as synthetic fuel for future generations.

Addressed use of alternate fuels such as synthetic aviation kerosene, liquid methane, and liquid hydrogen.

(HD9546.U75) HQ
V.1. Overview.
V.2. Cost/benefit analysis of alternate production levels.
V.3. Technology and recommended incentives.
V.4. Draft environmental statement.

(HE18.5.A39 no. DOT-TST-76-50) HQ PB-251 108
Results indicate no substantial changes in emissions or fuel economy can be expected from operating blends of 10% or less in existing vehicles.


206. Wade, Nicholas. SYNFUELS IN HASTE, REPENT AT LEISURE. Science, v. 205(4402), July 13, 1979: 167-168. HQ, 10A
Congress prepares program to make oil from coal.

Most options so far involve coal conversion, oil shale retorting; U.S. has ample resources.
208. Bloch, Carolyn C. FEDERAL ENERGY INFORMATION SOURCES AND DATA BASES.
    (HD9502.U52B64) HQ
    Addresses and capsule descriptions of agencies, departments,
    offices that deal in some capacity with energy - civilian,
    military, and legislative. Delineates field of emphasis,
    services offered, and in some cases availability of publica-
    tions.

209. Charles River Associates, Cambridge, Mass. INDUCING THE DEVELOP-
    MENT AND ADOPTION OF SOCIALLY EFFICIENT AUTOMOTIVE TECHNOLOGY.
    DOT-TSC-RSPD-78-4. (HE18.5.A353 no. DOT-TSC-RSPD-78-4) HQ
    PB-279 454
    Examines and evaluates federal policies to provide
    incentives for innovation.

210. FAA ANNOUNCES SEVEN-POINT JET FUEL CONSERVATION PLAN. FAA Aviation
    Air traffic and other procedures to save fuel.

211. GAO ENERGY DIGEST; A BIBLIOGRAPHY ISSUED BY THE COMPTROLLER GENERAL
    OF THE UNITED STATES. Washington, U.S. General Accounting Office,
    Sept. 1977. vi, 216 p. (REF Z5853.P83U62) HQ, 10A
    All available unrestricted documents on energy-related matters
    issued by GAO between July 1972 and Mar. 1977 (audit reports,
    special studies, letters, speeches, and testimony).

212. Gaffney, Gerald P. THE NASA ENERGY CONSERVATION PROGRAM. In:
    American Institute of Aeronautics and Astronautics/Edison Electric
    Institute/Institute of Electrical and Electronics Engineers Conference
    on New Options in Energy Technology, San Francisco, Calif., Aug. 2,
    1977. 3 p. AIAA Paper 77-1005. (TJ163.3.A53 1977 v.2) 10A
    With base year as FY 1973, reviews accomplishments in energy-
    intensive field research facilities and projections to 1985.

213. Heiman, Grover. CARTER ENERGY PLAN EFFECT. Air Line Pilot, v. 46(6),
    June 1977: 32-34, ff. 10A
    Its consequences for the air transportation industry.

214. Ponte, J., Jr. 'A' IS FOR AERONAUTICS. Air Line Pilot, v. 48(3),
    Mar. 1979: 5-10. 10A
    Focuses on NASA's research in two vital areas - fuel economy
    and the human element.

215. Rechel, Ralph E. FEDERAL AND STATE INFLUENCES ON TRANSPORTATION
    FACILITIES, SERVICES, AND FUEL CONSUMPTION. Washington, Conservation
    Foundation, 1977. 71 p. (HE206.2.R43) HQ
216. THOU SHALT NOT GUZZLE. Economist (Great Britain), v. 263(6973), Apr. 23, 1977: 11-12, ff. HQ, 10A

President Carter's energy plan.


Examines electric and other non-fuel-consuming vehicles and recommends that they not be included under provisions of the Motor Vehicle Information and Cost Savings Act as amended by Title III, Part A of the Energy Policy and Conservation Act.


Programs combine three approaches: improve energy efficiency; shift to more energy-efficient modes; travel less.


Provides summary of current DOT sponsored energy-related research, technical assistance, planning activities, and information sources.


Results of a series of fact-finding consumer public hearings to identify transportation needs and provide information to departmental decision-makers.


Salient features are:
- conservation and fuel efficiency;
- rational pricing and production policies;
- reasonable certainty and stability in government policies;
- substitution of abundant energy resources for those in short supply; and
- development of nonconventional technologies for the future.

(See also Item 241.)

221. U.S. Federal Aviation Administration. REPORT TO CONGRESS BY THE FEDERAL AVIATION ADMINISTRATION ON PROPOSED PROGRAMS FOR AVIATION ENERGY SAVINGS. Washington, Apr. 1976. 128 p. (IR 76-0640) 10A AD-A023 765

Options available to the FAA and the aviation industry for increasing fuel efficiency.


Concludes that regulations and laws administered by FAA are fuel efficient subject to constraints of safety, environmental control, and existing technology.


Agrees with many specific initiatives of energy plan and offers recommendations to impose others.


Evaluation of Military Airlift Command use of regularly scheduled commercial flights vs. charter flights for DOD passengers reveals benefits warranting expansion of this program.

Information on current policies and practices of the Federal Aviation Administration, Environmental Protection Agency, Department of Defense, Coast Guard, and three commercial airlines.


MANAGEMENT PROGRAM; ANNUAL REPORT. Washington, U.S. Federal Energy
Administration, 1974- (TJ163.4.U6U53) HQ, 10A
Details of energy saving programs of 16 federal agencies.
Data presented by agency and by types of energy.

240. U.S. ORDERS 20 MPG FOR CARS IT PURCHASES. Automotive News, v. 53(4678),
Dec. 5, 1977:9. HQ
Federal Government has formally adopted 20 MPG as its fleetwide
fuel economy average for 1978.

1979. c.350 p. (HD9502.U52U5) HQ (See also Item 220)

EFFICIENCY PROGRAM. Papers presented at the Contractors Coordination
no. DOT-TSC-OST-75-31) HQ PB-245 808
Program is Federal Government's major effort to assess capability
of automotive industry to significantly improve the fuel economy
of production vehicles and assess related socioeconomic effects.

243. BENEFIT ANALYSIS OF THE AUTOMATED
FLOW CONTROL FUNCTION OF THE AIR TRAFFIC CONTROL SYSTEMS COMMAND CENTER.
DOT-TSC-FAA-77-10. FAA-RD-76-204. (IR 77-0800) 10A
Benefits estimated through 1990. Only benefit that could be
appropriately quantified was fuel savings due to implementation of
Fuel Advisory Departure Procedures.

244. Yodice, John S. THE AVIATION FUEL ALLOCATION PROGRAM. AOPA Pilot,
v. 17(5), May 1974:83-84. 10A
Explanation of program's application in general aviation and
criticism of some aspects of the regulations.

245. YOUR GAS MILEAGE: INTERVIEW WITH ERIC O. STORK. EPA Journal (U.S.
Environmental Protection Agency), v. 3(8), Sept. 1977: 8. HQ
How EPA tests cars for fuel economy and what the results mean.
246. Aerospace Corporation, El Segundo, Calif. CHARACTERIZATION OF THE
U.S. TRANSPORTATION SYSTEM. Washington, U.S. Energy Research and
Development Administration, 1977. 6 v. ATR-77(7398) v. I-VI.
(HE203.A715) HQ, 10A
V. 1. Domestic air transportation (passenger and cargo).
V. 2. Highway transportation (autos, trucks, buses,
motorcycles, bicycles).
V. 3. Pipeline transportation systems (petroleum, natural
gas, water).
V. 4. Railroads, (freight and passengers).
V. 5. Urban rail transit.
Statistical data are grouped into categories describing
physical state of the mode, modal activity or usage, modal
economic factors, energy consumption, and energy intensity
characteristics of the mode.

247. Boeing Commercial Airplane Co. INTERCITY PASSENGER TRANSPORTATION DATA,
201 p. Boeing D6-41814,1. (IR 76-0627) 10A

248.
D6-41814,2. (IR 76-0628) 10A
Two volume series comparing measures of performance of various
public and private transportation modes providing domestic
intercity passenger travel.

249. Gunnarsson, S. Olof and Fil.-kand Bo Persson. A NOTE ON THE ENERGY
EFFICIENCY OF VARIOUS MEANS OF TRANSPORT. Traffic Engineering and
Control (Great Britain), v. 17(10), Oct. 1976:418-419. HQ
Investigation into energy efficiency of various means of
transport (car, bus, and tramway). Investigation based on
statistics from Göteborg, Sweden (population 410,000),

250. Harman, R. G. FUEL IN TRANSPORT. Traffic Engineering and Control
(Great Britain), v. 15 (10-11), Feb.-Mar. 1974: 477-479. HQ
Quantity and type of fuel used are basic factors in any
transport system.

251. . FUEL IN TRANSPORT: AN ADDENDUM. Traffic Engineering
and Control (Great Britain), v. 15(12-13), Apr.-May 1974: 608. HQ
Tables and graph giving typical levels of fuel consumption per
passenger-mile for various transport modes in peak and average
load conditions in urban networks.

252. HOW DO THE AIRLINES RATE? Air Line Pilot, v. 43(7), July 1974: 23. 10A
Comparative fuel efficiency of airplane, auto, bus, and train.

Modal comparisons in energy usage.

Research sponsored by the American Association of State Highway and Transportation Officials in cooperation with the Federal Highway Administration.

Highlights important shifts in transportation energy use patterns during period examined.

Examines current and future energy impacts for each major freight mode, by commodity and, in many cases, by vehicle type.

258. Rand Corporation. THE EFFECT OF FUEL PRICE INCREASES ON ENERGY INTENSIVENESS OF FREIGHT TRANSPORT. Prepared under a grant from the National Science Foundation. Santa Monica, Calif., Dec. 1971. 46 p. R-804-NSF. (IR 74-0002) 10A
Fuel price increases generally affect each transport mode in proportion to its energy intensiveness. Competitive position of modes would be altered and modal redistribution might result.

259. ENERGY IN THE TRANSPORTATION SECTOR. Santa Monica, Calif., Mar. 1973. 9 p. (IR 74-0001) 10A

Analysis of U.S. transportation market concludes that need to reduce energy use in transportation and changing travel habits should cause decided shift from plane and car to rail and local mass transit by 1995.


Comparison of energy-intensiveness of urban bus and train versus automobile offers data for establishing national energy policy.


Considers currently used transport and, briefly, some new and future systems.


Energy consumption of air and ground, passenger and freight vehicles in current use, about to enter service, and projected into 1980's.


Describes energy flows associated with transportation, characterizes modal energy efficiencies, and projects potential energy savings to 1980 and 1990.
Develops theoretical rationale for hypothesis that the energy crisis has induced an increase in the demand for fuel efficiency as a characteristic of aircraft and empirically tests this hypothesis with data from the U.S. general aviation market.


Although general aviation uses about one tenth of one percent of all gasoline produced in the United States, it was singled out for 20-50% cutback. Gives tips on saving gas, asks private pilots to pressure their Congressmen.

Twenty investigators from ten different academic disciplines were involved in Summer Faculty Program in Engineering Systems Design, sponsored jointly by NASA and the American Society for Engineering Education.

The hydrogen fueled commercial aircraft seen as attractive prospective development, favorably affecting future energy and environmental situations. There should be a strong economic incentive to carry out its development.

Calculates both direct and indirect energy use and evaluates certain airline conservation measures to conclude that direct fuel savings can be increased by 20%.

Seventeen papers.


PB-246 272
Industry profiles and energy usage characteristics for both air transportation industry and aircraft, engines, and parts manufacturers.

Briefings before the Subcommittee by representatives of the aviation industry, government agencies concerned with transportation and energy, and the Aviation Consumer Action Project.

Derived from Official Airline Guide published schedules before and after adjustments were made in response to fuel allocations, Nov. 73 - Jan. 74.

Speech by representative of the National Business Aircraft Association as read into the Congressional Record by Rep. Barry Goldwater, Jr.
280. A300 AIRBUS RANKS NO. 1 IN JET FUEL EFFICIENCY. Air Transport World, v. 14(5), May 1977: 43. 10A
Rating of all jet and turboprop aircraft.

Area navigation can increase efficiency of general aviation operations.

282. AIRCRAFT TOWING COULD SAVE FUEL. Airport Forum, v. 5(2), Apr. 1975: 40. 10A
Substitute for some taxiing operations.

283. AIRPORT OPERATIONS ENERGY SAVING RECOMMENDATIONS. Airport World, v. 7(1), Jan. 1974: 14-15. 10A
As recommended by the Aircraft Owners and Pilots Association (AOPA).

(TL704.7.A73) 10A
Review and discussion of technical aspects of aircraft fuel conservation methods; recommendations for initiation of those measures having the best prospects for short-term and long-term impact.

Fuel-saving potential of research and technology programs in areas of composite primary structure, airfoil/wing design, and stability augmentation systems.

Airborne Performance Photo Computer System (APPCS).

287. BOEING, LOCKHEED DISPUTE FUEL EFFICIENCY STUDY. Air Transport World, v. 14(8), Aug. 1977: 33-35. 10A
Contend their wide-bodied aircraft are more fuel efficient than the A300.

Identifies technology areas which would result in largest energy (or fuel) savings when applied to large tandem (100 passenger) civil helicopters in 1985 time frame.
289. FUEL CRISIS RESHAPES ECONOMICS OF STAND-BY ROCKET POWER. Air Transport World, v. 11(1), Jan. 1974: 45-46. 10A
Rather than switch to higher powered engines, use of rocket power might save fuel.

How to strike a balance between minimum flight time, maximum flight time, and maximum fuel economy.

Evaluates features of CF6 family of current engines and analyzes specific design of advanced technology turbofan for 1985 and beyond.

Assessment of effects of technological progress and operating characteristics of two selected propulsion systems.

293. INSTRUMENTATION FOR FUEL ECONOMY. Business and Commercial Aviation, v. 40(6), June 1977: 83-85. 10A
Simple electronic fuel-flow counters assist piston-aircraft pilots.


Covers introductory material, evaluation of requirements and over-the-wing/externally blown flap vehicles.

Covers augmentor wing and mechanical flap vehicles, other lift concepts, evaluation of aircraft configurations.

Two phase study:
- investigation of critical design aspects of the over-the-wing/internally blown flap hybrid, augmentor wing, and mechanical flap aircraft for 3000' field length, with parametric extension to other field lengths.
- evaluation of fuel savings achievable by application of advanced lift concepts to short-haul aircraft and determination of effect of different field lengths, cruise requirements, and noise levels on fuel consumption and airplane economics at higher fuel prices.


Energy expenditure per passenger mile is significantly lower than for a Jet A-1 fueled aircraft of comparable design, and aircraft is less costly to develop and operate.


Comparison of hyrogen-fueled and Jet A-1 fueled supersonic transports to determine economic and performance potential of liquid hydrogen as an alternate fuel.


Provides guidelines to evaluate turbojet descent profiles.

301. MAKING FUEL GO FURTHER. Flight International, v. 111(3542), Jan. 29, 1977: 244-247. 10A

Short, medium, and long-term means of making fuel go further.


Compares estimated fuel savings potential of five proposals which, if adopted, would require significant changes to the Federal Air Regulations.


Analyzes towing at top 20 U.S. air carrier airports. Concludes no towing scheme economically feasible unless fuel prices increase 150-200% with no increase in crew costs.

305. Moss, Frank E. HATCHING A LEANER PTEROSAUR. Air Line Pilot, v. 45(2), Feb. 1976: 7-10. 10A
Aviation R&D efforts to modify aircraft design to save fuel.

Guidelines for energy saving measures for buildings and equipment, aircraft in flight.

Develops fuel use model using eight of the most popular airplanes. Results show short flights are very fuel inefficient. Fuel efficiency can be increased in the short term by operational changes. Increased load factor offers the greatest potential for reducing airplane energy intensiveness.

308. Pratt and Whitney Aircraft, East Hartford, Conn. STUDY OF TURBOFAN ENGINES DESIGNED FOR LOW ENERGY CONSUMPTION. Washington, U.S. National Aeronautics and Space Administration, Apr. 1976. 120 p. NASA CR-135002. (IR 77-0966) 10A
Identifies near-term technology improvements which can reduce fuel consumed in JT9D, JT8D and JT3D turbofans in commercial fleet operation through the 1980's, and new technology for future.

Identifies and evaluates most promising unconventional aircraft engines based on fuel savings and improved economics, and for both long-range and medium-range aircraft.

Includes table of selected aircraft and fuel saved by reducing speeds while holding.

Identifies potential areas where fuel and energy usage can be conserved to assist airport operators in reducing fuel and energy consumption.


Alternatives that could be pursued by the Federal Government as well as options that could be adopted by various segments of the aviation industry.

314. V. II. The intermediate and long run, 1979-1990. 90 p. (IR 79-0021) 10A

315. V. III. The proposed aviation energy conservation program. 90 p. (IR 79-0022) 10A

316. V. IV. Summary report. 34 p. (IR 79-0023) 10A


Nineteen papers on impact of energy conservation, technology, present and future, and operational practices; stresses importance of general aviation to overall transportation picture.


Outlook for greater fuel efficiency in conventional and SST aircraft.
MODES: RAIL

Study of Northeast Corridor indicates high energy efficiency of rail systems relative to other modes of transport, except possibly bus. Potential for energy savings can be significant factor in decision to provide improved rail service.

320. Buffington, Jesse L. POLLUTION AND ENERGY CONSUMPTION OF RAILROAD TRANSPORTATION. College Station, Texas A&M University, Texas Transportation Institute, Jan. 1977. iii, 26 l. (HE2771.T4B852) HQ
Texas Rail System evaluation. Includes intermodal comparisons for ground transport.

Railroad officials say that trains carrying 38 percent of nation's freight use only 9 percent of total energy devoted to distribution.

Energy-requirement values derived on basis of tractive-power and energy-efficiency estimates, expressed in terms of ton-miles per gallon.

Energy problem will persist for at least a decade; two great untapped resources are in coal and in rail transportation.

V. 1. Analytical model.
V. 2. Freight service measurements.
V. 3. Comparison of computer simulations with field measurements.

325. Ichniowski, Tom. WHAT CARTER'S ENERGY PLAN WILL MEAN TO THE RAILROADS. Railway Age, v. 178(9), May 9, 1977: 16-19. HQ
With its emphasis on greater use of coal, President's plan could result in 3% annual increase in total rail tonnage and 8% annual jump in rail coal traffic by 1985.

Railroads may play larger role as they preserve environment and use energy efficiently.
Intercity passenger transportation, 1935-1970; its future; the railroad as a competitor in the passenger field.

328. RAIL TRANSIT KNOCKED ON ENERGY USE. Engineering News-Record, v. 199(14), Oct. 6, 1977: 41. HQ, 10A
Congressional Budget Office report says: "In terms of operating energy per passenger-mile, rail ranks among the most energy-efficient of all modes. But when construction and station energy are taken into consideration, rapid rail ranks among the least energy-efficient of the conventional urban public transportation modes." See also Item 334.

Diesel fuel; electrification; America rediscovers the passenger train.


333. Talukdar, Sarosh N. ENERGY MANAGEMENT FOR ELECTRIC POWERED TRANSPORTATION SYSTEMS. Pittsburgh, Transportation Research Institute, 1977. viii, 196 p. (TA1235.T28) HQ

Rail transit officials attack as inaccurate diatribe a Congressional Budget Office report that heavy-rail transit is one of least energy-efficient modes of public transportation, if construction and station maintenance energy costs are included. See also Item 328.
   Results of tests on the Kansas City Southern confirm device as effective.

   Attempts to quantify actual fuel savings that can result from improved locomotive control devices, maintenance practices, and operating efficiencies.

   Present high energy intensity figures attributed to low load factor, but potential exists for improving values.

   Per passenger-mile energy consumption for one mass transit mode, suburban diesel commuter rail service. Results based on data from Chicago's three largest commuter railroads.
As oil supplies dwindle, the personal automobile will have to absorb the brunt of future energy shortages. Unless major changes are made in its role and design, people will be forced to turn to public transport, two-wheeled vehicles, and feet.


U.S. auto makers take a giant step toward converting their products into a much more fuel efficient fleet.


Manufacturers make changes to meet federal emission and fuel economy standards.

Attempt at assessment of current Federal procedure for estimating fuel economy of manufacturers' new car fleets.

Fuel conservation, financing, highway safety, and related planning and research efforts in Belgium, France, Federal Republic of Germany, Sweden, and the U.K.

In order to promote maximum rate of technical progress toward country's energy conservation goals, contractors, staff consultants, prospective contractors, and selected guests meet annually to discuss requirements, and current and future programs.


V. 1. Description.
V. 2. Analysis.
Develops alternative scenarios to reduce amount of gasoline used and determines effects of these alternatives on the national economy, specifically the sale of new cars.


Examines future of the automobile and suggests ways in which cars and passenger transport in general can be adapted to both immediate and long-term conservation needs.


Focuses on measures that improve average auto fuel economy and reduce auto vehicle-miles-traveled through changes in the cost of driving.

Possible savings in gasoline by better design are such that growth of 50-80 percent in total miles is allowable without increase in total gasoline consumption, while maintaining safe convenient cars. Options are summarized and compromises between high efficiency and low pollution are discussed.


Energy consumption patterns in selected countries; transportation energy/efficiency by mode in the United States; U.S. energy requirements by sector; idealized projections of petroleum; effect of ignition timing change; Japan's requirements for petroleum products; U.S. petroleum demand/supply figures; pressure on petroleum reserves from automotive transportation; energy requirements for meeting environmental protection standards.


Describes proposed standards; assesses impact on individual manufacturers and consumers, on employment and the national economy; discusses alternative courses of action.


Assesses automobile driveline components and configurations, quantifying their performance in context of fuel economy, exhaust emission reduction, safety, driveability, production costs and lead times, and engine life.


Covers domestic manufacturers' progress, reviews their future plans in general and assesses likelihood of goals being met.
360. AERODYNAMIC DESIGN BOOSTS FUEL ECONOMY AND ROOMINESS. Automotive Engineering, v. 87(6), June 1979: 35-41. HQ
Aerodynamic drag improvements to be second in importance only to reduced weight.

Features, operating principles, side effects where possible.

Test with 140 fleet cars determines no significant influence of miles-per-gallon meters on fuel economy.

Fuel savings tests results.

Envisions registered commuters using their own vehicles to carry riders to points along driver's route. Examines operational, legal, institutional, and behavioral considerations.

History, recent developments, Dept. of Energy program.


368. Eccleston, B. H. AMBIENT TEMPERATURE, FUEL ECONOMY, EMISSIONS, 
AND TRIP LENGTH. Prepared by the U.S. Department of Energy, 
Traffic Safety Administration, 1979. xiv, 110 p. DOT-TSC-NHTSA- 
79-43. (HE18.5.A34 no. DOT-TSC-NHTSA-79-43) HQ

369. Erlbaum, Nathan S., and others. AUTOMOTIVE ENERGY FORECASTS: 
IMPACT OF CARPOOLS, TRIP CHAINING, AND AUTO OWNERSHIP. Albany, 
New York State Dept. of Transportation, Planning Division, 1977. 
41 p. (HE213.N7A32 no. 134) HQ 
Sponsored by the U.S. Dept. of Transportation.

370. FUEL ECONOMY VIA SYSTEMS ANALYSIS. Automotive Engineering, v. 87(6), 
June 1979: 52-57. HQ, 10A 
Economy by design has been watchword during front-wheel-drive 
X-car development program.

371. Grey Advertising, Inc. MARKETING PLAN TO ACCELERATE THE USE OF 

372. VANPOOLING DEMONSTRATION PROJECT: FINAL REPORT. 
Washington, U.S. Dept. of Energy, Assistant Secretary for Conservation 
66, 4, 88 p. (TEA450.G85) HQ

373. Gulf Research and Development Company. PASSENGER CAR FUEL ECONOMY 
IN SHORT TRIP OPERATION: ALTERNATIVE FUELS UTILIZATION PROGRAM. 
Washington, U.S. Dept. of Energy, Division of Transportation Energy 

374. HSLA: A QUESTION OF STRENGTH. Automotive Industries, v. 157(7), 
Nov. 1, 1977: 35-37. HQ 
Automakers turn increasingly to high strength low alloy 
(HSLA) steels to further fuel economy.

375. Hackleman, Michael A. ELECTRIC VEHICLES: DESIGN AND BUILD.YOUR OWN. 

376. HOW TO SAVE GASOLINE: PUBLIC POLICY ALTERNATIVES FOR THE AUTOMOBILE. 
(TEA252.H69) HQ 
Study is part of Rand Corporation's continuing research program 
in energy conservation measures.

IMPROVEMENTS IN AUTOMOBILE FUEL CONSUMPTION. Prepared in cooperation with 
the U.S. Environmental Protection Agency. Washington, U.S. Dept. of 
no. DOT-TSC-OST-74-40) HQ PB-238 693, 4, 5, 6 
Technology reported is that available in time period July 1973 
to Jan. 1974, and is directed to standard and compact-size 
vehicles.
Technological changes effectuating 40-80% fuel economy could be accomplished in 1980's.

379. MASSIVE RESEARCH EFFORT PROPOSED TO REDESIGN FUEL-EFFICIENT CAR. World Highways (International Road Federation), v. 30(5), May 1979: 4. HQ
Secretary of Transportation Adams asks production of 40-50 mpg car by year 2000.

380. MICROCOMPUTER CAN CUT CAR PETROL COSTS. New Scientist (Great Britain), v. 77(1088), Feb. 2, 1978: 295. HQ
Instrumented car, to be tested by Transport and Road Research Laboratory, will make use of a dash-board mounted microprocessor to carry out complex calculations regarding fuel consumption while car is in motion.

381. OBSOLETE SIGNALS. American City & County, v. 92(10), Oct. 1977: 9. HQ
Studies by the Federal Energy Administration and the Federal Highway Administration show that if traffic-activated or computer-controlled signal systems replaced outdated systems, more than a million gallons of gasoline a day could be conserved.

382. AN ONRUSH OF MOPEDS: 150 MI. TO THE GAL. Business Week, no. 2488, June 20, 1977:33, ff. HQ, 10A
Selling for $295 to $495, with a chance for a 1 million-unit market, moped sales in the U.S. could double this year as regulations ease a bit.

383. Plum, Roger. CARPOOLING: AN OVERVIEW WITH ANNOTATED BIBLIOGRAPHY. Minneapolis, Center for Urban and Regional Affairs, University of Minnesota, 1979. 36 p. (TEA450.P68) HQ


385. RIDERSHARING SAVES AUTO, ENERGY COSTS. Translog (Journal of Military Transportation Management), v. 10(6), June 1979: 21. HQ
Chart: annual costs of commuting to work.
Examines trade-offs that exist between end-use motor vehicle transportation technology, fuel requirements, energy potential of the resources providing the fuel, and the environmental, health, safety, and economic impacts of the entire motor vehicle fuel cycle.

387. SHORT-TRIP ENERGY LOSS STUDIED. Automotive Engineering, v. 87(6), June 1979: 78-79. HQ, 10A
5% improvement in fuel economy during warm-up and short-trip operation might reduce U.S. gasoline consumption by one billion gallons annually.


Survey indicates most major firms search for better equipment utilization in transport to save energy and cut costs.


Developed for use with specific engine models.


Includes fuel consumption measurements.


Represents material acquired since establishment of the National Highway Traffic Safety Administration in 1967 as related to fuel economy and the energy crisis in the transportation field.


Report on implementation of Title V, Improving Automotive Efficiency, of the Motor Vehicle Information and Cost Savings Act (15 U.S.C. 1901 et seq.), as required by Section 502(a)2 of the act.


In response to a requirement of the Energy Policy and Conservation Act (PL-163) for assessment of fuel flow instruments reading directly in miles per gallon.


Reviews divided and open chamber designs, potential improvements in exhaust emissions and fuel economy. Significant programs include those of Ford, Texaco, and Honda.
Collection of ten reports summarizing major aspects of carpool programs designed to assist local areas in initiating successful pooling action programs.

403. WEIGHT REDUCTION FOR FUEL ECONOMY. Automotive Engineer, v. 4(3), June-July 1979: 39, ff. HQ
Special supplement covering alternative materials and methods of manufacture.

   Energy contingency plans, fuel problems, ridership problem.

   Chicago Transit Authority's facility and vehicle cost, energy consumption, materials input, and emissions into the air.

407. Bernard, Martin Joseph and Sarah LaBelle. ENERGY CONSERVATION IN URBAN TRANSIT SYSTEMS. Chicago, Regional Transportation Authority, Planning and Development Dept., Dec. 1975. 17 l. TR-75-06. (HD9502.R35 no. TR-75-06) HQ
   Suggested improvements and their potential energy savings.

   Energy utilization, economics, land use, future.

   Identification of a market for mass transportation service in suburban areas, even in a relatively low-density urban area such as Fort Worth, Texas, and especially under economic conditions which restrict fuel availability for private autos.

410. Edwards, Jerry L. USE OF A LOWRY-TYPE SPATIAL ALLOCATION MODEL IN AN URBAN TRANSPORTATION ENERGY STUDY. Transportation Research, v. 11(2) Apr. 1977: 117-126. HQ, 10A
   Describes structure of Lowry-type spatial allocation model and results of using the model to evaluate different hypothetical urban forms with respect to level of transportation energy consumed in urban passenger travel.

411. ENERGY CONSUMPTION IN RAPID TRANSIT. City and Suburban Travel, Issue 144, Sept. 1973: 4-7, HQ

Flywheel energy storage is an extremely promising technique for reducing dependence upon petroleum fuels by urban transit buses and offers environmental improvement potentials. Development program should be initiated.

As millions of Americans discover energy-saving mass transit, the nation's aging bus fleet needs to replace 26,000 vehicles by 1982.

Objective of study is to formulate the basis of a joint inter-agency action program which would simultaneously improve urban mobility and air quality, and conserve petroleum resources.

Urban travel habits in the United States will change in the next decade in response to energy, environmental, and economic problems, and may create a wide gap between what the automobile does well and what conventional public transportation does well. Paratransit (shared riding) can limit the gap and could be serving more passengers than conventional transit in the 1990's.

Rediscovery of flywheel as effective energy storage system leads U.S. Urban Mass Transportation Administration and U.S. Dept. of Energy to study use in subway cars, commuter trains, transit buses, autos, etc.
Because of importance of urban transportation during energy shortfalls, decision makers, both federal and local, allocate considerable attention to it at policy level. Legislation and implementation have fallen short.

Short and medium term measures which may bring about savings in urban transport sector.

Explores relationships between energy consumption in urban passenger travel, land use, transportation system characteristics, and travel behavior.

Evaluation of air quality and energy consumption impacts of alternative transportation strategies in the Los Angeles region, as well as impacts on regional costs and transportation service.
   Implications of high-speed intercity transportation in an environment of world wide energy shortages.


   Report of the Secretary of Transportation to the U.S. Congress pursuant to Section 8(b), Public Law 93-319, Energy Supply and Environmental Coordination Act of 1974.

   Recommends limited express service with restricted ridership in a 210 minute peak period, which would result in increase in total number of vehicle miles traveled, thereby increasing capacity of the system.

   Energy demand, oil supply and demand, energy use-efficiency, remedial measures.
MODES: WATER


Inland ports, river industry, and barge lines are a $175-billion investment. Intermodal transportation can work for benefit of all concerned.
Increased energy self sufficiency versus continuous access to adequate supply.

Policy makers and planners must develop basis for understanding changes in travel patterns due to continuing increases in fuel prices.

Energy crisis in terms of policy analysis.

Deputy Secretary of Transportation Alan Butchem looks for new reform legislation for airline industry, bills revising highway grant programs.

V. 1. The world. xxv, 379 p.
Thirty-six papers on past and future trends in exploration, production and government policy, past mistakes and future options.

Examines relative performance of some of the major industrial countries in sphere of energy policy in order to suggest sort of framework best suited to maximum general benefit.

U.S. will have to make early and hard decisions on series of complicated issues if it is to avoid greater distress in the future than afflicted the nation during 1973-74. This is an analysis of such issues.
"...There is often little rational connection between policies that govern the production and use of energy and the scientific knowledge upon which they ought to be based...This book is an effort to bridge the large and dangerous gap between science and public policy." Barry Commoner in Foreword.

Assesses technologies and research developments that will be the basis for future energy policies. U.S. cannot afford to be without more energy options.

Higher gasoline taxes and new car fuel economy standards are effective energy saving policies.

Dimensions of the problem; Europe before 1970; transportation in Europe before 1970; factors not applicable in Europe; implications for the U.S.; land use implications for the U.S.; research needs.

At request of the President's Energy Resources Council, the Secretary of Transportation headed a task force representing the following agencies: U.S. Dept. of Transportation, Federal Energy Administration, Environmental Protection Agency, Interstate Commerce Commission, the National Science Foundation, and the U.S. Postal Service. The study is concerned with motor vehicles, buses, and trucks, with gross vehicle weight ratings over 10,000 pounds. It is not an official policy statement of any of the participating agencies, but is to serve as a focus for policy development for all organizations which must deal with the energy problem.

Economically, oil is the moving power of modern industrial society. A nation must have a sound oil policy that links considerations of the availability of domestic oil resources with external factors that affect world supply and demand.
Contradictory policies have exacerbated energy problems. Proposes reforms and new measures to remedy past and present failures.


448. Mitre Corporation. TOWARDS AN ENERGY ETHIC. McLean, Va., Mar. 1972. 34 p. M72-43. (IR 76-0792) 10A Implicit and underlying beliefs and concerns must be explicitly stated before disagreements as to nature or even existence of the problem can move toward resolution.

449. Munson, Michael J. and Rasin K. Mufti. ASSESSING THE IMPACT OF TRANSPORTATION ENERGY POLICIES ON TRAVEL BEHAVIOR. Transportation Research, v. 13A(6), Dec. 1979: 407-416. HQ, 10A Examines a number of energy conservation policies and assesses, at a general level, their likely transportation impacts.


   A report to the Energy Policy Project of the Ford Foundation.


Identifies areas where research is needed such as forces that influence energy consumption, future of domestic mineral fuel reserves, research and development possibilities in energy production and use, environmental impacts of energy production and utilization.


V. 2. Program implementation.

Final report of Transportation Energy Panel. Suggested actions, both short and long term, to reduce dependence on imported petroleum.

Attempts to quantitatively explain unprecedented traffic accident decline experienced during first three months of 1974.

Compilation of articles originally appearing in Congressional Quarterly Weekly Report and Editorial Research Reports treating crisis, prices, resources, ecology, legislation, options.

474. THE ENERGY CRISIS: ALTERNATIVES FOR TRANSPORTATION. Automotive Engineering, v. 81(3), Mar. 1973: 40-44. HQ, 10A
Environmental concerns, safety and damageability regulations are driving up fuel consumption at the same time that fuel availability is decreasing.

Essays with varying perspectives to help assess economic, security, and environmental costs and trade-offs in making energy decisions.


477. FUEL CRISIS NEED NOT DOOM GENERAL AVIATION. Airport Services Management, v. 15(1), Jan. 1974: 24-25. 10A
Statement by Ed Stimpson of the General Aviation Manufacturers Association (GAMA).

Problems which can be expected to develop and possible ways to alleviate the shortage.

Government fuel allocation plans.
480. BUSINESS AND COMMERCIAL AVIATION, v. 35(1), July 1974: 60-62. 10A
Outlook for future supplies and prices.

481. GAS SHORTAGES FOR AEROSPACE FIRMS. Aviation Week and Space Technology, v. 110(22), May 28, 1979: 32. HQ, 10A
Companies suffer tight supplies of gasoline for internal operations and jet fuel for test flights.

482. ISKANDAR, MARWAN. THE ARAB OIL QUESTION. 2d ed. Beirut, Middle East Economic Consultants, 1974. 138 p. (HD9578.A72186) HQ, 10A
Unfolding of the energy crisis and its relation to economic development internationally.

483. LENOROVITZ, JEFFREY M. GASOLINE SHORTAGE COULD SPUR AIR TRAFFIC. Aviation Week and Space Technology, v. 110(20), May 14, 1979: 27-28. HQ, 10A
Case in point in California short-haul markets and where auto use has been tradition.

484. LEONARD, DANIEL. ENERGY UPDATE: COMING ERA OF SHORTAGE. Professional Pilot, v. 13(3), Mar. 1979: 57, 58, ff. 10A
Aviation must brace itself for some very unpleasant developments.

A journalist's look at the continuing Middle East oil crisis.

486. NATIONAL PETROLEUM COUNCIL, COMMITTEE ON EMERGENCY PREPAREDNESS. EMERGENCY PREPAREDNESS FOR INTERRUPTION OF PETROLEUM IMPORTS INTO THE UNITED STATES. Washington, 1974. 142 p. (HD9566.N282) HQ, 10A
Assesses U. S. capability to cope with sudden but temporary interruption of energy supplies, and to review options to minimize the impact of such an interruption.


Selected government and private reports on energy to assist engineers, scientists, businessmen in planning to meet energy challenges of the future.

67
Only an artificially constrained supply of gasoline, rather than modestly increased prices, seems promising control for consumption.

Long term outlook determined by availability and price of fuel; even limited shortages will have negative effect on sales and flying growth.

Based on data for 1973 and 1974 with major emphasis on safety and conservation effect of 55 mph national speed limit.

Physically there is no shortage; this can be statistically and geologically demonstrated. Resources are sufficient to allow orderly transition over next 50 years to alternate sources.
STATISTICS

   Listing of energy data sources on oil and gas; solid fuels, electric energy and nuclear; geothermal, solar; oil shale.


   Chiefly tables.


   Tables cover all commercial sources of energy, both primary and secondary, and final consumption in such sectors as transportation, industry, etc.

   Mostly tables.

500. TRANSPORTATION ENERGY CONSERVATION DATA BOOK. Ed. 3. Oak Ridge, Tenn., Oak Ridge National Laboratory, 1979. xxv, 541 p. ORNL-5320. (REF HD9502.U52T82) HQ
   Statistics on major transportation modes, energy characteristics, energy conservation alternatives, and applicable factors influencing performance in the transportation sector.

   Chiefly tables.

   Annual compendium of time-series data on transportation, production, processing, and consumption of energy.

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Opinion Research Corporation
Organization for Economic Cooperation
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Peat, Marwick, Mitchell and Company
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Rand Corporation
Research Applied to National Needs (RANN) Program
Resources for the Future
Rockefeller Foundation
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Union Carbide Corporation
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United Nations Institute for Training
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U.S. Atomic Energy Commission
U.S. Bureau of the Census
U.S. Central Intelligence Agency
U.S. Citizens Advisory Committee on Environmental
Quality

U.S. Coast Guard
U.S. Congress, House
Committee on Appropriations
Committee on Interstate and Foreign Commerce
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U.S. Congress, Office of Technology Assessment

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Committee on Appropriations
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U.S. Congressional Budget Office
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U.S. Dept. of Energy

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Federal Aviation Administration

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Transportation Systems Center

University Research Program
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U.S. General Accounting Office

U.S. Institute for Basic Standards
U.S. International Trade Commission
U.S. Interstate Commerce Commission
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