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Errata List for the Advance Printing of
National Transportation: Trends and Choices

<p>p.ii Col.2, line 12 p.9 Fig.1.5</p> <p><i>NOT MADE IN FINAL</i></p> <p>p.11 Fig.1.7 p.12 Fig.1.8 p.14 Fig.1.13</p> <p>pp.70,71 Figs,11.42,11.43 p.87 Table III.1 pp. 92,95,96</p> <p>p.119 Col.1, line 4 p.185 Table VII.6</p> <p>p.189 Col.1, lines 39,40</p> <p>p.218 Col.1, line 14 p.229 Table VIII.9 p.237 Table VIII.16 p.282 Col.1, line 26</p> <p>p.307 Col.2, last line p.311 Table in Col.2 p.313 Col.2, line 34 p.316 Col.1, line 10 p.335 Col.1, line 11 p.382 p.392</p>	<p>Transportation misspelled BEA #57 and 58 should be in density range 50-74.9 " #77 should be in density range 500-999.9 " #78 " " " " 100-249.9</p> <p>Duplicates Fig. 1.5 Color shading inaccurate Section of figure denoting Congress should be co-equal and separated from Executive Branch Color registration of overlays incorrect Person Miles expressed in Trillions Source for Figs. IV.1, IV.2, IV.3, IV.4 is: Motor Vehicle Goals Beyond 1980</p> <p>Correct reference is Table II.2 Class I Railroads return on net investment shown as .08 should be .8 Should read..."been unable to do so, or whether it was intended merely to emphasize Amtrak's independ-"...</p> <p>Should read..."maps of the appendix." Total Passengers enplaned at 50 points should be 147,100 1980 Midway data is for Los Angeles Three should be four</p> <p>Add..."dergoing extensive evaluation in terms of cur-" Should be 281,380 for Metropolitan 1990 After the word challenge, add "has created" Correct name of island is Niihau Should read..."properly charged to post-1990 operations." Pages 386 & 387 should be inserted before p.382 Pages 396 & 397 should be inserted before p.392</p>
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Miscellaneous typographic errors not affecting substance will be corrected in the final printing.



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**NATIONAL TRANSPORTATION
TRENDS & CHOICES
(TO THE YEAR 2000)**



**Prepared by the Office of Transportation Planning
Office of the Assistant Secretary for Policy, Plans, and International Affairs
Department of Transportation**

January 1978

LETTER TO THE READER

Public officials have a special responsibility to keep the people informed of the policies and plans of their Government, to state clearly the reasons that underlie executive action, and to explain the kinds of program decisions and resource choices that must be made to bring about a better quality of life. Such a practice, however difficult or imperfect, is needed if there is to be effective communication between government and a well-informed public, sound programs that serve explicit and valid objectives, and curtailment of wasteful public expenditures and obsolete programs.

It is in this spirit that since March 7, 1975, when I became Secretary of Transportation we developed, first a comprehensive Statement of National Transportation Policy in September 1975; then, one year later, a report to the Congress on implementation of that policy; and now, with this volume, a comprehensive treatment of the major planning issues on the unfinished national agenda that may impact the future development of our Nation's transportation.

An essential byproduct of this effort has been the identification of certain major issues facing transportation that should be the subject of public discussion. Through such open discussion, public officials and transportation leaders will be in a position to determine whether and how governmental policy should be changed so as to redirect certain trends, the consequences of which are clarified in the ensuing chapters. The basic choices arising from this look into the future are set forth at the conclusion of chapter XVIII.

It is fortuitous, but perhaps appropriate, that this document's preparation was completed just before January 20, 1977, for the next Secretary will receive the certain benefit of public comment on the document's views without feeling an obligation to defend or promote those views.

Many elements of the Department and the broader transportation community have contributed to the development of this document. However, I feel special acknowledgment is due my Assistant Secretary for Policy, Plans, and International Affairs, Robert Henri Binder, Esq., and the staff of his Office of Transportation Planning headed by Arthur L. Webster II, which supervised its development.

In our day-to-day activities, both in the public and private sectors, we tend to deal with transportation on a piecemeal basis. This is understandable in our pluralistic society, but not sufficient for a nation that is challenged by a changing world and concerned for its future well-being. Two considerations that will strongly affect our plans for the future, from the national scale to the neighborhood level, permeate this document. They are the availability of liquid fuels and the continuing changes in settlement patterns of our population. Both fundamentally lie outside the control of transportation planning and policymaking. In any event, both will occur independently unless conscious public policy relates them more than in the past.

The availability of liquid fuels, either in the form of synthetic substitutes or in the discovery of new resources, will define the costs and much of the character of future transport services and, therefore, must be a central concern of future transportation planning.

Changes in settlement patterns, including declining urban densities, suburbanization and rural migration, with accompanying changes in lifestyle, will significantly define the character of demand for transportation services in the future.

Our national transportation system is too inextricably linked to these external developments and too pervasive in our society to enable us to build for the future without fully evaluating the potential consequences of the decisions we make today. At the same time, the responsibility

for the elements of that system is so diffused throughout the private sector and Federal, State, and local governments that a single agency cannot produce alone a comprehensive plan of action for the future. Any transportation planning process must be a truly national effort. This requires participation of all levels of government, industry, and widespread public debate to insure that the views and concerns of the users and providers of transportation are given adequate hearing in the development of the plan.

National Transportation: Trends and Choices provides a starting point for that much needed public debate. It is an agenda of national transportation issues and alternative solutions that, from the perspective of the Department of Transportation, appear to have merit. It is not intended as a plan of action, although it encompasses programs and plans that already may

have the force of law at various levels of Government. It is intended to be a prospectus of what is possible, practicable, and in the public interest.

I, therefore, ask that you, the reader, accept this document in the spirit in which it was prepared—as a basis upon which we can all build together. Your comments and criticisms are welcome—indeed your constructive advice is essential in our task of developing truly responsible transportation planning for the future.

A handwritten signature in black ink that reads "William T. Coleman, Jr." with a stylized flourish at the end.

William T. Coleman, Jr.
U.S. Secretary of Transportation

January 5, 1977

ii. PURPOSES, SCOPE, AND CAVEATS

PURPOSES OF THE PLANNING EFFORT

This first multimodal national transportation planning effort developed by the Department of Transportation provides the Department's tentative view as to the future evolution of transportation. It raises questions of what choices and changes should be made so that the actual evolution would be one which best serves the Nation. It has been developed as both a physical and an economic overview—a statement of opportunities to improve transportation and to foresee what can and should be avoided by timely action.

The document addresses transportation comprehensively; it is bounded only by the extent of potential problems and opportunities, not by distinctions between what is typically the area of the public or private sector, or of Federal or local government responsibility. Consequently, it is expressed largely in terms of facilities, service levels, and costs, without regard to who owns the facilities or who provides the services.

By such a mechanism it seeks to identify effective services at efficient costs. Public discussion based on the goals and targets enunciated may well lead to further development of how costs should be distributed, how services should be provided, and where certain trends should be redirected so as to bring about results more consistent with other national goals.

The planning document and, more importantly, the process of which it is a product have many purposes. They are enumerated in figure ii.1.

SCOPE

This document addresses the future of both domestic and international transportation from 1976 through the end of the 20th century. It covers all vehicular modes and discusses oil, gas, and slurry pipelines as well. Emphasis is on the effectiveness of U.S. international and domestic transportation, and large-scale secondary effects of transportation, including environmental, energy consumption, and safety ef-

1. Estimate and illustrate for the Congress and the public the potential consequence of implementing many of the policies outlined in the Secretary of Transportation's September 1975 Statement of National Transportation Policy.
2. Show the Congress and the public that the Department of Transportation is making both substantive and resource allocation decisions effectively and coherently in the light of long-range consequences, intermodal tradeoffs, and broader national goals and objectives.
3. Encourage a view of transportation as a means to broader national goals and objectives, with significant external benefits and costs to foster a better accounting of these factors both public and private.
4. Promote a more informed public debate on transportation decisions by extending discussion beyond the immediate financial and employment impacts of a proposed policy or program on a particular mode. This study attempts to focus attention on the effects over an adequate period of time of the full array of desired policies on each mode.
5. Forecast and illustrate the impacts on transportation of such current policy thrusts as energy conservation, environmental enhancement, assistance to the transportation disadvantaged and public safety—as well as the effects of transportation developments on these policy thrusts.
6. Indicate to private industry and to State, metropolitan, and local agencies the directions in which the Department believes current and future transportation policies and programs are taking us. The mere existence of a national planning process and product should encourage others involved in transportation to take actions which are consistent, while avoiding heavy-handed Federal interference in matters better left to non-Federal discretion. In this way, it encourages coherence between the public and private sectors, among levels of government and among modes.
7. Initiate a planning process based upon common time horizons, planning assumptions concerning economic activity, population, the labor force, employment, technology, energy prices and availability, air quality and noise standards. Federal land use policies, regulatory reforms, the 55-mph speed limit, and truck size and weight limitations, etc.
8. Encourage transportation performance measurement, monitoring and evaluation in addition to the traditional attention to the costs of investment in additional transportation infrastructure. This information will serve as a useful input to future policy development and planning.
9. Facilitate internal decisionmaking within the Federal Government through better or more confident decisions, by providing information on desired or probable directions for transportation policies, facilities, services, substitutes, and complements.
10. Encourage careful evaluation of proposed regulatory (rule-making) actions prior to issuance.

Figure ii.1. Purposes.

fects. The Department does not intend to infringe on State, local, and private prerogatives. By many measures, however, State and local movements constitute much of U.S. transport, and the analysis necessarily includes estimates concerning future State, local, and private developments. Such estimates are based almost

totally on material submitted by the relevant jurisdictions—modified only where necessary to insure completeness or to include the effects of national statutes signed into law since the original estimates were made or since the intervention of other events of nationwide significance.

In many instances, the document points out what the transportation trends would be in the absence of a conscious public policy to cause a shift in direction. In these instances, it points out the choices that are available and thus are cause for a conscious public policy decision.

In other words, in 1975 we issued our views of the principles that should be applied to develop a *National Transportation Policy*. This present document now reveals the facts on transportation and predicts what the system will probably look like in 1990 under present policies and tendencies. The next step would be a determination of what public policy changes, if any, should be made to achieve a transportation system in 1990 which will best serve the Nation. Finally, after there is a national consensus on the first three steps, an actual plan, fully accommodating the national tendency against such planning and the fact that most transportation is in the private and State and local government sectors, will be developed.

GUIDE TO THE READER

The succeeding sections of this Foreword provide a brief description of past “History” as well as “U.S. Transportation Today.”

Part A discusses transportation from a national perspective. The “Tenets of the Planning Effort” and the “Conceptual Overview” appear in chapters I and II. Little mention is made in these chapters of individual modes of transportation. The tree structures, shown below (figs. ii.2, ii.3, and ii.4), guide the reader through the chapters. This structure begins with chapter II, “Conceptual Overview,” which discusses “Total U.S. Transportation” in terms of its “Passenger Travel” and “Freight Movement” constituents (fig. ii.2).

Part B, “The Automobile,” covers the development and use of the automobile, and another tree (fig. ii.3) illustrates this perspective. The titles of the two chapters in part B are self-explanatory — “The Automobile Today”

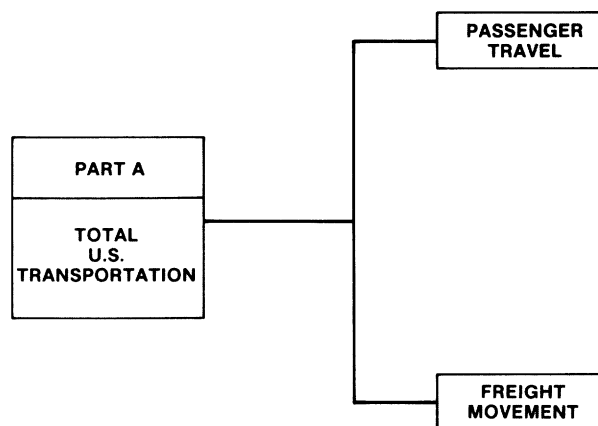


Figure ii.2. Transportation Tree.

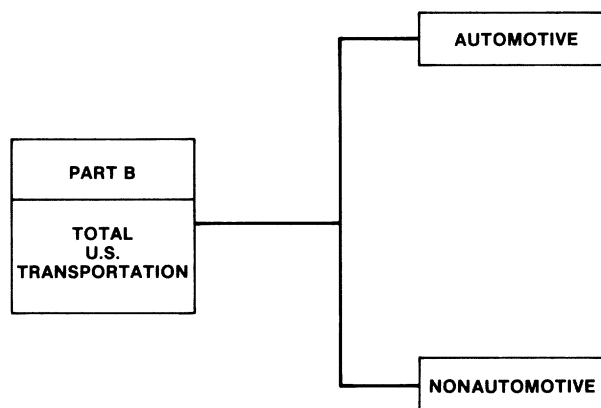


Figure ii.3. Transportation Tree.

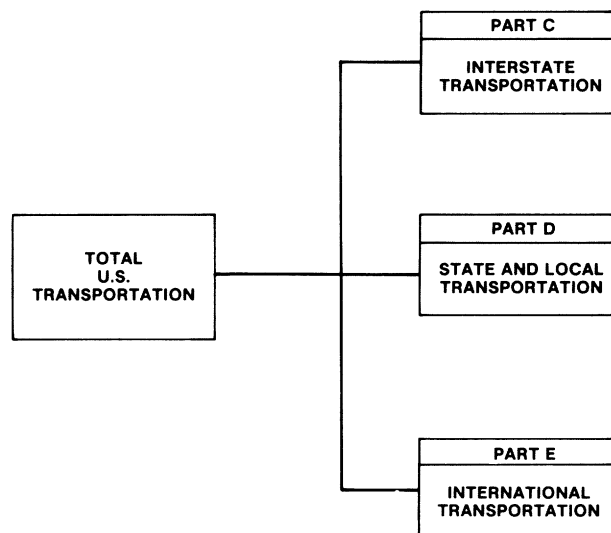


Figure ii.4. Transportation Tree.

and “the Future of the Automobile.” Automotive travel is also discussed in part C in the following sections: “Interstate Transportation”; chapter VI, “Highways”; and part D, “State and Local Transportation.”

The next three parts (C, D, and E) are illustrated by the tree in figure ii.4.

Part C, “Interstate Transportation,” begins with “Transmodal Issues”—issues involving more than one mode of interstate transportation.

The other chapters in part C are unimodal in outlook, covering interstate “Highways,” “Railroads,” “Aviation,” “Marine,” and “Pipelines.”

In general, the chapters in part C begin with a description of the elements of the mode, then discuss the issues involved in transitioning to the future, and finally offer a description of what the future of the mode might be.

Part D, “State and Local Transportation,” discusses matters common to both metropolitan and small urban and rural transportation. Summaries of both metropolitan and nonmetropolitan transportation, as reported by each State, are presented in chapter XI. Chapters XII and XIII, “Metropolitan” and “Small Urban and Rural Transportation,” address topics unique to each area.

Part E, “U.S. International Transportation,” has two chapters. The first addresses “International Aviation,” and the second “International Marine” matters.

Finally, part F, “Beyond the Present Planning Effort,” has three chapters quite unlike any of the preceding ones. Chapter XVI, “Alternative Transportation—Futures and Contingencies,” outlines the potential transportation consequences for future national scenarios that differ from the scenario on which this document is largely based. Also the effects of certain conscious national decisions, if made, such as the preservation and revitalization of our major cities, are described. Wartime and petroleum shortages by embargo or otherwise are described. Chapter XVII summarizes a number of “Technological Possibilities,” and chapter XVIII, “The Future of the Planning Effort,” out-

lines a course of action based on this report, once it has been published, distributed, and studied.

A separate mapping appendix includes sectional maps covering the entire United States, containing more current transportation infrastructure detail of the Nation than has ever been plotted on a single set of maps on this general scale.

CAVEATS

This document is not an adopted official position of the executive branch of the Federal Government. It has been developed by the Department of Transportation as another step in its continuing efforts to develop a nationwide transportation planning process. Other departments of the Federal Government have assisted, but the results do not necessarily represent their views. Moreover, while State and local governments have contributed, they have neither reviewed nor endorsed the report. Finally, the report has received no general public review. As a result, the Department welcomes review or comment on the document and intends that there be a systematic public and governmental review as a next step. The planning effort rests on:

- A base of economic and transport information, which has large gaps in critical areas
- Forecasts of events that could influence transportation radically, but that are themselves uncertain
- Cause-and-effect relationships, not as yet completely understood
- Tentative judgments concerning the relative values of human time and life, esthetics, the environment, and so forth, that are open to controversy and question

In an environment of uncertainty, however, the pressure of the necessity to discharge daily functions even while we strive for more liveability in the future rarely permits decisions to be made on a base of complete information. It is hoped that this planning effort, by systematically arraying and correlating information from diverse sources, will provide a more accurate and certain background for decisions concerning transportation.

iii. TRANSPORTATION THEN AND NOW

HISTORY

Throughout our Nation's history transportation has been tied closely to the growth and changes that have occurred in the United States. Transportation has both influenced and been influenced by other aspects of American life in a variety of ways—social, political, military, economic.

The story of the development of transportation and its impact on society easily could fill many volumes. But this document focuses on the future; the past will be dealt with only in this brief summary.

At the time of its birth 200 years ago, the United States was a country of just under 3 million inhabitants. Only one-twentieth of the population lived in cities, almost all of them ports; the rest lived in the countryside.

Transportation reflected this lifestyle. The Nation's commerce was directed largely by merchants in port cities. Cargo flowed downstream to the ports in flatboats and upriver in keelboats—large, flat freight boats. Large sailing vessels served commerce along the coast. The Federal Government was financed primarily by customs revenues.

In the cities people traveled along dirt roads on foot, on horseback, or in animal-drawn vehicles. City roads extended out into a scattered network of country roads used primarily for the movement of people and mail. Sometimes these dirt roads or trails connected neighboring communities.

As the United States began to expand westward, roads followed the settlers, especially where coastal cities had no good river connection to the West. The Nation's first toll road, the Lancaster Turnpike, was built late in the 18th century between Lancaster and Philadelphia. It was so successful financially that it triggered a 20-year boom in turnpike construction.

America grew rapidly during the 19th century. Purchases, cessions, and conquests expanded territorial boundaries to the Pacific Ocean. Population surged from 5 million to 77

million. Transportation, too, expanded greatly. Albert Gallatin, Secretary of the Treasury under President Thomas Jefferson, recommended a Federal transportation plan to Congress in 1808; it was not officially adopted, but many of the projects it described were later implemented.

In 1825, the Erie Canal was completed and launched a 15-year boom in canal construction. However, about 5 years later a new competitor, the railroad, began its career in the United States. By 1840 there were 3,200 miles of canal and 3,200 miles of railroad, but the canal boom had ended and the golden age of the railroads in the United States was fast beginning. No more major canals were begun until World War I. However, by 1851 a web of rail lines extended from Maine to Georgia, and in 1869 the first transcontinental railroad was completed. Railroads dominated intercity passenger and freight markets up to World War I and experienced, due to gas rationing, war production demands, and suspension of automobile production, a brief surge again during World War II—passenger-miles reached an all-time high in 1944 before declining rapidly.

The growth of cities in the 19th and 20th centuries brought innovations in transportation. A 12-seat, horse-drawn passenger vehicle was followed by the first horse-drawn streetcar in New York City. In the second half of the 19th century, San Francisco pioneered cable cars that were centrally driven by steam engines. Soon Philadelphia, New York, St. Louis, Denver, Cleveland, and several other cities had almost totally replaced animal-powered streetcars in the cities. Electrified railroads linked the larger cities to their village neighbors. Urban mass transit ridership reached its peak in 1945; it has decreased rapidly since then, although renewed interest in rail rapid transit appeared with the opening of systems in Cleveland (1955), San Francisco (1972), and Washington, D.C. (1976).

If the 19th century was the golden period of the railroad in the United States, the 20th century so far has been the era of the automobile and the airplane.

Only four automobiles were registered in the United States in 1895. Six years later the figure had grown to 8,000, and by 1910 it was over 450,000. Some 50,000 miles of surfaced rural roads were built between 1900 and 1910. In the same decade, truck and motorbus services began. World War I spurred technological developments in road travel; by 1917 an estimated 24,000 jitney buses were in operation and by 1918 more than half a million trucks were on the roads.

Intercity private automobile traffic overtook rail passenger travel during the 1920's. By 1930 approximately 23 million passenger cars and 3 million trucks were registered in this Country, and buses accounted for almost one-fifth of all commercial intercity passenger travel.

Major highway building programs were underway in most States by 1930. Construction of a 42,500-mile interstate highway network began in 1956 under the initiative and leadership of President Eisenhower. By 1975 about 90 percent of this network had been completed.

Just as World War I hastened developments in road travel, it marked a turning point for aviation. Airmail was initiated after the war. Commercial airline passenger service was slower in starting, but it had extended across both oceans by the mid-1930's and had grown to more than a billion annual passenger-miles by 1940.

World War II, like World War I, brought giant strides in aviation—notably the invention of the jet engine and the training of many pilots. The postwar years saw a great expansion in almost every phase of air transportation. Scheduled commercial jet carrier service began in 1958, and that year, for the first time, more passengers crossed the Atlantic by air than by sea. Manned space flight began 3 years later, launching still another era in transportation.

Today, as the United States enters its third century, the dirt roads, the sailing vessels, the animal-drawn vehicles have given way to super-highways, supertankers, and spaceships. But

in the new forms, just as in the old, transportation plays a vital role in the activities of the Nation and will continue to do so.

HISTORICAL HIGHLIGHTS

- 1794 — First toll road, the Lancaster Turnpike, is completed.
- 1807 — Robert Fulton demonstrates a steamboat on the Hudson River. Within several years steamboats are operating along the East Coast, on the Great Lakes, and on many major rivers.
- 1808 — Secretary of Treasury Albert Gallatin recommends a Federal transportation plan to Congress, but it is not adopted.
- 1825 — Erie Canal is completed.
- 1830 — Operations begin on Baltimore and Ohio Railroad, first railroad constructed for general transportation purposes.
- 1838 — Steamship service on the Atlantic Ocean begins.
- 1857 — First passenger elevator in the United States begins operation, presaging high-density urban development.
- 1865 — First successful petroleum pipeline is laid between a producing field and railroad terminal point in western Pennsylvania.
- 1866 — Bicycles are introduced in the United States.
- 1869 — Completion of first Transcontinental railroad.
- 1887 — First daily railroad service from coast to coast.
- 1903 — The Wright brothers fly first airplane 120 feet at Kitty Hawk, N.C.
- 1914 — Panama Canal opens for traffic.
- 1916 — Interurban electric rail mileage reaches peak of 15,580 miles.
- 1915–18— Inland waters and U.S. merchant fleet play prominent roles in World War I freight movement.

- 1919 — U.S. Navy and Coast Guard crew crosses the Atlantic in a flying boat.
- 1927 — Charles Lindbergh flies solo from New York to Paris.
- 1956 — Construction of the 42,500-mile Interstate and Defense Highway System begins.
- 1959 — St. Lawrence Seaway is completed, opening Nation's fourth seacoast.
- 1961 — Manned space flight begins.
- 1967 — U.S. Department of Transportation established.
- 1969 — Man lands on moon and returns.

U.S. TRANSPORTATION TODAY

Transportation affects every aspect of our lives. Adequate transportation is essential to improving the way of life for our growing population. It allows us to live where we are most comfortable, work where we feel most productive, and play where we can have the most fun. It promotes economic development, facilitates the delivery of public and private services, shapes our cities, unifies the Nation, makes the world accessible, and plays a vital role in national defense and international trade. Its lack could stunt our economic and social development. This planning effort is directed to the goal of providing such adequate transportation.

Transportation plays several roles in the economy:

- Good transportation spurs economic development by giving mobility to the factors of production, permitting economies of scale and increased efficiency.
- Good transportation enlarges the area consumers and industry may draw upon for resources and products.
- Good transportation expands the area to which a given plant may distribute its products economically. The resulting specialization and economies of scale provide a wider choice for consumers at lower cost.
- New transportation investments constitute a substantial part of all new investments in the United States and help to sustain and induce national economic growth.

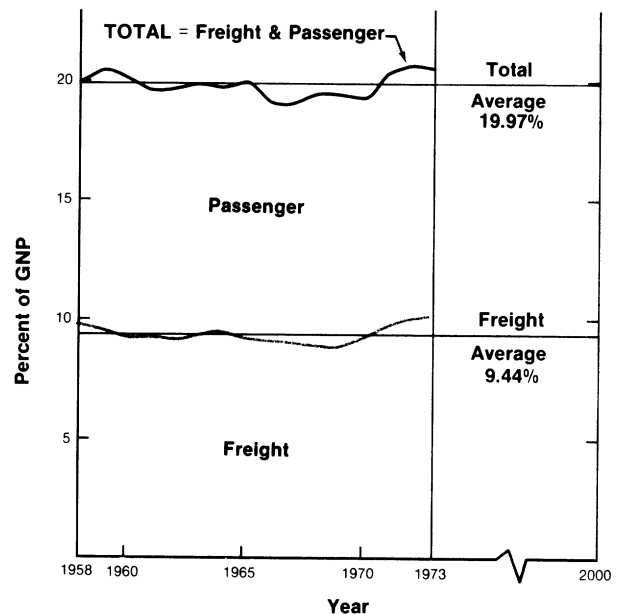
Today, the United States both provides

and uses an awesome amount of transportation. The costs of all this transportation, in terms of amounts actually spent and additional indirect social costs, should command the Nation's foremost attention.

Estimates indicate that each year the United States spends an amount roughly equivalent to 20 percent of its gross national product (GNP) on transportation (fig. iii.1).¹

The percentage spent on moving passengers slightly exceeds that spent on moving goods.²

Figure iii.2 shows the relative size of each mode's share of the Nation's annual transportation bill in recent years. Expenditures on road and highway transportation exceed all the others.



Source: Facts and Trends, Transportation Association of America, 1973.

Figure III.1. GNP and Transportation.

¹The GNP is the sum of the gross products originating (GPO's) in all sectors of the economy. The GPO is the sum of wages, profits, and taxes in a sector. Recently the transportation GPO has been roughly 10 percent; the 20 percent figure is explained by transportation purchases from other sectors of the economy that are roughly equivalent to transportation's GPO.

²The dividing line for these services, however, is not precise. For example, much truck travel moves only people, and shopping trips in automobiles can be considered goods movement, but the former is often categorized as goods and the latter as passenger movement.

About one out of eight persons in the labor force is employed directly in some aspect of transportation. Figure iii.3 shows that transportation consumes significant portions of the products of other industries.

Figure iii.2 does not include the Federal, State, and local subsidies (the excess of expenditures over user charge revenues) to various modes of transportation. It is believed that these would enlarge the transportation bill by less than 6 percent. Federal subsidies alone appear to account for less than half this amount. Federal subsidies, however, are concentrated unevenly in some modes. In some cases, they are significant relative to prices charged for service, as crudely indicated in table iii.1. The issue of the usefulness and extent of Federal subsidies is complex. Prospects for increasing deficits in urban mass

transportation, rail passenger and perhaps freight services may force the public to reevaluate the support these forms of transportation should receive from general tax revenues.

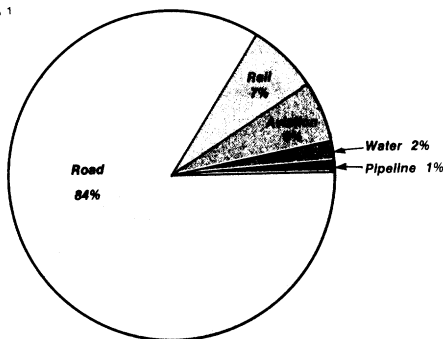
The Nation's increasing demand for transportation services has imposed additional costs on society besides the foregoing monetary costs. It has:

- Clogged our courts and hospitals
- Maimed and killed
- Jarred our peace of mind with noise
- Polluted air and waters
- Marred our vistas
- Uprooted and divided neighborhoods
- Made us increasingly dependent on foreign petroleum

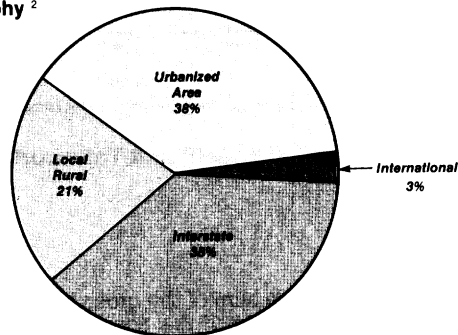
Over the past 25 years, great strides have been made at the national level in mitigating the harmful side effects of transportation and in making the prices paid for transportation more nearly reflect the social costs. Figure iii.4 is a simplified summary of what has been done nationally. Much more remains to be done for we are a society not only committed to improving the quality of our lives, but also one that has become increasingly aware of the limitations of our natural and financial resources.

This document outlines the task facing the United States in the field of transportation in the next quarter century—through the year 2000.

By Mode ¹



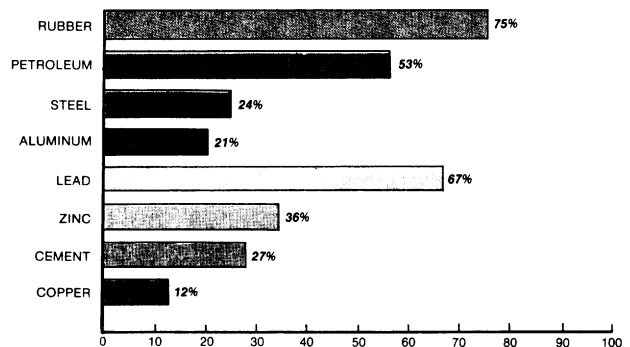
By Geography ²



¹Based on statistics from Facts and Trends, Transportation Association of America, 1973.

²No standard definitions exist for "interstate" and "local rural." The percentages shown are based on proration of expenditures based on traffic estimates.

Figure iii.2. Typical National Transportation Expenditure Percentages.



Source: Facts and Trends, Transportation Association of America, 1973.

Figure iii.3. Transportation's Consumption of Products of Other Industries.

**Table iii.1
Level of Federal Subsidies**

Urban		
Urban Mass Transportation	Bus Rapid Transit	29%
	Rail Commuter	58%
		23%
Interstate		
Waterborne		48% - 53%
General Aviation		14%
Local Air Carriers		13%
Rail Passenger Service		24%
International		
Marine		18 - 25%

¹Based on 1973 and 1974 statistics, percentages were arrived at by dividing the Federal subsidy by the consumer bill plus the Federal subsidy.

Marred Vistas	Billboard standards on the Interstate Highway System Environmental Impact Statements and improved hearing requirements
Noise	Vehicle and equipment standards Noise R&D and vehicle standards Improved aviation operating procedures Environmental Impact Statements and improved hearings
Air Pollution	Emission standards Transportation Control Plans Environmental Impact Statements and improved hearings
Water Pollution	Compulsory oil spill insurance Improved regulations concerning waste and hazardous materials handling Environmental Impact Statements and improved hearings Increased attention to marine safety
Neighborhood Disruption	Increased payments for land taken Multidisciplinary planning teams Environmental Impact Statements and improved hearings
Clogged Courts and Hospitals	55-mph speed limit Increased safety regulation in every mode Safer design standards for public facilities
Petroleum Dependence	55-mph speed limit Automotive fuel consumption standards More realistic petroleum fuel costs

Figure iii.4. Summary of Actions Taken to Mitigate the Harmful Side Effects of Transportation.

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