REORGANIZATION OF THE DEPARTMENT OF TRANSPORTATION AND ITS PROGRAMS

January 19, 1977

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Secretary of Transportation

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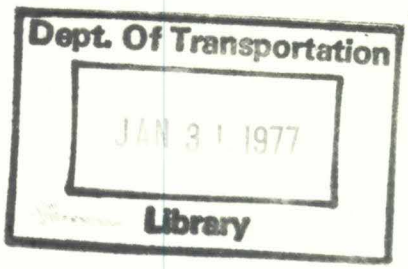
U.S. Department of Transportation
Washington, D.C.



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I. Introduction and Summary

The Department of Transportation (DOT) was formed ten years ago by aggregating most of the components of existing departments and independent agencies in the executive branch which were concerned with transportation. Certain components of the ICC involved in safety regulation of transportation were also transferred to DOT. Many of those components or agencies were reconstituted as separate operating administrations within DOT. A list of DOT elements showing the origin of the major components is attached as Appendix A.

Several transportation-oriented components of the government, as well as the economic regulatory functions of the CAB, FMC and ICC, were not included in DOT. The exclusions were Congressional and political decisions not necessarily based upon objective judgment, and they should now be reexamined. The most significant examples are the Maritime Administration in the Department of Commerce, the inland waterways and dredging activities of the Army Corps of Engineers, and the Bureau of International Affairs and the local service subsidy program of the CAB.

As a result of its origin, DOT became a conglomerate organization, with operating administrations dedicated to particular modes of transportation and a separate staff organization (Assistant Secretaries, etc.) to advise the Secretary and the Deputy Secretary on modal and intermodal issues. The formerly independent or separate components retained their preexisting grant programs and, as other grant programs and activities

were authorized by Congress, they were assigned to the appropriate operating administration. These categorical grant programs were established to respond to particular modal transportation needs. Some are funded by trust funds, the others from the general fund. Most of them have separate and often unique requirements, relatively narrow objectives and limited flexibility for responding to broader transportation needs. These programs and activities also mandate a variety of different relationships with, and involvement of, State and local government. The distinct programs and activities further reflect both the inertia in government which causes an organization to protect and extend what it already has and the jurisdictional jealousies of the various Congressional committees. A list of the Congressional committees and subcommittees and their transportation jurisdiction is attached as Appendix B.

This organization of DOT and its grant programs and other activities has never provided the optimal framework for addressing national transportation problems and, as those problems become more intertwined and complex, the organizational structure becomes increasingly outdated. This organization also does not give State or local government sufficient opportunity to participate in or contribute to basic decisions of an intermodal nature or to make modal trade-offs. From a budgetary point of view, the existing organization and grant program structure, together with corresponding division of authority among various committees of the Congress and the influential interest groups dedicated for the most part to one mode, do not give the Secretary of Transportation the amount of flexibility in resolving national transportation problems that would be

available if the Department were structured in terms of broader categories of transportation needs and programs. In order to obtain integrated actions, it has often been necessary to invoke the authority of the Secretary and the Deputy Secretary, to have frequent Administrators' meetings, and in some cases to cause the issuance of joint regulations.

Consequently the Department has examined ways in which these separate components and programs could be restructured and consolidated.

The following proposal is directed toward preparing the Federal budget for transportation activities in terms of a single transportation account that would include all Federal expenditures for transportation, including those appropriations that would be made to components of government other than DOT for transportation activities (e.g., to NASA and the Corps of Engineers). Included in the account would be funds to support both the financial assistance programs and the operational and capital expenses of such DOT components as the Coast Guard and the FAA.

The financial assistance activities of the Department for highways, transit, railroads, airports and pipeline safety would be divided into two major categories - interstate and local - and the present organization of modal assistance administrations would be merged and consolidated accordingly. The only financial assistance programs remaining in modal administrations would be the boating safety program of the Coast Guard and the motor vehicle and driver safety programs now in NHTSA.

A primary objective and underlying theme of this proposal is to focus the attention of the Federal Government and the Congress more sharply on spending decisions of an interstate nature that affect the

development of the national transportation system and at the same time provide greater flexibility to State and local governments in using limited Federal resources.

Program Categories and Financing

The interstate portion of the financial assistance program would be restricted to those areas in which we believe the Federal government has the greatest direct responsibility and involvement. Those areas include that portion of the highway system which is truly interstate in nature, freight and intercity passenger railroads (with the exception of the rail branch line program), the large and medium hub airports, pipeline-safety, and the ports and waterways portion of the water modes. The existing program and delivery systems in this area would remain much as they are. However, a unified budgetary approach would be developed which would include a combined authorization and appropriation request for all interstate transportation programs, including Amtrak and the work of the Corps of Engineers on inland waterways and ports. In the absence of an appropriate basis for requiring matching funds from State or local government for such programs, the best device for achieving budgetary constraint is to collect them in the interstate subaccount of the single transportation account. That should highlight the trade-offs being made in giving more or less assistance to a particular program or mode.

The local transportation component would be subdivided principally into two separate block grant programs, one for urbanized areas (areas with a population of 50,000 or more) and the other for rural and small urban areas. These block grants would be available to local and State governments, respectively, for a wide variety of local transportation purposes

including highways, mass transit capital and operating assistance, small non-hub and general aviation airport capital improvements, railroad branch line subsidies and subsidy for local air service.

The annual cost of Federal transportation assistance programs, operations and capital improvements, and loan guarantees, in the DOT budget and elsewhere, is currently about $21.5 billion. Federal assistance is approximately $14 billion. Highway and aviation user charges related to those programs currently cover their assistance program expenditures, and the Administration has proposed a waterway user charge to recover half of the Corps of Engineers' operations, maintenance and new capital expenditures. Therefore only transit, pipeline, railroad and safety aid programs lack a proposed user charge funding source. The balance of funds for assistance and operations could come from one or more of the following sources: (1) the general fund, (2) a portion of a new petroleum tax corresponding to the percentage of petroleum consumed by transportation (the balance going to the general fund or rebated through appropriate mechanisms), (3) a 4 cent increase in the motor vehicle fuel tax to finance fully the highway (including highway safety) and transit programs, and (4) an increase in aviation user charges to cover more of the air traffic system expenses. We recommend continued and new and increased user charges to cover modal assistance without cross-subsidies and the general fund for the balance.

Depending upon the financing method selected, the transportation account could be funded in whole or in part by a single transportation trust fund. A single trust fund has the advantage of assuring adequate funding for the transportation account, which would then not have to compete with other national needs for general revenue funds. It has the disadvantage,

of course, of limiting the Executive's and the Congress's flexibility in the budgetary process.

Whether or not a single trust fund is adopted for the assistance programs or for the entire transportation account, it would be desirable to collect in a trust fund the revenues from user charges and to retain the authority to make advance funding commitments so as not to lose the advantage of long term planning. Indeed, emphasis should be given to increasing the capability for financing projects over time, even to the point of making them financeable in the private sector when secured by Federal commitments.

Organization

The foregoing realignment of programs would, of course, require legislative action. The same legislation should also provide for reorganization of DOT along comparable lines, with the following two new Administrations to coincide with the program recommendations - Interstate Transportation and Local Transportation. The Alaska Railroad would be a part of the Interstate Transportation Administration. The Federal Aviation Administration would continue to be responsible for aircraft and airman safety and for the planning, operational, safety and research aspects of the airport and airway system. Only the ADAP portion of the FAA would be shifted to the Interstate and Local Transportation Administrations, but even here the FAA would retain authority for the actual layout and all safety aspects of the airports. National Capital Airports (National and Dulles) would remain in FAA. A Motor Vehicle Administration would be created to assume the vehicle and driver safety, consumer and fuel efficiency program of NHTSA and the vehicle and driver safety program of the Bureau of Motor Carrier Safety now in FHWA. The U.S. Coast Guard and the Saint Lawrence Seaway Development Corporation would remain unchanged.

As alternatives to some aspects of the foregoing, we also considered establishing a Transportation Safety Administration and a Transportation Research and Development Administration. We concluded, however, that safety and R&D should be kept as integral parts of the Federal assistance and operational programs.

The staff organization of the Office of the Secretary should remain substantially as it is. There are many activities not directly related to Federal assistance programs, such as regulatory reform policy, which require high level attention but do not fit in any operating administration. There are also numerous coordination functions and oversight responsibilities such as hazardous material transportation, OSHA, safety and environment problems and R&D programs which warrant retaining a staff of Assistant Secretaries. The Office of Deepwater Ports should be retained for the immediate future, but its activities could eventually be consolidated with TPI and the Interstate Transportation Administration, the Coast Guard or a new Maritime Administration.

There are a few additional changes, involving transfer to DOT of transportation activities currently carried out in other Departments and agencies, that we believe would improve DOT's ability to coordinate national or international rail, air and water transportation and motor vehicle policies and programs. These recommended changes include incorporating in DOT the car service functions of the ICC involving freight car movements; the Maritime Administration (including the subsidy programs for ship construction and operations); the navigation planning, investment analysis and construction decision activities of the Civil Works function of the Corps of Engineers; the international air carrier operations and local air service

subsidy program of the Civil Aeronautics Board; and the motor vehicle emission and fuel efficiency programs of EPA and ERDA, respectively.

II. PROGRAM RECOMMENDATIONS

A. Interstate Transportation Program

The interstate program would be directed toward passenger and freight transportation requirements of the major intercity traffic arteries and terminals which serve routes important to interstate commerce. These include the portion of the highway system determined as essential for intercity travel, freight railroads (with the exception of the branch line program), the Northeast Corridor Improvement Program (NECIP), Amtrak, the ADAP program for medium and large hub airports, pipeline safety and the Corps of Engineers' program for ports and inland waterways.

The major change would be the submission of a consolidated transportation budget and authorization and appropriation request to the Congress. It is anticipated that the authorization request would be based upon an intensified process of national transportation planning which includes DOT estimates of the investment required over a 10-20 year period. The plan would be revised biennally to reflect changing priorities and conditions and would be submitted to Congress on the same cycle as the authorization request.

1. Highways

Program:	Portion of the national system determined to be essential for intercity travel.
Purposes:	Planning and construction of interstate highways essential for intercity travel. Ultimately plan to include resurfacing, restoration and rehabilitation of the interstate highway system.

A separate categorical grant program for resurfacing, restoration and rehabilitation of the Interstate would be maintained until results of the study required by the 1976 Highway Act, due May 1977, are available.

Delivery System: Apportioned by formula on the basis of "cost to complete" for the existing 42,500 mile Interstate System, but any program for expansion or rehabilitation of the present Interstate System should be established on a basis other than "cost to complete."

Federal Share: 90 percent for existing Interstate System; 70 percent, as on the existing primary system, for any expansion or rehabilitation.

Recipient: States.

2. Freight Railroads

Program: Current discretionary mainline system programs (Title V of the RRRR Act, i.e., financial assistance to the rail industry), discretionary program for planning, and the Alaska Railroad.

Purposes: Continuation of existing programs.

Delivery System: Discretionary program of loan guarantees and preference shares, as modified by Sec. 504 study and recommendation, and Alaska Railroad appropriations.

Federal Share: Not applicable.

Recipient: Railroads and Alaska Railroad.

3. Northeast Corridor Improvement Program

Program: Construction of the Northeast Corridor project in accordance with Title VII of the RRRR Act.

Purposes: Supervise construction in coordination with Amtrak until the construction program is completed.

Delivery System: Payments to DOT contractors and to Amtrak.

Federal Share: 100 percent of construction, except 50 percent with respect to construction of stations and, where appropriate, safety improvements.

Recipients: DOT contractors and Amtrak.

4. Amtrak

Program: Capital and operating expenses of Amtrak.

Purposes: Continue operation of selected routes over the Basic System, with greater emphasis on convenient scheduling of trains in short haul markets (200-300 miles) and as modified through Route and Service Criteria.

Delivery System: Payments to Amtrak against approved operating and capital budget and five year plan.

Federal Share: Budgeted operating deficit and capital requirements.

Recipient: Amtrak.

5. Airports

Program: Portion of existing airport grant program attributable to medium and large hub airports.

Purposes: Continuation of existing program (construction and improvement of airport facilities).

Delivery System: Allocation formula and discretionary funds, to provide 2/3 to airport sponsors based on passenger enplanements and remaining 1/3 in discretionary fund.

Federal Share: 75 percent.

Recipients: Sponsor defined as any public agency which submits an application to the Secretary either individually or jointly.

6. Pipelines

Program: Administer Federal grants to States for a gas pipeline safety program as authorized by the Natural Gas Pipeline Safety Act of 1968.

Purposes: Continuation of existing program.

Delivery System: Grants-in-aid.

Federal Share: Up to 50 percent of actual State agency costs for conducting a gas pipeline safety program.

Recipients: State agencies.

7. Ports and Inland Waterways

Change in program content or delivery is not recommended. The ports and inland waterway programs would be submitted as part of a consolidated transportation budget, but the operation and administration of the programs would remain with the Corps of Engineers. It would be desirable, however, to shift the navigation planning, the investment analysis and the decision to build functions of the Civil Works activity of the Corps of Engineers to DOT.

8. Research, Development and Demonstration

Research, development and demonstration programs related to the areas listed above.

9. Safety

The FHWA's categorical highway safety programs and FRA State Participation Safety Programs would be handled as transportation safety block grants in conjunction with the local transportation program, but the highway and railroad elements of the interstate transportation program would continue to include safety design and operational requirements.

B. Local Transportation Program

The local program, for highway, mass transit and airport purposes, would be subdivided into an Urban Area Block Grant Program and a Small Urban and Rural Area Block Grant Program. A separate Rail Transit Discretionary Fund would be established for new fixed guideway capital investments and major extensions of existing systems. The rail transit discretionary program would be reduced as the requirements for new fixed guideway starts diminish. Funds associated with Interstate System highways in urban areas identified as not essential for intercity travel would be assigned, as an

add-on, to the respective urbanized areas, based on cost to complete. The existing statutory requirement for approval of Interstate withdrawals by the Governor would be retained with respect to such highways with comment by the Governor on substitute projects.

For the time being, the FRA rail branch line assistance program would be maintained as a separate categorical program, as it addresses transitional problems. Ultimately, however, it should be phased out or combined with the relevant local block grant programs. (The UMTA emergency operating assistance program for commuter rail could also be continued as a separate program initially.)

The local program also would include a discretionary grant program for research, development and demonstration associated with the highway and transit programs for both the urban and small urban and rural program components. Eligible safety projects currently associated with the local highway and transit programs would be incorporated in the block grant programs or in a separate transportation safety block grant program.

One of the problems with the existing categorical programs has been that State and local government have not had much of an opportunity to trade, for example, highway dollars for railroad grade crossings or intermodal terminals. There has also been an institutional problem in the division of responsibility between State and local government; each has argued for the controlling role in the receipt and disbursement of Federal assistance.

A related problem is the specification of the size of urbanized areas that warrant different treatment. An urbanized area, as defined by the Bureau of Census, is an area of 50,000 population or more, but some argue that the dividing line should be urbanized areas of 100,000 or

200,000. The present UMTA program is limited to cities of 50,000 population or more, except that $500 million of the total amount that has been expressly authorized for contract authority is available for transit capital needs in non-urbanized areas. In the UMTA formula program, cities of 200,000 or more receive their allocations directly, while funds for other urbanized areas are channeled through the Governor. Highway urban system funds are available for use in urban (population of 5,000 or more) as well as urbanized areas, and are allocated to the States on the basis of a population formula. Funds attributable to cities of 200,000 or more are earmarked for use in those cities. Attached as Appendix C is a list of urbanized areas of 50,000 or more which shows the effect of selecting each criterion.1/

The thrust of the block grant approach is to allow greater flexibility in the use of funds and increased local responsibility for and control over transit, highway and aviation programs and projects of a local nature. To achieve those objectives we recommend making the urban programs available to urbanized areas of 50,000 or more. After designation by the Governor of the appropriate recipients the State role should be limited to review and comment through the established Section 134 planning process. It would not include any program veto, except where the program included projects relating to State roads, where State concurrence would be required on a project specific basis. In the case of the programs for smaller urban and rural areas, the block grants would be allocated initially

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1/ There is the further question whether "urbanized area" or SMSA is the appropriate demarcation. The difference is that the former sometimes bisect counties; the SMSA's do not. We conclude that urbanized area is a more appropriate grouping for purposes of measuring the size of the unit and differentiating in its treatment.

to the States. In both cases, the Federal Government would review a locally developed annual program of projects.

1. Urban Programs

a. Urban Area Block Grants

Program:	(1) Urban Interstates not essential for intercity travel (2) Urban Interstate Transfers (3) Federal-Aid Urban System (4) Urban Primary System (5) UMTA Section 5 formula grant program for capital and operating assistance (6) Portion of the UMTA Section 3 program devoted to bus and rail car purchases and modernization of existing systems (7) FHWA/UMTA planning funds (8) Intermodal terminals
Purposes:	Highway construction, reconstruction and rehabilitation, transit capital and operating assistance and transportation planning, with a percentage limit on amount available for transit operating assistance and a maintenance-of-effort requirement for amount so used.
Delivery System:	Allocation formula, funds apportioned directly to urbanized areas. Includes provision that enables urbanized areas to pool funds.
Federal Share:	Up to 75 percent for capital projects and up to 50 percent for operating assistance. (90 percent of cost to complete urban Interstates would be apportioned to urban areas but would have to be matched as an urban capital project and would not be available for transit operating assistance)
Recipient:	Governor designated recipient process such as exists for designating MPO's for planning and under UMTA Section 5 with respect to transit grants.

b. Rail Transit Discretionary Fund

Program:	Portion of the UMTA Section 3 program required for new fixed guideway starts or for major extensions of existing systems. This program should be reduced as requirements for new fixed guideway starts diminish.
Purposes:	New fixed guideway starts or major extensions of existing systems.
Delivery System:	Discretionary grants.
Federal Share:	Up to 80 percent.
Recipient:	Designated recipient.

2. Small Urban and Rural Programs

a. Small Urban and Rural Block Grant Program

Programs:	(1) Urban (and, if any, rural) Interstates not essential for intercity travel (2) The Primary and Secondary highway programs (3) Economic Growth Center Development Highways (4) UMTA Section 3 capital grants and Section 5 formula funds for small urban and rural areas (5) ADAP grants for small, non-hub and general aviation airport capital improvements
Purposes:	Highway construction, reconstruction and rehabilitation, transit capital and operating costs, airport capital improvements, and transit and highway planning, with a percentage limit on amount available for transit operating assistance and a maintenance-of-effort requirement for amount so used.
Delivery System:	Apportioned by formula and allocated directly to the States. (May eventually provide for mandated pass-through or program role for sub-State areas.)

Federal Share: Up to 75 percent for capital projects and up to 50 percent for operating assistance. (90 percent of cost to complete urban Interstates would be apportioned to urban areas but would have to be matched as an urban capital project and would not be available for transit operating assistance.)

Recipient: States.

b. Rail Branch Line Operating Assistance Program

Unchanged at present, eventually to be phased out as separate program and included in block grant program for States.

c. Local Service Air Carrier Subsidy Program

The CAB now manages a subsidy program for local service air carriers. The bulk of the funds are in fact directed to large regional carriers serving medium-size cities. In the Aviation Act of 1977 the Administration has proposed a subsidy program for truly local service in light-density markets which might otherwise lose air service temporarily as a result of regulatory reform. The Administration's proposal contemplates that the existing subsidy program will be phased out. In any event, any subsidy program should be focussed on small urban and rural areas, and therefore should be included in Small Urban and Rural Programs, and perhaps eventually included in the block grant program for States.

3. Other Local Transportation Programs

a. Research, Development and Demonstration Discretionary Program

A discretionary program for research, development and demonstration associated with transit and local highway programs would be established and include RD& D for the small urban and rural areas along with the urbanized areas. Demonstration grants to States and localities would be directed toward encouraging more innovative uses of existing transportation systems, energy conservation, carpooling, more rational use of the automobile, improved transit performance and productivity and other Federally established priorities.

b. Transportation Safety Block Grant:

Programs:	(1) Section 130 Railway-Highway Crossings (2) Section 144 Special Bridge Replacement Program (3) Section 151 Pavement Marking Demonstration Program (4) Section 152 Projects for High-Hazard Locations (5) Section 153 Program for the Elimination of Roadside Obstacles FHWA Administered: (1) Section 402 Highway Safety Programs (2) Section 403 Highway Safety Research and Development FRA State Participation Safety Program
Purposes:	Existing purposes, expanded to include (1) some of the more effective measures identified in the National Highway Safety Needs Report and (2) the State enforcement activities for the BMCS hazardous materials regulations.
Delivery System:	Formula allocation to the State for use on a statewide basis.
Federal Share:	70 percent
Recipient:	A statewide agency, designated by the Governor as responsible for planning and programming the transportation safety block grants, would submit a multi-year plan and annual program for DOT approval as a condition for use of the safety block grants.

C. Motor Vehicle Program

The motor vehicle program would include NHTSA's fuel efficiency, cost information and vehicle safety regulatory programs, driver safety programs (ASAP, 55 mph speed limit) and FHWA's Bureau of Motor Carrier Safety vehicle and driver safety responsibilities. The motor vehicle program would also have responsibility for the grant-in-aid program currently

administered by NHTSA under the Highway Safety Act. This program, which incorporates traffic safety elements affecting the driver and the vehicle, affects the motor vehicle industry only indirectly, but its close relationship to vehicle safety regulatory activities makes the two programs inseparable. The other highway safety assistance programs under the Highway Safety Act having to do with highway design, construction and operations would be part of the local transportation programs.

D. Other Financial Assistance Programs

The Coast Guard would continue to manage the Boating Safety program for small boating through grants-in-aid to the States.

III. Financing

A. The Concepts of a Unified Transportation Account and Trust Funds

The financial assistance programs and the operations and capital expenditures of the transportation components of the Federal government, including the three economic regulatory agencies and the NTSB, currently cost approximately $20 billion annually (FY 1977 obligations). In addition, new commitments for loan guarantees total approximately $1.7 billion. Table 1 shows the breakdown of these expenditures and commitments according to the existing structure of Departments and other agencies. It also shows each component's budget for Federal assistance, for operation and capital costs, and for new loan guarantees.

The various accounts should be included for budgetary purposes in a unified transportation account, without regard to source or application of funds. Authorization and appropriation requests to Congress should be made by the appropriate agency, e.g., DOT, Corps of Engineers, ICC, and the funds appropriated to that agency, but only after all such authorization and appropriation requests have been considered in the context of the total transportation function.

Under present practice, after the budgets of the various Departments and agencies have been determined, the transportation programs are in fact collected and shown in the budget sent to Congress as part of a "function" which also includes "commerce." See the Budget of the United States Government FY 1978, pp. 395-96. This treatment, however, is purely a presentation after-the-fact, and is not used in reaching decisions for individual agencies or programs. The Budget Committees of Congress, on the other hand, do

TABLE I
FY 1977 OBLIGATIONS FOR TRANSPORTATION
(In Millions of Dollars)

Program Included	Federal Assistance: Funding	Federal Assistance: Operations & Capital	New Loan Guarantees	Totals
DOT				
USCG - Boating Safety	$ 6.6	$1,350.1	$ -	$ 1,356.7
FAA - Airport Grants-in-Aid	521.3	2,067.6	10.0	2,598.9
FHWA - All except general expense & Motor Carrier Safety	7,852.8	162.5	-	8,015.3
NHTSA - Highway Safety Grants	129.0	89.7	-	218.7
FRA - Rail Safety Grants, Rail Service Asst. & Rail Rehabilitation/Impr.	166.0	292.7	727.1 1/	1,185.8
UMTA - All except Admin. Exp.	2,980.7	18.3		2,999.0
SLSDC - None	-	6.7	-	6.7
MTB - Pipeline Safety Grants	2.3	5.5	-	7.8
OST - None	-	65.1	-	65.1
SUBTOTAL FOR DOT	$11,658.7	$4,058.2	$ 737.1	$16,454.0
OTHER DEPTS. AND AGENCIES				
AMTRAK - All	$ 749.6	$ -	$ -	$ 749.6
WMATA - All	116.2	-	-	116.2
USRA - All except Admin. Exp.	897.7	13.3	-	911.0
Corps of Engineers - None	-	870.0 2/	-	870.0
MARAD - Ship Construction & Operating Differential Subsidies	508.2	77.6	986.0	1,571.8
CAB - Local Service Air Carrier Subsidies	76.8	22.4	-	99.2
ICC - None	-	61.8	-	61.8
FMC - None	-	8.6	-	8.6
NTSB - None	-	13.8	-	13.8
Panama Canal - None	-	297.4 3/	-	297.4
NASA - None	-	408.7 4/	-	408.7
TOTAL	$14,007.2	$5,831.8	$1,723.1	$21,562.1

1/ Includes USRA and Rail Rehabilitation loans of approximately $520M.
2/ Navigation portion.
3/ Corporation account -- Direct O/M and capital costs only.
4/ Aeronautical research and technology portion only.

aggregate programs by function in developing their concurrent resolutions.

To implement our recommendation for a unified transportation account, both the Executive Branch and the Congress should separate the commerce and transportation functions, add to the transportation function some of the activities not now included in that account (e.g., the ports and waterways portion of the Corps of Engineers), and make budgetary decisions with all transportation activities in mind.

The unified transportation account is desirable because it would highlight the budgetary trade-offs that must be made among the various Federal transportation activities. The expenditures on some programs are restrained by the requirement for matching funds, but where matching funds are not an appropriate device for budgetary constraint (e.g., Amtrak or the operations and maintenance of the inland waterways), demonstrating to the Congress and the public the relative cost of such programs in comparison with other Federal transportation programs and activities is one of the few ways of controlling the level of expenditures. Although obviously there can also be trade-offs between the transportation and other accounts, and the amount allocated to any one transportation activity increased or decreased without regard to other subaccounts, in looking first at the total Federal budget and then at the transportation account, the Executive Branch and the Congress should be in a better position to make intelligent - and acceptable - allocations of funds available for transportation. In this connection it would be important, however, also to highlight those

portions of the transportation account which are funded by user charges to a trust fund and those which are financed from the general fund.

The concept of a unified transportation account in the budget is distinct from the concept of a unified transportation trust fund. There are presently two types of revenues available to transportation agencies: user charges and the general fund. User charges for highways and aviation are collected in discrete trust funds and each year Congress determines the appropriate level for new obligations and outlays from the trust fund for the dedicated purposes.

Many people believe that it would be desirable to have a unified transportation trust fund. A single transportation trust fund could be established by dedication to transportation uses certain Federal revenues in addition to those already collected by existing user charges or those that might be collected by additional user charges. Congress could then determine, on a periodic basis, the amount of trust fund receipts that should be expended in a particular year.

From a transportation sector point of view, a unified transportation trust fund would have the advantage of assuring adequate funding for the transportation assistance programs and operations and capital expenditures, assuming of course that the sources of trust funds were adequate. This is an important advantage to the transportation sector, which will face increasingly intense competition for limited Federal funds from other national priorities such as defense, welfare and education. From the view of management of the overall Federal budget, however, it would have

the disadvantage of making certain Federal revenues not available for other purposes, and to a certain degree, tying the hands of the Executive Branch and the Congress. And to the extent the trust fund revenues exceed desirable program levels, the pressure for increased program levels would be more difficult to resist.

It is not necessary, of course, to dedicate user charges or other revenues to a trust fund. But whether or not a unified transportation trust fund is established, or the existing trust funds continued or consolidated or eliminated, it is imperative that at least the Federal aid programs in the transportation account be authorized and funded in a way that provides advance appropriations or other authority to make advance funding commitments to the dispensing agency. Large Federal aid projects such as highways, major rail transit systems and major airport improvements can be achieved only over a period of several years, and the government agency must be in a position to permit the recipient of such aid to embark upon such programs with the assurance that Federal funding will be forthcoming.

Under the Congressional Budget and Impoundment Control Act of 1974, multi-year authority can only be obtained when there is a user tax financed trust fund. Congress can also make multi-year appropriations. For major construction projects supported by the Department, one of these devices must be employed.

Indeed it would be desirable to amend the existing funding mechanisms with respect to transit and airports to permit local authorities to borrow needed capital in the private sector, with the loans secured by the assurance that an apportionment of Federal funds will be available in future years to liquidate the high front-end cost of many such projects.

Such loan guarantee authority would also be helpful in stimulating use of "value capture" techniques at the local level, wherein some of the real estate value increases created by transportation infrastructure can be recaptured to help pay for the capital or operating costs of the project. To implement this would require assuring prompt appropriations in the event of default.

The desirability of a unified transportation trust fund will be discussed below in connection with other financing options. But whether or not a unified transportation trust fund is established to cover all Federal assistance programs, with or without operations and capital expenditures, it would be desirable (1) to establish a single transportation account in the budget and (2) to consolidate in a single fund the existing mode-discrete user charges, apply those funds to transportation assistance programs without cross subsidy between modes, and then address separately the question of how to finance the balance of the transportation account.

B. User Charge Strategy

Whenever possible the costs of Federal financial assistance and other support for transportation should be recovered by user charges, except where the public interest justifies or dictates a subsidy. In addition to providing the requisite revenue, this policy has the advantage of treating competing modes of transportation equally.

At present there are two transportation user taxes: (1) aviation (principally the 8 percent tax on domestic air carrier tickets) and (2) gasoline taxes and other highway user charges. User charges currently

cover 95 percent of the highway and all of the ADAP program expenditures, although several operating elements of the FAA program have a significant user charge deficit. Highway user charges also cover 70 percent of the NHTSA safety assistance programs. With respect to the waterways, the Administration has recommended both fuel taxes and segment tolls on commercial operators to cover 50 percent of the operating and maintenance expenses (10 percent per year for five years) and 50 percent of new capital projects. There would and should not be any attempt to recover past costs.

In order to finance components of the transportation assistance programs, to the extent appropriate, from transportation-related user charges, the existing highway and aviation user charges should be retained, the aviation user charge should be applied to cover the operation and maintenance of that portion of the air traffic control system which is used by commercial and general aviation, and user charges should be recovered for the current Federal costs of the waterways.

C. Additional Sources of Funding

Because user charges exist in the air and highway modes (including highway safety) and are proposed in the waterway area, among the assistance programs only transit, railroad assistance and safety and pipeline safety programs lack proposed user charge funding sources. There is also, however, the problem of how to finance the operations and capital projects of the Federal transportation establishment. In FY 1977, after applying existing and proposed user charges to the assistance programs in the mode generating the charge ($8.5 billion),

the shortfall is $5.5 billion for the Federal assistance programs and an additional $6 billion for operations and capital, for a total of $11.5 billion. Excluding USRA's investment in ConRail securities and MARAD subsidies from the assistance programs, and NASA aeronautical R&D, the Panama Canal and the economic regulatory agencies operational expenses from the account, the corresponding figures would be as follows: shortfall on assistance, $4.5 billion; Federal operations and capital, $4.9 billion; total $9.4 billion. See Table 1.

1. General Fund

At present the balance of transportation funding comes from the general fund. Continued reliance on the general fund is, of course, one of the options.

2. Petroleum Tax

As an alternative, consideration has been given to imposing a tax on all transportation-related petroleum use to cover the remaining shortfall for the rail, transit and pipeline modes and the unfinanced share of the waterway program. One approach would be to tax all petroleum products (query whether a corresponding tax should not be imposed on natural gas to be consistent with a policy of deregulating fossil fuels equally) and to rebate the full amount of the tax derived from non-transportation uses of petroleum. As shown on Table 2, a 4 cents per gallon ($1.68 per barrel) tax on petroleum used for transportation would generate $5.3 billion, sufficient revenue to balance estimated current assistance program obligations (ex ConRail and MARAD) and the

Table 2

ESTIMATED REVENUES RAISED WITH TAX ON FULL BARREL OF PETROLEUM

		TRANSPORTATION REVENUE (1)		NON TRANSPORTATION REVENUE (2)	
PER GALLON CHARGE ($)	PER BARREL CHARGE ($)	PER BARREL ($)	TOTAL BARRELS ($)	PER BARREL ($)	TOTAL BARRELS ($)
$ .01	$ .42	$ .21	$ 1.3 billion	$ .21	$ 1.3 billion
.02	.84	.43	2.6 billion	.41	2.5 billion
.03	1.26	.64	3.9 billion	.62	3.8 billion
.04	1.68	.86	5.3 billion	.82	5.0 billion
.05	2.10	1.07	6.5 billion	1.03	6.3 billion
.06	2.52	1.28	7.8 billion	1.24	7.6 billion
.07	2.94	1.50	9.2 billion	1.44	8.8 billion
.08	3.36	1.71	10.6 billion	1.65	10.1 billion
.09	3.78	1.93	11.8 billion	1.85	11.3 billion
.10	4.20	2.14	13.1 billion	2.06	12.6 billion

(1) Assumes all transportation modes are taxed

(2) Non transportation revenue to be incorporated in General Fund or returned to taxpayer

Corps of Engineers. The remaining $5.0 billion collected from such a tax on all petroleum could be returned to the taxpayers or spent on some other Federal program (e.g., energy research and development). Table 3 shows the amount which petroleum taxes from 1 cent to 10 cents per gallon would raise in the aggregate and the impact on the various modes for each per gallon charge. Table 4 shows how a 4 cents per gallon ($1.68 per barrel) tax would impact the various transportation sectors and relate to existing and proposed user charges and program levels.

As a variant of this alternative, a petroleum tax could be imposed sufficient to fund the entire Federal transportation account not funded by existing or proposed user charges. A tax of 9 cents per gallon would cover the balance. Similarly a tax of 7 cents per gallon could be imposed to cover the shortfall after user charges, excluding ConRail, MARAD, NASA aeronautics, the Panama Canal and the independent regulatory agencies.

A petroleum tax would aid in energy conservation to the extent there is elasticity in the demand for petroleum products. It would also give a slight competitive advantage to the more energy-efficient modes of transportation, another energy policy plus. A petroleum tax would also be relatively easy and inexpensive to collect. It would not be feasible, however, to impose a tax on only the petroleum refined for transportation purposes; certain diesel fuel and home heating oil, if not interchangeable, are at least close enough to create unwanted opportunities for tax evasion.

Table 3

ESTIMATED REVENUE RAISED WITH TAX ON TRANSPORTATION FUEL USAGE BY MODE:

PER GALLON CHARGE	REVENUE RAISED BY MODE ($ BILLION)					($ BILLION)
($)	HIGHWAY	RAILROAD	WATER	AVIATION	TRANSIT	TOTAL
$ .01	$ 1.105	$ .042	$ .054	$ .115	$ .003	$ 1.3
.02	2.210	.084	.108	.230	.006	2.6
.03	3.315	.126	.162	.345	.009	3.9
.04	4.420	.168	.216	.460	.012	5.3
.05	5.525	.210	.270	.575	.015	6.5
.06	6.630	.252	.324	.690	.018	7.8
.07	7.735	.294	.378	.805	.021	9.2
.08	8.840	.336	.432	.920	.024	10.6
.09	9.945	.378	.486	1.035	.027	11.8
.10	11.050	.420	.540	1.150	.030	13.1

Above based on Estimated 1975 Annual Petroleum Use by Mode:

	Gallons (billion)	Percent
Highway	110.5	83.8%
Railroad	4.2	3.2
Water	5.4	4.1
Aviation	11.5	8.7
Transit	0.3	0.2
Total	131.9	100.0%

Table 4

ESTIMATED REVENUE AND OBLIGATIONS OF

THE UNIFIED TRANSPORTATION PROGRAM

(Billions of Dollars)

Mode	Estimated 1975 Annual Petroleum Use (Billions of Gallons)	Revenue from Additional 4¢/gal. Petroleum Tax	Current User Charge Revenues	Estimated Total Revenues	Estimated FY 77 Program Obligation
Air (ADAP Only)	11.5	$ .46	$0.5[1/]	$ 0.96	$ 0.5
Highway FHWA and NHTSA	110.5	4.42	8.0[1/]	12.42	8.4
Transit	0.3	.01		.01	3.0
Rail	4.2	.17		.17	1.2[2/]
Water	5.4	.22	.07[3/]	.29	0.7
TOTAL	131.9	$5.28	$8.57	$13.85	$13.8

[1/] User charges are adjusted to equal the obligation level to indicate that the programs could be fully funded from current user charges.

[2/] FRA Program Obligations:

Amtrak	$600 million
Northeast Corridor	180 million
Rail Safety	4 million
Other	400 million

[3/] Based upon a 10 percent recovery of operating, maintenance, rehabilitation and new construction costs.

There are, however, a number of problems associated with this approach, such as (1) the equity involved in the sources and uses of funds, (2) the administrative problems associated with rebating the petroleum tax for non-transportation uses, (3) international oil pricing and foreign policy considerations and (4) the questionability of funding Amtrak from a transportation trust fund (assuming the tax proceeds were dedicated to a trust fund).

With respect to the equity issue, as indicated in Table 4 92.5 percent of the revenues from an additional 4 cents per gallon tax on the petroleum used for transportation would be derived from the highway (83.8 percent) and aviation (8.7 percent) modes. Yet the existing user charges associated with these modes fully pay for their Federal assistance programs. Thus we would be imposing a tax on the air and highway modes to pay for part of the transit, rail and water programs. Although there is a rationale and existing precedent for funding transit programs from a motor vehicle fuel tax, there is less justification for the other cross-subsidies. The rationale for funding transit from motor fuel taxes is that transit is an alternative or supplement to urban highway capital investments. Investments in transit do benefit highway users by reducing the number of automobile trips, related congestion, and additional requirements for highway capacity. This rationale is reflected in the present Urban System Program, which permits application of highway authorizations to fund transit capital investments. (In contrast Interstate highway projects

are financed from a trust fund, but Interstate highway substitute transit or road projects are financed from the general fund.) It is also generally acknowledged (but difficult to quantify) that investments in transit may reduce a number of social costs commonly associated with highway congestion such as air pollution, accidents and energy consumption.

A review of the impact of the fuel tax on rail transportation also raises some serious equity problems. First, with the exception of the rail safety grant program (operating at an annual level of about $4 million), the rail programs which result in direct budget outlays are associated primarily with passenger service, i.e., Amtrak and Northeast Corridor improvements (see footnote 2/ of Table 4), whereas the increased cost of diesel fuel would be borne largely by freight railroads and only a small part of that passed on to Amtrak for operating its trains.*

Related to the equity issue is the problem associated with imposing a tax on an industry which is already in severe financial difficulty. As indicated in Table 4, the 4 cents petroleum tax would cost the railroads about $170 million annually. Because of the railroads' weak financial condition and the limited Federal aid provided, any tax proposal will be strongly opposed. Moreover, the use of the proceeds would benefit individual railroads and their stockholders unevenly.

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*Amtrak purchases diesel fuel directly and reimburses railroads when they refuel an Amtrak locomotive.

Secondly, the rebating, directly or indirectly, of the tax to all non-transportation users would require additional changes in the tax laws and relatively involved administrative arrangements. In addition the collection of the petroleum tax on water users would be complicated by the necessity to ensure that ship operators in foreign trade do not evade the tax by bunkering at foreign ports and that U.S. flag ship operators not be disadvantaged by the tax in competition with foreign operators. These considerations would probably require that a tax equivalent to the petroleum tax be collected by some other means for the international component, thereby adding again to the complexity of this approach.

Imposition of a petroleum tax of any magnitude would also have other energy policy and foreign policy implications. At a time when we are resisting an OPEC oil price increase, to increase the cost of petroleum products, even if limited to the transportation sector, would serve to undermine the argument that oil prices are already too high.

Finally, it is envisioned that the revenues from the existing user charges and the additional petroleum tax would be earmarked for funding the unified transportation account, with or without a trust fund as such, and appropriations made from that account for the various programs. General funds appropriated for transportation programs could also be administered through the trust fund.

This leads to a question of how best to treat, and if desirable to provide a mechanism for constraint on, Amtrak expenditures. On the

one hand, there is an advantage to having Amtrak compete directly with other transportation programs for the funds available in the trust fund or account. Funds allocated to Amtrak would not be available to -- conceptually would even be regarded as being taken away from -- other interstate program recipients and even from urban or local recipients. This would be the result if Amtrak did not receive a separate appropriation from the general fund, but paid more for its fuel through the additional petroleum tax and relied on trust funds for financing. It must be remembered, however, that a 4 cent or even a 9 cent per gallon tax on petroleum consumed by or for Amtrak (either purchased directly or indirectly or used to generate its electricity) would be a drop in the well; in FY '77 Amtrak budgeted $22 million for diesel fuel and $10 million for electricity, while the operating deficit is 15 times the total energy bill.

On the other hand, to the extent that contribution of user charges to the trust fund might be viewed as vesting in Amtrak an entitlement to existing levels of financial assistance, it might be preferable to avoid any such implication of entitlement until such time as a more efficient rail passenger system and more effective institutional arrangements have been developed. This would be the case if Amtrak did not contribute user charges to the trust fund but instead received an appropriation from general funds. There is, moreover, the possibility that the highlighting involved in a separate appropriation from the general fund would provide more control

over rail passenger subsidies than would be the case if Amtrak were contending for a greater or lesser share of commingled user charge funds. The counter argument, of course, is that highlighting Amtrak's operating deficits and capital expenditures has not had much effect to date.

3. Increased Motor Vehicle Fuel Taxes

Another alternative source of funding would be an increase in the current fuel taxes for motor vehicles. Assuming a continued exemption for urban transit vehicles, an increase in the motor vehicle tax (gasoline and diesel) of 4 cents per gallon would provide an additional $4.4 billion, which is sufficient to fund fully the highway and transit programs. The revenues from existing user charges together with the additional motor vehicle fuel tax could still be deposited in a transportation trust fund and modal assistance appropriations made from that fund, with the exception of those related to rail passenger service. Under this alternative the rail passenger programs, together with any interim deficit associated with the Corps' waterway programs, would be funded from general revenues. Coast Guard and the FAA (other than ADAP) would continue to be funded from general fund appropriations, albeit under the unified transportation account.

A 4 cent increase in the motor vehicle fuel tax would have three principal effects -- on the demand for transportation-related goods and services, on the economy as a whole, and on income distribution.

The likely change in the demand for goods and services as a result of a fuel tax can be estimated best by reference to "price elasticity of demand," the percent change in the quantity purchased which would be expected from a given percent change in price. The estimates of the price elasticity of the demand for gasoline vary widely, from -.06 to -.43 in the short run and -.07 to -.92 for the long run. FEA is currently using estimates of -.21 for the short run and -.76 for the long run. Because more data is available on the short range elasticity, most of the uncertainty is associated with the long range estimate. The long-term elasticity could easily be below -.5.

Assuming an average price of 60 cents per gallon, an increase in taxes amounting to 4 cents per gallon would change the price by about 7 percent. Assuming a short-term price elasticity for gasoline of about -.21, such a tax would reduce demand by about 1.4 percent (i.e., 34 million barrels annually). Similarly, assuming a long-run price elasticity of -.76, the 7 percent price increase due to the tax would reduce demand by 5.3 percent. Thus the energy conservation effects of this small price increase would be more significant over a long time period than immediately.

Price elasticities for diesel fuels are lower than those for gasoline, ranging from -.01 to -.09 for the short run and -.01 to -.49 for the long run. Taking the mid-point of these ranges and an average price of 50 cents per gallon, the reduction in demand for motor vehicle diesel fuel in the short run would be .4 percent (i.e., one million barrels annually) and about 2 percent in the long run.

Because the demand for motor vehicle fuels is relatively inelastic, price increases would mean that more money will be spent for such fuels because the drop in demand is not sufficiently large to overcome the price increase. In this case, because of the relatively small price increase, the inflationary impact should not be serious. From the viewpoint of fiscal policy, the critical aspect of this proposal is that no new programs are being proposed; we would merely be substituting one source of revenues (motor vehicle fuel tax) for another (general fund revenues). This should not have any net fiscal effect on the economy.

Any tax proposal should also be evaluated in terms of how the tax burden would be distributed among the various income groups. Since in general auto use makes up a decreasing share of expenditures as income increases, a constant tax levied on gasoline will fall disproportionately on lower income people. Thus a gasoline tax is regressive. The regressiveness could be mitigated, however, by taxing gasoline usage only above a specific threshold, e.g., by allowing a deduction for the tax paid on the first 1,000 gallons, but it would then be necessary to impose a higher tax to obtain the same net receipts from the tax and to avoid lessening the energy conservation benefits.

D. Recommendations for Financing

A petroleum tax would have energy conservation benefits. In the selection and use of automobiles, including driving habits, people would be more fuel conservation conscious, and this could have a

substantial energy benefit since motor vehicle fuel presently accounts for more than half of the petroleum consumed in the United States. A petroleum tax would also have the advantage of making the more fuel-efficient modes of transportation relatively more attractive from a cost standpoint.

A tax on petroleum, however, has implications far beyond the realm of transportation. Although such a tax should be considered in the context of a total energy policy, we do not recommend that it be adopted solely because of the need to find a source of revenue for government transportation activities. There is a logical nexus between a petroleum tax and transportation activities but, as we have pointed out above, such a tax would result in substantial cross-subsidization by the highway user of all other forms of transportation. That would be true even if the existing user charges were eliminated and the per gallon petroleum tax established at a level adequate to fund the government's transportation assistance programs, or increased also to cover the government's other transportation activities.

An increase in the motor vehicle fuel tax to cover the cost of government assistance programs and activities other than highways and highway safety would have a similar effect. Such a tax would have a more significant impact on energy conservation because it would be aimed at the most price-elastic large use of petroleum, the private motor vehicle. It would also be preferable in several respects to the petroleum tax because it would not have many of the side effects

of a tax on crude petroleum (reimbursement mechanism, impact on home heating, etc.). But in addition to cross-subsidization, it also has the disadvantage of being a regressive tax even if exemptions or deductions are permitted.

Accordingly we recommend that the transportation account continue to be financed from user charges and the general fund, as follows:

User charges adequate to cover highway and highway safety expenditures should continue to be imposed through the existing taxes associated with motor vehicle use. Revenues sufficient to cover Federal highway and related safety programs should be retained for those purposes, but it would also be desirable to continue consideration of a tax turn back in lieu of the block grant programs.

Aviation user charges should be continued in an amount sufficient to finance Federal airport assistance programs and that percentage of the total cost of operating the air traffic system properly attributable to private and commercial aviation.

Waterway user charges should be imposed gradually, but eventually to cover the costs of both the Corps of Engineers' inland waterway and port capital, operation and maintenance expenses plus the expenses of the Coast Guard for operation and maintenance expenses and capital improvements relating to the inland waterways. Initially this should be recovered from commercial users of the waterways and ports.

Although it is not here recommended that there be any cross-subsidization between the various modes of transportation (except to

the extent to which highway revenues can be used for mass transit purposes), these user charges should be collected in a single trust fund. It is desirable to retain the trust fund concept in order to provide long term financing authority.

The balance of funds necessary to finance the unified transportation account should come from the general fund. In this manner the budget discipline of the entire Federal budget will be brought to bear on decisions that involve the Federal Government, in particular transportation assistance programs, capital improvements and operations. The possibility of there being trust fund revenues in excess of the amounts required for transportation will be avoided, except to the extent that the modal user charges generate revenues in excess of the amounts authorized for expenditure in the corresponding assistance program. That should eliminate a point of pressure for unnecessary spending, or for establishing criteria of need different from the criteria applicable to the other controllable elements of the Federal budget. Conversely it does not place any ceiling on the funds that would be available for transportation. Notwithstanding the strong competition transportation interests will meet from other national interests, we believe it is more consistent with good government not to establish a unified transportation trust fund.

IV. ORGANIZATION IMPLICATIONS

A. Reorganization of DOT

The proposed program realignments would necessitate reorganization of DOT more along functional rather than modal lines.

1. Interstate Transportation Administration

To handle the interstate programs, this Administration would consist of FHWA staff for the Interstate System, the Federal Railroad Administration except for the local subsidy program, FAA staff responsible for that portion of the airport grant program related to development of medium and large hub airports (except matters dealing with layout and safety), and the Office of Pipeline Safety Operations. The Interstate Transportation Administration would have separate sections or offices for the highway, rail, airport, pipeline and waterway programs.

If the energy activities of the Federal government are collected in a new executive department, there may be an effort to assign the Office of Pipeline Safety Operations and the Office of Deepwater Ports to that department. It would be preferable, however, to retain pipeline safety in DOT along with the other interstate transportation safety activities to provide an independent check on pipeline safety, and it would be desirable to keep the deepwater ports function in DOT because of the operational involvement of the Coast Guard and the deepwater ports' relationship with pipelines.

2. Local Transportation Administration

This Administration would incorporate the functions and programs now being carried out by UMTA, FHWA (except the non-urban Interstate System

portion), the FRA branch line subsidy program element, and that portion of the FAA airport grant program devoted to service for small urban and rural areas. The Local Transportation Administration would have separate sections or offices for urban programs (for urbanized areas with populations of 50,000 or more) and for the programs directed toward rural and small urban areas.

3. Motor Vehicle Administration

Over the past ten years, the motor vehicle has been the target of a diverse and complex set of Federal policies. It it regulated by NHTSA with respect to safety, fuel economy, and consumer protection purposes, and by EPA with respect to noise and emissions. Research that bears on its future is carried on by ERDA, as well as by NHTSA and EPA.

These diverse policies have effects on each other which must be taken into account if we are to have a coherent approach to the motor vehicle and the industry that produces it. Although there are other relationships that must be considered, such as the effect of the motor vehicle on the national energy supply, these relationships should be considered in the context of an overall motor vehicle policy. To assure that the trade-off relationships between the various regulatory and research goals are considered, Federal motor vehicle activities should therefore be consolidated.

The new Motor Vehicle Administration would consist of both regulatory and research programs. The regulatory components would be drawn from NHTSA (safety, fuel economy, consumer protection) and EPA (noise, emissions). To assure the Administration the broad R&D expertise it

needs to underpin its regulatory program, it would also be assigned the motor vehicle R&D authority of ERDA.

Increased national concern with energy problems and the growing emphasis on energy programs might be argued as warranting inclusion of fuel efficient engine research in a new Department of Energy. Conservation of energy through use of more fuel efficient automobiles will indeed be an important element of the total energy program. But several other fuel conservation programs such as carpooling and 55 mph clearly should remain with DOT because they relate primarily to the driver, and it would appear that the interrelationship between fuel efficiency, safety, economy of operation and environmental acceptability dictate that all those problems be addressed by a single agency. DOT (NHTSA) has the background in safety regulation and in developing the cost information and fuel efficiency regulation aspects of the total problem. The research necessary to support that fuel efficiency regulation should be colocated with the regulatory activity. The efforts of a Department of Energy should be concentrated on the development of existing and alternative sources of energy. The fuel efficiency regulation and research work would be more likely to receive priority attention if it were colocated within an agency dedicated to the motor vehicle which can weight the environment and safety penalties of fuel efficiency.

The Administration would also include the Bureau of Motor Carrier Safety and other driver related programs (55 mph, alcohol), including NHTSA's existing 402 and 403 assistance programs and its motor vehicle inspection and school bus driver training programs.

4. Other Operating Administrations

The Federal Aviation Administration would continue to be responsible for planning, operational and safety aspects of the airport and airway system, and safety regulation of airmen and aircraft. The Bureau of National Capital Airports (National and Dulles) would remain in the FAA. Only the airport grant program would be affected by the proposed program changes.

The U.S. Coast Guard and the Saint Lawrence Seaway Development Corporation would remain unchanged.

5. Office of the Secretary of Transportation

In addition to the Secretary and the Deputy Secretary, the Office of the Secretary (OST) would continue to include the following:

- Deputy Under Secretary
- The General Counsel
- Assistant Secretary for Policy, Plans and International Affairs (TPI)
- Assistant Secretary for Environment, Safety and Consumer Affairs (TES)
- Assistant Secretary for Administration (TAD)
- Assistant Secretary for Systems Development and Technology (TST)
- Assistant Secretary for Congressional and Intergovernmental Affairs (TCI)
- Director of Civil Rights
- Director of Public Affairs

Even though the operating side of the Department will have been reorganized to address intermodal problems, it is still important that the Secretary and Deputy Secretary have expert policy advice and a program oversight capability. The policy advice and oversight functions can best be performed by individuals who can give a Secretary objective advice on specific functions, advice that is not affected by vested interest.

If they have any predisposition it should be to bring about improvements in the system and analysis of its problems, purposes and efficiency, a role which too often has a lower priority in operating administrations charged with program execution. In order to do that in a credible fashion, the individual must have some explicit authority over a certain area or areas and an appropriate staff of experts.

In addition there are many functions performed by the present staff that are not directly related to the mission of any single operating administration (e.g., international aviation policy and implementation). Expertise and advocacy of regulatory reform of the air and motor carrier industries would not fit into any of the proposed operating administrations.

It is also important that the senior OST staff continue to be "Assistant Secretaries" for several reasons. Assistant Secretary is an established Executive Branch position and its rank and type of mission are generally understood within government. In dealing with other government agencies, as Assistant Secretaries do all the time, it is important to retain that identity and prestige. The same is true in dealing with the Congress, and to a lesser degree in dealing with officials of foreign governments. "Assistant to the Secretary" or some such title does not have the same connotation of senior staff responsibility, even though it may be known to some that the individual can speak for the Secretary. Secondly, the authority and prestige of a Presidential appointment confirmed by the Senate are important attractions for individuals considering undertaking the burdens as well as the challenges of joining government. A position of lesser perceived stature is not as likely to attract the same top talent from the universities or other private sector activities. And the pay would be less. And thirdly, the position of an Assistant

Secretary is more likely to carry weight within the internal structure of the operating administrations, particularly if the Assistant Secretary has her or his own staff capability.

One organization change in OST would be desirable. The principal role of the Secretarial Representatives has been to coordinate in the field the role of DOT and other government agencies, to coordinate the activities of DOT's operating administrations, and to provide the Secretary a point of contact for State and local governments. Although the intra-DOT coordination role would be superceded in part by reorganization of the surface transportation administrations, the Coast Guard and the FAA would not be included in that reorganization, thus requiring at least some coordination in the field. The other needs would remain. To take maximum advantage of the opportunities to assist State and local governments and to enhance the Department's intergovernmental capability, however, it would be preferable to reassign the Secretarial Representatives to the Assistant Secretary for Congressional and Intergovernmental Affairs for administrative purposes. There may come a time when the positions would be eliminated and the field representation and coordination role performed by the senior Interstate Transportation Administration official in the region. Until that new Administration gets squared away, however, it would be better to retain the Sec Reps and not burden the new regional director with additional duties.

The Office of Deepwater Ports should be retained as a separate office in the Office of the Secretary until such time as it has completed promulgation of the rules and regulations for the construction and

operation of deepwater ports. This is estimated to be approximately six months. When that task is finished, it would be appropriate to assign the policy role for deepwater ports to TPI and the operational role either to the Interstate Transportation Administration or the Coast Guard (or a new Maritime Administration if MARAD is relocated in DOT or the Department's waterways role is otherwise enhanced).

B. Alternate Reorganizations Considered

During the development of these program and organization recommendations, optional means of dealing with safety and R & D functions were considered. Both of these functions are fundamental to the transportation mission and can be integrated into the other administrations or considered as entirely separate, cross-cutting missions. Thus, a variation of the organization selected would be to establish an entirely separate Transportation Safety Administration and a Transportation Research and Development Administration. (It could also be possible, of course, to establish one without the other.)

With respect to safety, the additional Administration would include NHTSA and MTB functions, a number of FHWA's safety construction programs, the FHWA's Bureau of Motor Carrier Safety responsibilities, safety programs currently administered jointly by FHWA and NHTSA, and FRA safety responsibilities, including the State participation safety programs. A statewide agency, designated by the Governor as responsible for planning and programming the transportation safety block grants, would submit a multi-year plan and annual program for Departmental approval as a condition for use of the safety block grants.

The primary argument for such an Administration would be that it would highlight the transportation safety function to the extent appropriate

to its importance as a DOT mission. In addition, the organization would probably result in a fundamental adversary relationship between the Safety Administration and the operating Administrations. This could be perceived as necessary and productive.

After careful consideration, however, it was decided for the following reasons that the establishment of this additional organization would not be desirable and, in fact, could be counter-productive. First, safety is so fundamental to the performance of the operating missions of the Department that it should be an integral part of all project planning, review, design and implementation. If separated, the incentive to inculcate a concern for the safety aspects of a project or program into on-going activities would be removed. Secondly, over the long run the safety expertise could become sufficiently remote if separated from project and program implementation as to become out of touch with current needs. In other words, the safety professional must be thoroughly familiar with on-going requirements and, if separated from "hands on" program management, can become insensitive to or unaware of real needs. (This might be particularly troublesome with respect to the ability to respond to any emergency or catastrophic events or problems.) Thirdly, although it is popular and politic to say that safety is priceless and absolute, we know that safety is in fact expensive and must be accomplished in the context of other objectives. It is therefore desirable to have those charged with the total aviation or rail or other transportation mission in a position both to apply safety principles and to make the trade-offs where necessary with full

knowledge of both the safety and the operational consequences. Finally, in the case of safety the adversary role is being adequately performed by the NTSB, which is appropriately removed from any direct Departmental reporting channels.

There is the further institutional problem: Safety is such an integral part of virtually every FAA mission that it would be unthinkable to divorce aviation safety from the FAA. The Coast Guard presents substantially the same problem. Although collecting all surface transportation safety programs and operations in a new Administration might still be feasible, some of the possible benefits of a single safety administration would be lost or diluted and there would still have to be a significant OST role.

Rejection of the concept of a separate safety organization suggests, of course, that an oversight function must be performed in OST in order to (1) set overall Departmental policy, (2) assure timely responsiveness to Secretarial and public concerns, and (3) provide guidance, coordination and expertise in those areas that cut across Administrations, e.g., OSHA, hazardous materials. Such oversight should be performed by an Assistant Secretary with a safety office.

The arguments advanced for and against a separate Transportation Research and Development Administration were similar to those advanced for a Transportation Safety Administration. Those favoring such an Administration argued that it would avoid the problem of splitting the highway and rail research between the Interstate and Local Transportation Administrations and, perhaps more importantly, it would provide a

mechanism for the conduct of some R&D projects that are longer range than the vast majority of existing projects. Other arguments in favor of an R&D Administration included the elimination of the duplication inherent in modally-oriented programs and the advantages of being able to have the best talents work on programs across modal lines. These points are not mutually exclusive. Consider, for example, the number of large-scale traffic control systems now under development in DOT. There are the FAA Air Traffic Control System, the USCG Vessel Traffic System, the FHWA Street and Highway Traffic Control Systems and the FRA Freight Car Management System in addition to various automated transit systems. These similar systems are developed by engineers who are more modal experts than control systems experts. There is not, therefore, any community of interest to assure that advances in one area can overcome the institutional barriers that limit technology transfer. Modally-oriented programs also do not attract some of the best technical people.

The Department, in addition to its research, development and demonstration (RD&D) functions at headquarters, also has seven research, development, test and evaluation facilities (RDT&E) throughout the country. Much of the overlap that occurs in the current modal R&D functions is reflected in the programs conducted in the RDT&E facilities. These facilities would have been a part of the R&D Administration and restructured, where practical, to be centers of expertise in specific multimodal functions. It was thought, however, that certain aspects of test and evaluation might be kept in the operating Administrations.

The principal and finally compelling argument against the R&D Administration was advanced by those who felt that such an organization could eventually become unresponsive to the Department's needs. It was pointed out by the protagonists that short term work, engineering, some demonstrations and test and evaluation would be kept in the operating Administration to assure proper delivery of R&D results. The possibility of an "ivory tower" organization without any "hands on" experience, especially for the conduct of FAA R&D, however, was considered a strongly negative factor.

Because of the dubious desirability and unlikely prospects of including FAA R&D, some consideration was given to a Surface R&D Administration. Such an organization, however, would not be sufficiently large to justify the establishment of a full administration.

Given the rejection of this concept for the present, the need for an Assistant Secretary for Systems Development and Technology should be emphasized. Without such a high level function, the necessary coordination of Departmental RD&D programs would not be accomplished. In addition, serious consideration should be given to the possibility of increasing the amount of long range R&D done by that Office.

C. Transfer of Other Transportation Activities to DOT

There are some transportation functions currently carried out by other Departments and agencies that should be shifted to DOT in order to achieve better coordination in the Executive Branch of Federal government rail, water and air transportation programs and responsibilities.

Rail

That portion of the car service function of the ICC involving freight car movements should be transferred to DOT for inclusion in the Interstate Transportation Administration along with the other R&D, safety and financial assistance programs currently conducted by the FRA. The present ICC function pertains to the flow of freight cars and should eventually be phased out as the railroad industry's National Freightcar Clearinghouse (sponsored by the FRA) becomes nationwide. The ICC activity is essentially an operational role and is inconsistent with the basic regulatory mission of the ICC. The function would fit best in an Executive Branch agency charged with government oversight of all freight movements.

Water

The Maritime Administration (MARAD) now in the Department of Commerce and the navigation planning, investment analysis and decision to build portions of the Civil Works function of the Army Corps of Engineers should be incorporated in DOT to permit closer coordination of national and international water transportation programs and activities with other transportation functions of the Executive Branch. In addition to integrating the water mode with the national transportation planning and programming functions of DOT, we believe that these changes would promote better investment decisions, improved coordination among modes, and consideration and evaluation of trade-offs among competing modes. An additional advantage of having MARAD activities and Corps planning in DOT would be the opportunity to coordinate maritime activities, including port development, within the same Department. It is further

anticipated that such a consolidation would result in administrative and operational economies.

If waterway user charges are enacted or if the above mentioned Civil Works functions of the Corps of Engineers are transferred to DOT, those activities should be managed in the Interstate Transportation Administration.

The functions of MARAD are sufficiently distinctive to warrant a separate Maritime Administration in DOT.

Whether or not MARAD is reassigned to DOT, the maritime and oceans policy issues with which the Federal government must deal are broader than transportation. They concern the Departments of State, the Treasury, Defense, Justice, Interior, Commerce and Labor, EPA, ERDA, FEA and NSF. The recent rash of oil spills is a timely reminder that marine policy and programatic responsibility requires more effective coordination. Therefore DOT should renew its recommendation that the President establish a National Oceans Council, a cabinet-level committee under the chairmanship of the Vice President, to address such problems and to assign action agencies where desirable.

Air

If the existing local service airline subsidy program were transferred to DOT (and the subsidy program proposed in the Aviation Act of 1977 were adopted), those activities would be managed in the Local Transportation Administration.

With respect to international aviation matters, the role of the CAB in negotiating bilateral agreements and other aviation treaties with foreign governments should be reviewed. Although this has been

an historic function of the CAB, it is difficult to see how, without creating conflicts of interest or getting involved in the Executive Branch's foreign policy role, a regulatory board or one or two of its members can first participate in bilateral policy formulation, then negotiate a treaty and then have the whole Board pass on route and rate applications by foreign and domestic carriers which are covered by the policy, the negotiations or the agreement. It would appear more appropriate to shift the international air carrier activities in the CAB's Bureau of International Affairs to DOT in order to facilitate coordination of international aviation policies, programs and regulations, and to promote a stronger U.S. flag carrier system. The activities would be consolidated with the Aviation Policy Office in the Office of the Secretary, which has much the same function in international aviation matters. This would make for a more coordinated and less duplicative approach to bilateral negotiations and other responsibilities DOT shares with the Department of State. The Board's need for staff advice on regulatory matters in the international area could be handled in the same manner as in the domestic area.

Washington, D.C.
January 19, 1977

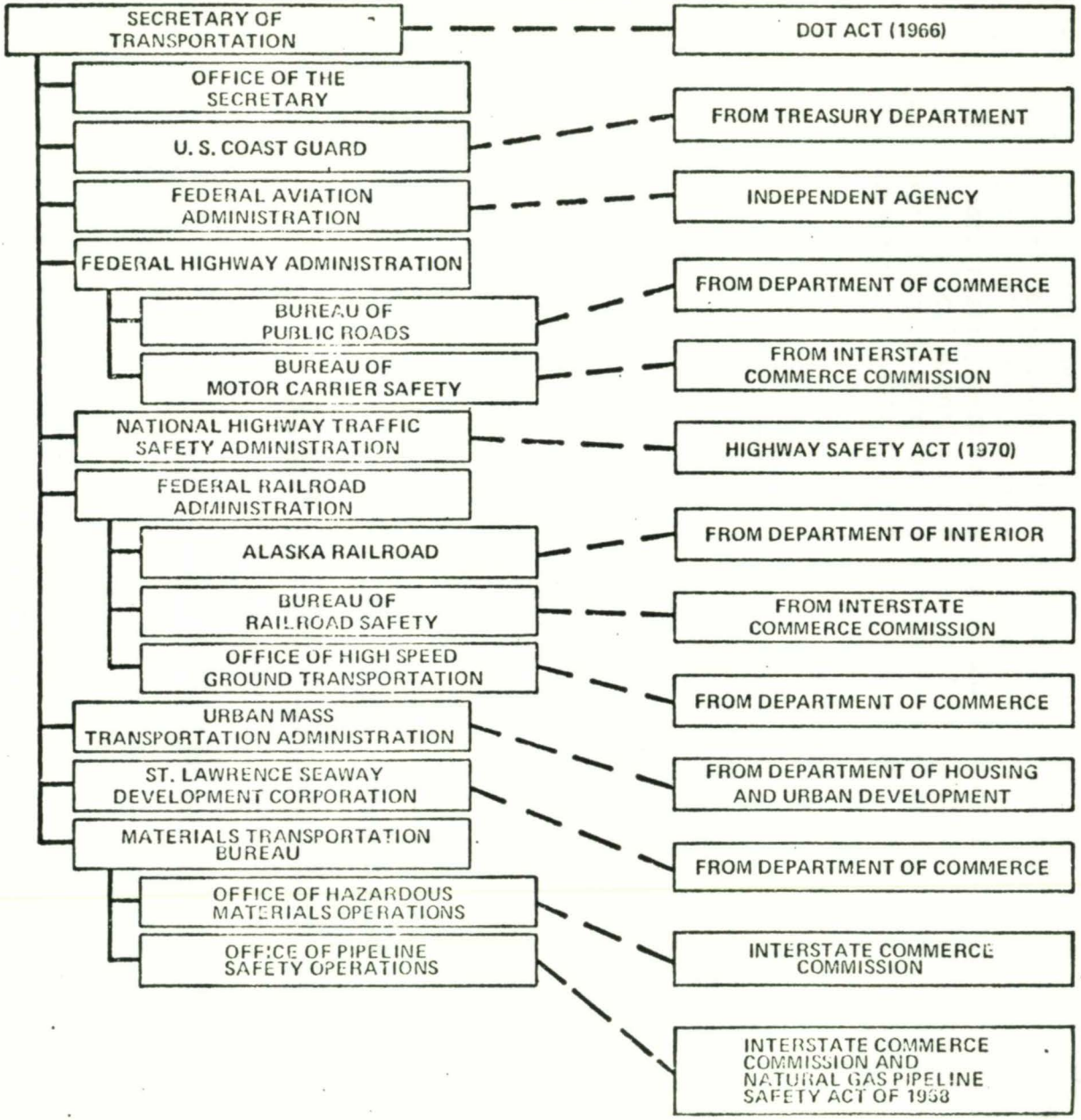
Respectfully submitted,

William T. Coleman, Jr.
Secretary of Transportation

John W. Barnum
Deputy Secretary of Transportation

DEPARTMENT OF TRANSPORTATION

ORIGIN OF MAJOR COMPONENTS



RELATIONSHIPS BETWEEN DOT AND CONGRESSIONAL COMMITTEES

The following describes Senate and House committee jurisdiction over various Department of Transportation programs and activities during the 94th Congress. As for the 95th Congress, a Senate Select Committee has proposed a total reorganization of the Senate's committee jurisdictions. If accepted, transportation responsibilities assigned to Senate Public Works and Senate Banking, Housing and Urban Affairs would be transferred to the Senate Commerce Committee. House Committee jurisdictions are not expected to change.

SENATE

SPECIAL COMMITTEE ON AGING

Transportation for the Aging (OST)

COMMITTEE ON APPROPRIATIONS

Subcommittee on Transportation

DOT appropriations

COMMITTEE ON ARMED SERVICES

Reserve authorization (CG)

COMMITTEE ON BANKING, HOUSING AND URBAN AFFAIRS

Presidential appointments (UMTA)

Subcommittee on Housing and Urban Affairs

UMTA authorizations

COMMITTEE ON BUDGET

DOT budget authority and outlays

COMMITTEE ON COMMERCE

Presidential appointments (OST, FRA, FAA, NHTSA, SLS, and CG flag officers)

Subcommittee on Aviation (FAA)

Air cabin safety
Regulatory reform (OST)
Aviation economics (OST)
Airport and Airway Development Act
Aviation research and development
Noise control
Concorde

Subcommittee on Consumer (NHTSA)

No-fault insurance
Auto repair
Auto theft

Subcommittee on Merchant Marine (CG)

Authorizations (CG)
Boating safety
Saint Lawrence Seaway Development Corporation

Subcommittee on Surface Transportation

Motor carrier reform (OST)
Bureau of Motor Carrier Safety - truck vehicles (FHWA)
Motor vehicle safety authorizations (NHTSA)
Pipeline safety (FRA)
Hazardous materials (MTB)
Railroad safety (FRA)
Motor vehicle safety standards
Daylight savings time

Subcommittee on Science, Technology and Commerce (NHTSA)

Transportation and energy (NHTSA)
Research and development (NHTSA and OST)
Fuel economy standards (NHTSA)
Electric vehicles; automobile research and development (NHTSA and OST)

Subcommittee on Foreign Commerce and Tourism

Travel and tourism (OST)

COMMITTEE ON THE DISTRICT OF COLUMBIA

Washington Metropolitan Area Transit Authority (WMATA) (UMTA)

COMMITTEE ON FINANCE

ADAP trust fund (FAA)
Highway trust fund (FHWA)

COMMITTEE ON FOREIGN RELATIONS

International affairs (OST)

Subcommittee on Oceans and International Environment

International Maritime Consultative Organization (IMCO) (CG)

COMMITTEE ON GOVERNMENT OPERATIONS

Permanent Subcommittee on Investigations

Regulatory reform
Administrative rules and regulations (OST)
Installations and logistics (OST)

Subcommittee on Overisght Procedures

Procurement (OST)

COMMITTEE ON INTERIOR AND INSULAR AFFAIRS

Subcommittee on Environment and Land Resources

Outer Continental Shelf (OST)

Subcommittee on Energy Research and Water Resources

Outer Continental Shelf (OST)
Alaska pipeline (MTB)

COMMITTEE ON THE JUDICIARY

Subcommittee on Internal Security

Transportation security (OST)

Subcommittee on Administrative Practice and Procedure

Regulatory reform (OST)

SELECT COMMITTEE ON SMALL BUSINESS

Subcommittee on Monopoly

Regulatory reform (OST; FHWA; FAA)

COMMITTEE ON PUBLIC WORKS

Presidential appointments (FHWA)

COMMITTEE ON PUBLIC WORKS - continued

Subcommittee on Environmental Pollution

Federal Water Pollution Control Act (CG)
Auto emissions (NHTSA; OST)

Subcommittee on Transportation (FHWA)

Federal-aid Highway Beautification Program
Truck size and weights
Research and development
Highway safety authorizations (NHTSA; FHWA)
Highway authorizations

Subcommittee on Buildings and Grounds

National Aviation Facilities Experimental Center (NAFEC) (FAA)

Subcommittee on Water Resources

Locks and Dam No. 26 (OST)

HOUSE OF REPRESENTATIVES

SELECT COMMITTEE ON AGING

Subcommittee on Federal, State and Community Services

Transportation for the Aging (OST)

COMMITTEE ON APPROPRIATIONS

Subcommittee on Transportation

DOT appropriations

COMMITTEE ON ARMED SERVICES

Reserve authorizations (CG)

COMMITTEE ON THE BUDGET

DOT budget authority and outlays

COMMITTEE ON THE DISTRICT OF COLUMBIA

Washington Metropolitan Area Transit Authority (WMATA) (UMTA)

COMMITTEE ON GOVERNMENT OPERATIONS

Procurement (OST)
Administrative rules and regulations (OST)
Installation and logistics (OST)

Subcommittee on Government Activities and Transportation

Noise (FAA)
Air traffic control (FAA)
Auto theft (NHTSA)

Subcommittee on Commerce, Consumer and Monetary Affairs

DOT consumer issues (OST)

COMMITTEE ON INTERIOR AND INSULAR AFFAIRS

Coal slurry pipeline (OST)

COMMITTEE ON INTERIOR AND INSULAR AFFAIRS - continued

Subcommittee on Public Lands

Alaska pipeline (OST)

COMMITTEE ON INTERNATIONAL RELATIONS

Special Subcommittee on Future Foreign Policy Research and Development

Concorde

COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE

Subcommittee on Transportation and Commerce

Daylight savings time (OST)
Hazardous materials (MTB)
Rail safety (FRA)

Subcommittee on Consumer Protection and Finance

Motor vehicle authorization (NHTSA)
No-fault insurance (NHTSA)
Auto repair (NHTSA)
Pipeline safety (MTB)
Travel and tourism (OST)

Subcommittee on Oversight and Investigations

Motor vehicle safety standards (NHTSA)

Subcommittee on Energy and Power

Alaska pipeline (OST)
Deepwater ports (OST)

Subcommittee on Health and the Environment

Auto emissions (OST; NHTSA)

COMMITTEE ON MERCHANT MARINE AND FISHERIES

Deepwater ports (OST)

Subcommittee on Coast Guard and Navigation

Authorizations (CG)
Boating safety (CG)

SELECT COMMITTEE ON OUTER CONTINENTAL SHELF

Outer Continental Shelf (CG)
Pipeline safety (OST)

COMMITTEE ON POST OFFICE AND CIVIL SERVICE

Subcommittee on Manpower and Civil Service

Air traffic control (FAA)

COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION

Subcommittee on Investigations and Review

Research and development: FAA, FRA, NHTSA, and DOT
Aviation economics (FAA, OST)
Investigations and review activities (NHTSA)

Subcommittee on Surface Transportation

Federal-aid Highway Beautification Program (FHWA)
Authorizations (FHWA)
Motor carrier reform (OST)
Truck size and weights (FHWA)
UMTA authorizations
Highway safety authorizations (NHTSA, FHWA)
Hazardous materials (MTB)

Subcommittee on Aviation (FAA)

Regulatory reform
Airport and Airways Development Program (ADAP)
Authorizations
Concorde

Subcommittee on Public Buildings and Grounds

National Aviation Facilities Experimental Center (NAFEC) (FAA)

Subcommittee on Water Resources

Federal Water Pollution Control Act (CG)
Locks and Dam No. 26 (OST, FRA)
Saint Lawrence Seaway Development Corporation

COMMITTEE ON SCIENCE AND TECHNOLOGY

Subcommittee on Energy Research, Development and Demonstration

Fuel economy standards, etc. (NHTSA)
Electric vehicles; automotive research and development (OST)

COMMITTEE ON SCIENCE AND TECHNOLOGY - continued

Subcommittee on Aviation and Transportation Research and Development

Research and development: FAA, FRA, FHWA, UMTA, NHTSA

Subcommittee on Environment and Atmosphere

Research and development (CG)
Ocean dumping (CG)

COMMITTEE ON SMALL BUSINESS

Procurement (OST)
Administrative rules and regulations (OST)
Installation and logistics (OST)

COMMITTEE ON WAYS AND MEANS

ADAP trust fund (FAA)
Highway trust fund (FHWA)

Table 3. RANK OF URBANIZED AREAS BY POPULATION, LAND AREA, AND POPULATION DENSITY: 1970**

(*Indicates urbanized areas established since the 1970 census)

Population rank	Urbanized area	1970 population	Land area in square miles	Land area rank	Density per square mile	Density rank
1	New York, N.Y.-Northeastern N.J.	16,206,841	2,425.1	1	6,683	1
2	Los Angeles-Long Beach, Calif.	8,351,266	1,571.9	2	5,313	4
3	Chicago, Ill.-Northwestern Ind.	6,714,578	1,277.2	3	5,257	5
4	Philadelphia, Pa.-N.J.	4,021,066	751.8	5	5,349	3
5	Detroit, Mich.	3,970,584	872.0	4	4,553	13
6	San Francisco-Oakland, Calif.	2,987,850	681.0	7	4,387	16
7	Boston, Mass.	2,652,575	664.4	9	3,992	27
8	Washington, D.C.-Md.-Va.	2,481,489	494.5	13	5,018	9
9	Cleveland, Ohio	1,959,880	646.1	10	3,033	91
10	St. Louis, Mo.-Ill.	1,882,944	460.6	15	4,088	23
11	Pittsburgh, Pa.	1,846,042	596.4	11	3,095	81
12	Minneapolis-St. Paul, Minn.	1,704,423	721.4	6	2,363	167
13	Houston, Tex.	1,677,863	538.6	12	3,115	79
14	Baltimore, Md.	1,579,781	309.6	28	5,103	7
15	Dallas, Tex.	1,338,684	674.2	8	1,986	209
16	Milwaukee, Wis.	1,252,457	456.5	16	2,744	121
17	Seattle-Everett, Wash.	1,238,107	413.1	18	2,997	94
18	Miami, Fla.	1,219,661	258.7	33	4,715	12
19	San Diego, Calif.	1,198,323	380.7	22	3,148	77
20	Atlanta, Ga.	1,172,778	435.0	17	2,696	125
21	Cincinnati, Ohio-Ky.	1,110,514	335.1	26	3,314	61
22	Kansas City, Mo.-Kans.	1,101,787	493.2	14	2,234	184
23	Buffalo, N.Y.	1,086,594	213.7	41	5,085	8
24	Denver, Colo.	1,047,311	292.8	30	3,577	40
25	San Jose, Calif.	1,025,273	277.2	31	3,699	35
26	New Orleans, La.	961,728	184.0	47	5,227	6
27	Phoenix, Ariz.	863,357	387.5	20	2,228	185
28	Portland, Oreg.-Wash.	824,926	266.8	32	3,092	83
29	Indianapolis, Ind.	820,259	381.2	21	2,152	196
30	Providence-Pawtucket-Warwick, R.I.-Mass.	795,311	244.1	35	3,258	65
31	Columbus, Ohio	790,019	234.5	37	3,369	57
32	San Antonio, Tex.	772,513	222.9	40	3,466	47
33	Louisville, Ky.-Ind.	739,396	210.4	43	3,514	43
34	Dayton, Ohio	685,942	224.2	39	3,060	89
35	Fort Worth, Tex.	676,944	396.4	19	1,708	239
36	Norfolk-Portsmouth, Va.	668,259	299.0	29	2,235	183
37	Memphis, Tenn.-Miss.	663,976	195.5	45	3,396	53
38	Sacramento, Calif.[1]	640,759	253.5	34	2,528	146
39	Fort Lauderdale-Hollywood, Fla.	613,797	212.2	42	2,893	107
40	Rochester, N.Y.	601,361	145.7	56	4,127	22
41	San Bernardino-Riverside, Calif.	583,597	309.7	27	1,884	228
42	Oklahoma City, Okla.	579,788	339.1	25	1,710	238
43	Birmingham, Ala.	558,099	224.6	38	2,485	155
44	Akron, Ohio	542,775	203.5	44	2,667	128
45	Jacksonville, Fla.	529,585	351.3	23	1,508	254
46	Springfield-Chicopee-Holyoke, Mass.-Conn.	514,308	237.8	36	2,163	193
47	St. Petersburg, Fla.	495,159	160.5	51	3,085	84
48	Omaha, Nebr.-Iowa	491,776	151.2	52	3,252	68
49	Toledo, Ohio-Mich.	487,789	165.5	50	2,947	99
50	Albany-Schenectady-Troy, N.Y.	486,525	150.5	53	3,233	71
51	Salt Lake City, Utah	479,342	184.3	46	2,601	137
52	Hartford, Conn.	465,001	130.5	61	3,563	41
53	Nashville-Davidson, Tenn.	448,444	343.5	24	1,306	264
54	Honolulu, Hawaii	442,397	115.0	71	3,847	32
55	Richmond, Va.	416,563	144.6	57	2,881	108
56	Bridgeport, Conn.	413,366	148.8	54	2,778	118
57	Youngstown-Warren, Ohio	395,540	128.6	65	3,076	87
58	Syracuse, N.Y.	376,169	96.2	91	3,910	30
59	Tulsa, Okla.	371,499	180.1	48	2,063	204
60	Wilmington, Del.-N.J.	371,267	109.8	75	3,381	55
61	Tampa, Fla.	368,742	130.5	62	2,826	113
62	Allentown-Bethlehem-Easton, Pa.-N.J.	363,517	98.5	88	3,691	37
63	Grand Rapids, Mich.	352,703	146.2	55	2,412	161
64	New Haven, Conn.	348,341	107.3	77	3,246	70
65	El Paso, Tex.	337,471	119.4	68	2,826	112
66	Tacoma, Wash.	332,521	128.7	64	2,584	139
67	Flint, Mich.	330,128	96.4	90	3,425	52
68	Orlando, Fla.	305,479	131.7	60	2,320	174
69	Wichita, Kans.	302,334	105.1	83	2,877	109
70	Albuquerque, N. Mex.	297,451	114.4	72	2,600	138

See footnote at end of table.

** October 1976 Supplementary Report, 1970 Census of Population, Bureau of Census

Table 3. RANK OF URBANIZED AREAS BY POPULATION, LAND AREA, AND POPULATION DENSITY: 1970—Continued

(*Indicates urbanized areas established since the 1970 census)

Population rank	Urbanized area	1970 population	Land area in square miles	Land area rank	Density per square mile	Density rank
71	Tucson, Ariz.	294,184	104.7	84	2,810	114
72	South Bend, Ind.-Mich.	288,572	102.8	86	2,807	115
73	West Palm Beach, Fla.	287,561	136.4	59	2,108	199
74	Charlotte, N.C.	279,530	105.7	82	2,645	132
75	Trenton, N.J.-Pa.	274,148	65.4	134	4,192	18
76	Newport News-Hampton, Va.	268,263	143.3	58	1,872	230
77	Davenport-Rock Island-Moline, Iowa-Ill.	266,119	118.4	69	2,248	182
78	Austin, Tex.	264,499	85.8	98	3,083	85
79	Fresno, Calif.	262,908	79.1	106	3,324	60
80	Mobile, Ala.	257,816	168.4	49	1,531	253
81	Des Moines, Iowa	255,824	109.1	76	2,345	169
82	Baton Rouge, La.	249,463	84.6	101	2,949	98
83	Worcester, Mass.	247,416	84.4	102	2,931	103
84	Peoria, Ill.	247,121	106.7	79	2,316	175
85	Oxnard-Ventura-Thousand Oaks, Calif.	244,653	111.5	73	2,194	190
86	Canton, Ohio	244,279	77.2	111	3,164	75
87	Columbia, S.C.	241,781	103.3	85	2,341	171
88	Harrisburg, Pa.	240,751	78.4	107	3,071	88
89	Las Vegas, Nev.	236,681	121.2	67	1,953	214
90	Shreveport, La.	234,564	94.3	93	2,487	154
91	Aurora-Elgin, Ill.	232,917	76.8	113	3,033	90
92	Spokane, Wash.	229,620	77.8	109	2,951	97
93	Lansing, Mich.	229,518	73.4	117	3,127	78
94	Charleston, S.C.	228,399	99.2	87	2,302	178
95	Fort Wayne, Ind.	225,184	69.0	127	3,264	64
96	Chattanooga, Tenn.-Ga.	223,580	116.7	70	1,916	219
97	Wilkes-Barre, Pa.	222,830	82.5	105	2,701	123
98	Little Rock-North Little Rock, Ark.	222,616	95.3	92	2,336	172
99	Corpus Christi, Tex.	212,820	130.3	63	1,633	242
100	Columbus, Ga.-Ala.	208,616	106.2	81	1,964	213
101	Rockford, Ill.	206,084	61.0	144	3,378	56
102	Madison, Wis.	205,457	68.8	128	2,986	95
103	Colorado Springs, Colo.	204,766	90.0	95	2,275	180
104	Scranton, Pa.	204,205	98.4	89	2,075	203
105	Lawrence-Haverhill, Mass.-N.H.	200,280	84.4	103	2,373	165
106	Lorain-Elyria, Ohio	192,265	106.4	80	1,807	236
107	Knoxville, Tenn.	190,502	86.1	97	2,213	187
108	Jackson, Miss.	190,060	72.2	121	2,632	134
109	Stamford, Conn.	184,898	69.6	125	2,657	130
110	Lowell, Mass.	182,731	62.1	139	2,943	102
111	Utica-Rome, N.Y.	180,355	74.6	115	2,418	160
*112	Melbourne-Cocoa, Fla.	178,948	106.8	78	1,676	240
113	Ann Arbor, Mich.	178,605	45.0	172	3,969	28
114	Bakersfield, Calif.	176,155	57.2	152	3,080	86
115	Erie, Pa.	175,263	43.8	174	4,001	25
116	Reading, Pa.	167,932	41.1	188	4,086	24
117	Huntington-Ashland, W. Va.-Ky.-Ohio.	167,583	55.5	154	3,020	93
*118	Sarasota-Bradenton, Fla.	167,298	91.6	94	1,826	234
119	Binghamton, N.Y.	167,224	52.3	164	3,197	73
120	Pensacola, Fla.	166,619	66.4	132	2,509	149
121	Savannah, Ga.	163,753	64.1	136	2,555	144
122	Fayetteville, N.C.	161,370	73.3	118	2,202	188
123	Stockton, Calif.	160,373	46.8	171	3,427	51
124	Lexington, Ky.	159,538	39.9	193	3,998	26
125	Charleston, W. Va.	157,662	61.8	141	2,551	145
126	Greenville, S.C.	157,073	70.9	122	2,215	186
127	Waterbury, Conn.	156,986	59.9	149	2,621	135
128	Roanoke, Va.	156,621	66.4	131	2,359	168
129	Joliet, Ill.	155,500	55.0	157	2,827	111
130	Lincoln, Nebr.	153,443	52.1	167	2,945	100
131	Raleigh, N.C.	152,289	70.5	124	2,160	194
132	Greensboro, N.C.	152,252	61.2	142	2,488	153
133	Kalamazoo, Mich.	152,083	73.3	119	2,075	202
134	Lubbock, Tex.	150,135	76.9	112	1,952	215
135	Ogden, Utah	149,727	61.0	143	2,455	156
136	Augusta, Ga.-S.C.	148,953	58.0	151	2,568	141
137	Brockton, Mass.	148,844	52.5	163	2,835	110
138	Saginaw, Mich.	147,552	43.5	177	3,392	54
139	Huntsville, Ala.	146,565	123.1	66	1,191	271
140	Winston-Salem, N.C.	142,584	66.0	133	2,160	195

See footnote at end of table.

Table 3. RANK OF URBANIZED AREAS BY POPULATION, LAND AREA, AND POPULATION DENSITY: 1970—Continued

(*Indicates urbanized areas established since the 1970 census)

Population rank	Urbanized area	1970 population	Land area in square miles	Land area rank	Density per square mile	Density rank
141	Evansville, Ind.	142,476	40.5	190	3,518	42
142	Fall River, Mass.-R.I.	139,392	42.9	181	3,249	69
143	Eugene, Oreg.	139,255	55.3	155	2,518	148
*144	New London-Norwich, Conn.	139,121	75.4	114	1,845	232
145	Montgomery, Ala.	138,983	51.1	169	2,720	122
146	Duluth-Superior, Minn.-Wis.	138,352	110.9	74	1,248	268
147	Atlantic City, N.J.	134,016	67.1	130	1,997	208
148	New Bedford, Mass.	133,667	33.7	219	3,966	29
149	Topeka, Kans.	132,108	52.8	162	2,502	151
150	Cedar Rapids, Iowa	132,008	62.0	140	2,129	198
151	New Britain, Conn.	131,349	39.1	195	3,359	58
152	Santa Barbara, Calif.	129,774	37.1	210	3,498	44
153	Appleton, Wis.	129,532	37.1	209	3,491	45
154	Green Bay, Wis.	129,105	77.6	110	1,664	241
155	Macon, Ga.	128,065	51.3	168	2,496	152
156	Amarillo, Tex.	127,010	60.7	146	2,092	201
157	York, Pa.	123,106	37.3	205	3,300	62
158	Biloxi-Gulfport, Miss.	121,601	63.7	137	1,909	221
159	Springfield, Mo.	121,340	63.1	138	1,923	218
160	Springfield, Ill.	120,794	33.5	221	3,606	39
161	Waco, Tex.	118,843	89.9	96	1,322	263
162	Racine, Wis.	117,408	28.1	237	4,178	19
163	Lancaster, Pa.	117,097	38.7	198	3,026	92
164	Port Arthur, Tex.	116,474	73.0	120	1,596	247
165	Beaumont, Tex.	116,350	74.5	116	1,562	251
*166	Daytona Beach, Fla.	115,176	85.0	100	1,355	262
167	Waterloo, Iowa	112,881	69.4	126	1,627	243
*168	Anchorage, Alaska	110,782	54.5	161	2,033	206
169	Norwalk, Conn.	106,707	41.5	187	2,571	140
170	Portland, Maine	106,599	55.7	153	1,914	220
171	Modesto, Calif.	106,107	34.3	216	3,093	82
172	Muskegon-Muskegon Heights, Mich.	105,716	52.3	165	2,021	207
173	Provo-Orem, Utah	104,110	65.0	135	1,602	246
174	Pueblo, Colo.	103,300	31.5	229	3,279	63
*175	Poughkeepsie, N.Y.	102,649	54.7	160	1,877	229
176	Durham, N.C.	100,764	43.0	180	2,343	170
177	Petersburg-Colonial Heights, Va.	100,617	42.4	182	2,373	166
178	Champaign-Urbana, Ill.	100,417	18.3	268	5,487	2
179	Decatur, Ill.	99,693	37.2	207	2,680	126
180	Reno, Nev.	99,687	37.5	202	2,658	129
181	Meriden, Conn.	98,454	70.7	123	1,393	261
182	Wichita Falls, Tex.	97,564	42.2	183	2,312	177
183	Johnstown, Pa.	96,146	28.0	238	3,434	49
*184	Alton, Ill.	95,998	41.5	186	2,313	176
185	Sioux City, Iowa-Nebr.-S. Dak.	95,937	60.3	148	1,591	249
186	Lawton, Okla.	95,687	44.0	173	2,175	192
187	Manchester, N.H.	95,140	39.1	196	2,433	158
*188	Gastonia, N.C.	94,725	58.5	150	1,619	244
189	Springfield, Ohio	93,653	25.3	245	3,702	34
190	High Point, N.C.	93,547	52.1	166	1,796	237
191	Seaside-Monterey, Calif.	93,284	24.1	251	3,871	31
192	Salem, Oreg.	93,041	36.8	211	2,528	146
193	Wheeling, W. Va.-Ohio	92,944	27.8	239	3,343	59
194	McAllen-Pharr-Edinburg, Tex.	91,141	32.7	225	2,787	117
195	Hamilton, Ohio	90,912	38.2	199	2,380	164
196	Abilene, Tex.	90,571	78.4	108	1,155	272
197	Monroe, La.	90,567	40.1	192	2,259	181
198	Muncie, Ind.	90,427	24.5	250	3,691	36
199	Lake Charles, La.	88,260	33.5	220	2,635	133
200	Tuscaloosa, Ala.	85,875	43.7	175	1,965	212
201	Steubenville-Weirton, Ohio-W. Va.	85,492	38.9	197	2,198	189
202	Fargo-Moorhead, N. Dak.-Minn.	85,446	23.5	253	3,636	38
203	Boise City, Idaho	85,187	29.4	234	2,898	106
204	Kenosha, Wis.	84,262	17.5	269	4,815	11
205	Texas City-La Marque, Tex.	84,054	82.7	104	1,016	273
206	Altoona, Pa.	81,795	19.6	264	4,173	20
207	Odessa, Tex.	81,645	25.1	246	3,253	66
208	Terre Haute, Ind.	80,908	31.6	228	2,560	143
209	Anderson, Ind.	80,704	43.4	179	1,860	231
210	Lafayette-West Lafayette, Ind.	79,117	18.6	267	4,254	17

See footnote at end of table.

Table 3. RANK OF URBANIZED AREAS BY POPULATION, LAND AREA, AND POPULATION DENSITY: 1970—Continued

(*Indicates urbanized areas established since the 1970 census)

Population rank	Urbanized area	1970 population	Land area in square miles	Land area rank	Density per square mile	Density rank
211	Jackson, Mich.	78,572	36.1	212	2,177	191
212	Lafayette, La.	78,544	24.9	247	3,154	76
213	Bay City, Mich.	78,097	26.2	244	2,981	96
214	Fitchburg-Leominster, Mass.	78,053	60.9	145	1,282	266
*215	Battle Creek, Mich.	77,922	31.1	230	2,506	150
216	Tallahassee, Fla.	77,851	29.8	233	2,612	136
*217	Alexandria, La.	77,609	37.1	208	2,092	200
218	Mansfield, Ohio	77,599	40.9	189	1,897	224
219	St. Joseph, Mo.-Kans.	77,223	31.9	227	2,421	159
220	Albany, Ga.	76,512	32.9	224	2,326	173
221	Fort Smith, Ark.-Okla.	75,517	60.3	147	1,252	267
222	Sioux Falls, S. Dak.	75,146	26.9	243	2,794	116
223	Santa Rosa, Calif.	75,083	38.2	200	1,966	211
*224	Elmira, N.Y.	74,039	23.8	252	3,111	80
*225	Santa Cruz, Calif.	73,758	34.4	215	2,144	197
*226	Spartanburg, S.C.	73,638	36.1	213	2,040	205
*227	Killeen, Tex.	73,585	40.3	191	1,826	233
228	Vineland-Millville, N.J.	73,579	85.3	99	863	275
229	Asheville, N.C.	72,451	38.2	201	1,897	225
230	Bristol, Conn.	71,732	37.3	204	1,923	217
*231	Richland-Kennewick, Wash.	71,245	54.8	159	1,300	265
232	Billings, Mont.	71,197	26.9	242	2,647	131
233	Great Falls, Mont.	70,905	21.8	259	3,253	67
234	Lynchburg, Va.	70,842	37.2	206	1,904	222
*235	Kingsport, Tenn.-Va.	70,342	48.7	170	1,444	258
236	Lima, Ohio	70,295	27.4	240	2,566	142
237	Laredo, Tex.	70,197	22.1	258	3,176	74
238	Bloomington-Normal, Ill.	69,392	19.9	263	3,487	46
239	Gainesville, Fla.	69,329	29.0	236	2,391	163
*240	Fort Myers, Fla.	69,129	43.4	178	1,593	248
241	Boulder, Colo.	68,634	14.1	273	4,868	10
242	Gadsden, Ala.	67,706	55.2	156	1,227	269
*243	Lakeland, Fla.	66,739	27.3	241	2,445	157
244	Danbury, Conn.	66,651	54.9	158	1,214	270
245	Dubuque, Iowa-Ill.	65,550	19.1	265	3,432	50
246	Lewiston-Auburn, Maine	65,212	67.9	129	960	274
*247	Parkersburg, W.Va.-Ohio	65,010	20.3	262	3,202	72
*248	Yakima, Wash.	64,730	22.2	257	2,916	105
249	San Angelo, Tex.	63,884	33.7	218	1,896	226
*250	Williamsport, Pa.	63,880	21.7	260	2,944	101
251	La Crosse, Wis.-Minn.	63,373	23.5	254	2,697	124
*252	Florence, Ala.	62,926	42.0	184	1,498	255
253	Pittsfield, Mass.	62,872	43.6	176	1,442	259
254	Salinas, Calif.	62,456	15.0	272	4,164	21
255	Galveston, Tex.	61,809	22.5	255	2,747	120
256	Nashua, N.H.	60,961	33.5	222	1,820	235
257	Pine Bluff, Ark.	60,907	20.8	261	2,928	104
258	Midland, Tex.	60,371	32.0	226	1,887	227
*259	Burlington, N.C.	59,891	30.7	232	1,951	216
260	Tyler, Tex.	59,781	24.8	249	2,411	162
*261	Antioch-Pittsburg, Calif.	59,585	22.3	256	2,672	127
262	Columbia, Mo.	59,231	42.0	185	1,410	260
*263	Anniston, Ala.	58,851	37.4	203	1,574	250
264	Texarkana, Tex.-Ark.	58,570	30.8	231	1,902	223
*265	Clarksville, Tenn.-Ky.	58,345	39.9	194	1,462	257
266	Wilmington, N.C.	57,645	29.3	235	1,967	210
267	Simi Valley, Calif.	56,936	24.8	248	2,296	179
268	Rochester, Minn.	56,604	15.2	271	3,724	33
269	Oshkosh, Wis.	55,480	12.6	274	4,403	15
270	Sherman-Denison, Tex.	55,343	34.5	214	1,604	245
271	Owensboro, Ky.	53,133	11.9	275	4,465	14
272	Brownsville, Tex.	52,627	15.2	270	3,462	48
*273	St. Cloud, Minn.	52,059	18.8	266	2,769	119
274	Bryan-College Station, Tex.	51,395	33.4	223	1,539	252
275	Harlingen-San Benito, Tex.	50,469	33.8	217	1,493	256

[1]Revised since publication of 1970 census reports.