

STATEMENT OF DR. JAMES D. PALMER, ADMINISTRATOR,  
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DEPARTMENT OF TRANSPORTATION  
BEFORE THE HOUSE COMMITTEE ON SCIENCE  
AND TECHNOLOGY, SUBCOMMITTEE ON TRANSPORTATION  
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Thank you for the opportunity to appear before this committee and describe the activities of the Research and Special Programs Administration (RSPA). I have with me today Dr. Larry Nelson, Deputy Administrator, RSPA.

I would like to briefly describe the roles, missions and organization of RSPA, its present areas of concentration, and major programs.

ROLES, MISSIONS and ORGANIZATION

The Research and Special Programs Administration was formed in July 1977 through the consolidation of a variety of programs formerly in the Office of the Secretary of Transportation. The organizing theme being the bringing together in a single Administration those programs that are multimodal in character. RSPA has a multimodal role in providing an overview for the various programs and activities of the Department affecting more than one mode of transportation. These activities include hazardous materials, navigation, cargo security, safety training, and container/terminal operations. The primary thrusts of our operational programs are to insure safety in the transport of people and commodities. The research programs are directed at building a sufficient technological base on which decisions can be made to assure safe, efficient transportation in the future.

The major missions of RSPA include the conduct of multimodal and advanced research and the regulation of the transportation of hazardous materials and pipeline safety. The research mission is supported by our Transportation Programs Bureau which represents the focal point of advanced transportation research at DOT and the Transportation Systems Center (TSC) which provides mission-oriented research and analytical support to all elements of the Department. The Materials Transportation Bureau (MTB) has as its primary responsibility the regulation of the transportation of hazardous materials and pipeline safety.

#### TWIN THRUSTS OF SAFETY AND ANTI-INFLATIONARY EFFORTS

##### Safety

Much of the RSPA programmatic thrust is focused in two main areas: safety and support of the Administration's anti-inflationary efforts. The safety efforts lie primarily with the MTB operations in the areas of hazardous materials and pipeline safety although some research programs from the Program Bureau are safety-oriented (for example, fire safety, carbon fiber dangers and hazardous cargo surveillance research.) The Transportation Safety Institute at Oklahoma City has a broad training program which supports all of the operating administrations in safety areas ranging from inspection and regulatory enforcement to accident investigation. Safety is also a major concern of the cargo security and facilitation programs as these address the safe and secure transport of people and flow of commodities in commerce.

The MTB safety activities can best be described as the development of regulations and enforcement programs to not only prevent accidents related to the transportation of hazardous materials and pipeline operations, but to minimize the effects of accidents once they occur.

#### Anti-inflationary

Most of RSPA's activity in the anti-inflationary area have to do with research and development of transportation systems and equipment which will provide future options to increase efficiency and improve productivity. Productivity increases are a key means of stemming the tide of inflation. An appropriate example is the Department's planned automobile initiative, which will not only improve the efficiency of the automobile, but in the post-1985 period should improve our balance of payments problem by decreasing our dependency on foreign oil imports. Such an automobile should prove more attractive for export which would also assist in bringing our exports in line with our imports.

#### MAJOR PROGRAMS

I would now like to concentrate my remarks on the key program areas that RSPA will be addressing in the next year.

##### The Automobile

The automobile will continue to be the dominant mode of transportation in this country for the foreseeable future and currently uses over 31 percent of the Nation's petroleum fuel. The Secretary has proposed a major comprehensive basic research program to create a pool of advanced automobile technologies from which auto manufacturers can develop a fundamentally improved automobile--one that

reduces the Nation's dependencies on foreign oil while at the same time is safer, less polluting, easier to operate and maintain, and generally more "socially responsible."

In response to the Secretary's request, RSPA/Transportation Systems Center, in coordination with other elements of the Department, conducted a conference in Boston to develop a national automotive basic research agenda to significantly improve the energy efficiency of the automotive system. This conference brought together top engineers and scientists from around the world and it was concluded that significant improvement, beyond that already in progress, appears to be technically feasible by the end of the century.

The final report is still being prepared but among the general conclusions reached were:

- o the need to achieve a better understanding of the basic physical processes that are relevant to automotive technology;
- o the need to integrate Federal and private sector activities in preparing the Nation's automotive development policy;
- o the need to address the fuel economy, safety and environmental impacts of the total automotive transportation system including fuel, engine, structure, and materials.

We will be playing a role in the Secretary's new initiative to make the automobile a socially responsible vehicle. The future direction of this program is being developed at this time and our experience and capabilities in advanced research systems analysis will be utilized. We do have ongoing research programs regarding alternative fuels and advanced materials and through our University Research program are developing possible technological options, for example, expanding the application of a microprocessor to improve engine performance.

Other University Research sponsored research has explored the development of a rational and inexpensive method for determining vehicle aerodynamic drag and rolling resistance; identification of improvements in fuel economy that can be obtained by improving dynamic engine control.

#### Transportation of Hazardous Materials

I consider the Hazardous Materials Program of RSPA to be of the highest priority. I am the Chairman of the Secretary's Standing Committee on Hazardous Materials which serves as the principal source of advice on all aspects of hazardous materials including policies, legislation, problems, and resource allocations. The most important elements of our regulatory development and enforcement activities for the coming year include the initiation of new inspection and enforcement procedures and the assessing of penalties for violations; the design, development and implementation of an improved training program for state, local, and industry personnel; the establishment of a centralized hazardous materials information

system for the development of legislation, for the routing of nuclear waste and other hazardous substances; and the development of improved standards. Our research program will support the development and enforcement of regulations to: 1) prevent hazardous material spills and releases, and 2) identify and verify causes for failure of containers.

### Navigation

RSPA is deeply involved in supporting the Secretary in the discharge of the Department's mandated responsibility concerning civil navigational services. A Navigation Council and a Working Group (chaired by RSPA) was established in 1978 to insure that DOT's navigation policy is supported by proper intermodal coordination. Participation in the Navigation Working Group and the newly established Navigation Center at TSC has resulted in RSPA's evolution as the Department's navigation focal point.

Toward this end, the RSPA has developed for the Secretary, the DOT National Plan for Navigation (NPN), coordinated the preparation of action plans to implement the NPN, initiated collection of navigation data to support intermodal navigation planning, and carried out feasibility studies and demonstrations to show the LORAN-C potential for terrestrial applications.

The Department is faced with a number of significant navigation decisions over the next several years. Among these decisions are: should VOR/DME systems be replaced in the post-1985 period; to what extent can wide-area LORAN-C be utilized for harbor and harbor entrance navigation; can LORAN-C be used by land

vehicles to significantly increase productivity; what systems will best satisfy requirements for helicopter IFR and offshore air navigation; what range of services will be reasonably available for civil use by the NAVSTAR GPS system. Considerable analysis and feasibility testing is required along with negotiations with the Department of Defense, NASA, and the Office of Management and Budget. We are now in the final stages of executing a Memorandum of Understanding between DOD and DOT which will lead to a single Federal plan maximizing the consolidation of navigation systems while providing the required service at least cost.

#### Commodity Flow

With the establishment of the Research and Special Programs Administration, the Department is now in a position to approach the problems of commodity movement in a multimodal framework. It is recognized that the various modal administrations have actively pursued programs to improve the effectiveness of the movement of various types of freight generally along modal lines. RSPA has some operating programs aimed at improving the flow of commodities in international intermodal operations. Research and development is being conducted to improve the maintenance and operation of the present system and advanced research will help to provide future commodity flow system options. It is expected that system improvements will be evolutionary in nature and build upon the existing systems.

This coming fiscal year, RSPA plans to develop and begin implementation of an integrated multimodal freight program which will complement and fill the gaps in the modal administration freight programs and provide the catalytic mechanism which will result in an integrated Department commodity flow/intermodal program. Some of the functions which are planned include advanced systems analysis, identification of R&D opportunities, the reduction of institutional bottlenecks, the

improvement of commodity flow data collection and information dissemination, and operational support of security and facilitation activities.

#### Information and Data System

The data bases upon which many regulatory and policy decisions are based have been brought into question because of inadequacy and inconsistency of data. These concerns are not new and while improvements have been made in the past, much work remains. RSPA has been given the responsibility to develop and manage a centralized DOT Information and Data Center. In cooperation with other DOT administrations, RSPA will provide a Data Management System which can facilitate effective sharing of a broad spectrum of economic and transportation data. A data management plan has been established and is in the process of being implemented. A major component in this activity is the development and management of a DOT data systems network centered at the Transportation Systems Center where many data analyses are conducted in support of all Departmental activities.

That concludes my statement, Mr. Chairman. I will be pleased to respond to any questions you may have.