

TRANSPORTATION ASSESSMENT AND INTEGRATION (TRAIN) PROJECT

S. Denny and G. Boyd
Office of Technology Development
U.S. Department of Energy
12800 Middlebrook Road
Germantown, Maryland 20874

Loretta F. Brownell
BDM International, Inc.
12850 Middlebrook Road
Germantown, Maryland 20874

ABSTRACT

The Transportation Management Program (TMP) initiated the Transportation Assessment and Integration (TRAIN) project to assist in long-range planning. This year-long effort consisted of an assessment of the current status of transportation within the U.S. Department of Energy (DOE), and the development of an action plan to implement change. The final report presents a strategy for TMP's effectiveness in providing transportation services in the next decade and beyond, and provides an overview of the forces likely to shape future DOE and EM transportation activities.

INTRODUCTION

The Department of Energy's (DOE) Transportation Management Program (TMP) has the responsibility to provide a comprehensive and well-managed program for the safe, efficient, and economical transportation of DOE-owned materials, including hazardous and radioactive materials. To accomplish this mission, TMP manages unclassified transportation operations, coordinates policies and procedures for all of DOE's unclassified shipping activities, and develops technologies that foster safe, efficient, and cost-effective materials transport.

A major influence on all aspects of DOE is the new culture created by Secretary Watkins. DOE's redirection from emphasis on weapons production to environmental restoration and waste management has spawned many new programs. As they have evolved, the need to consider transportation issues in the early planning phase of each new program has become clear. Because transportation is the integral point between waste processing, interim storage, and disposal activities, TMP must become involved in strategic planning, timelines, roadmaps, milestones and goal setting. TMP initiated the Transportation Assessment and Integration (TRAIN) Project in FY 1991 to identify the best methods for involvement, and to assist in long-range planning. The project was completed in FY 1992.

Activity Sequence

TRAIN was a two-phased planning effort, aimed at providing a comprehensive examination of TMP's responsibilities and programs for the 1990s. The final product of this examination is an action plan.

The first phase of TRAIN involved an assessment of the current status of transportation and the determination of actions necessary to ensure full responsiveness to the Department's long-term packaging and transportation needs. The year-long assessment of transportation needs within the Department resulted in 63 recommendations for improving TMP's effectiveness. Through TRAIN, TMP defined transportation's role within the Office of Environmental Restoration and Waste Management, so that TMP may establish

avenues through which to integrate transportation management into other organizational planning activities.

The second phase of this study involved the development of an action plan to implement these recommendations. Efforts are currently underway to integrate transportation into DOE planning activities through knowledgeable and professional input at the project planning level.

Goals and Objectives

TRAIN provides TMP with the necessary tools to effectively manage transportation-related activities for the DOE complex during the 1990s and beyond. The TRAIN project was guided by specific goals. The assessment phase concentrated on evaluating current conditions, and the integration aspect of the project focused on a plan to integrate these issues into the evaluation. Figure 1 displays these goals and how they were incorporated.

Employing a systematic approach, TRAIN worked to identify changes, needs, problems, resources, and recommendations which will affect TMP's efforts to provide cost effective, efficient, and coordinated logistical services during the decade of the 1990s.

Organization

The TRAIN Project was organized to facilitate the independent gathering of information and its comprehensive analysis. The TRAIN Project Team consisted of three principal organizational elements:

- A Steering Committee, which was composed of TMP Headquarters Program Managers. This committee provided overall direction to the project and supervised all project activities. Final decision-making responsibilities rested with this group.
- A Working Group, composed of both DOE and contract personnel. This group was responsible for defining issues and creating alternative solutions to identified concerns. This group was also charged with reviewing the work submitted by the Principal Investigators.

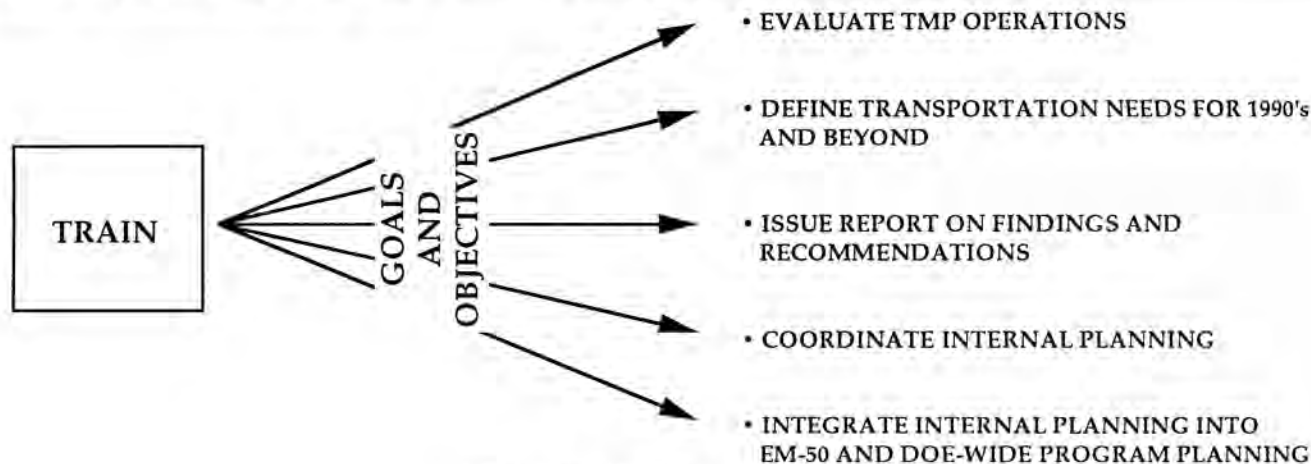


Fig. 1. TRAIN goals and objectives.

- Principal Investigators, a group of contract personnel with expertise in a specific aspect of transportation. Forming the basic research group, these experts collected and analyzed data for reports in each of eight transportation-related areas of interest.

Issue Areas

In order to divide research topics into manageable areas, the Working Group identified eight categories of specific concern to DOE transportation:

- Transportation Logistics Management
- Training Support
- Emergency Management
- Regulatory Impacts on Transportation Management
- Packaging and Transportation Needs for the 1990s
- Transportation Research and Development Needs
- Institutional and Outreach Programs
- TMP Roles and Responsibilities

Each specific topic was researched by a Principal Investigator working independently of those in the other seven areas. Principal Investigators recommended actions to improve roles in their specific issue areas. Each Principal Investigator wrote a final report identifying problem areas in the current system and providing recommendations for correcting the problems in their specific areas. The Working Group provided a peer review of each report, and wrote an overview, annotating the issues and recommendations for each issue area.

The draft TRAIN report was distributed for comment to approximately 400 reviewers, comprised of state, local, and tribal governments, and the interested public. The resulting document is a comprehensive evaluation of the current status of TMP, with identified recommendations for improving TMP's transportation services. Further, this document reflects the interests of most all organizations impacted by DOE transportation operations.

Information Gathering

TMP sponsored three large public forums involving interested parties within the DOE complex, the public sector, and the private sector. Principal Investigators also conducted individual research efforts that involved private industry, the

military, academia, DOE field personnel, contractor personnel, the interested public, and other federal agencies. Additional research methods varied, depending upon the strategy of each Principal Investigator. Research techniques included written surveys, personal interviews, reviews of TMP/DOE planning activities, and discussions with outside experts.

Several Working Group meetings were convened for self-assessment and redirection as the project progressed, allowing for self-correction throughout the entire project.

SUMMARIES AND RECOMMENDATIONS

Each issue area generated an extensive recommendation list. A condensed list of significant recommendations follows:

Transportation Logistics Management

Areas of greatest concern in logistics management are organizational structure, planning, quality assurance, professional development, and technology resource development. Effective planning has been identified as a key element to strengthen TMP's effectiveness. Both short-term planning involving current staff, and long-term efforts to establish a full-time planning function were recommended. A more effective organizational structure, involving matrixing and centralization of logistics functions, would also help focus and strengthen direction. Other concerns were not unique to logistics and were covered in one of the other areas.

Training Support

Training support identifies current training requirements and their regulatory bases, evaluates existing TMP-sponsored training programs, and formulates new training initiatives to support DOE's future transportation and packaging activities. With a critical demand for effective training resulting from the Hazardous Materials Transportation Uniform Safety Act of 1990 (1), and the adoption of HM-181 (2), well-conceived, organized, and regular training programs were found to be imperative. Specific recommendations include the establishment of a certification program for key site transportation personnel, the establishment of a professional development program for transportation, the increased use of electronic training methods, and the establishment of an awareness program for decision makers not directly involved in transportation.

Emergency Management

The establishment of a Transportation Emergency Preparedness Program (TEPP), is vital to ensure safety during the transport of DOE materials, and will build public confidence in DOE's ability to manage nuclear materials. The goal of TEPP is to create an effective long-term state of institutional preparedness for transportation emergencies. Ten initiatives will help TEPP achieve this integration through such activities as the establishment of a central program coordination point, a steering committee, a field assistance program, a technology application program and a support program for state, tribal and local governments. The development of training and exercise programs, program verification procedures and a multi-year plan will also contribute to the goal.

Regulatory Impacts on Transportation Management

The Regulatory Impacts issue area examined the DOE mechanisms for participation in the transportation regulatory arena, in order to identify problems with the existing mechanisms, and to propose solutions to those problems. The two-pronged investigation focused on the interaction between TMP and external organizations, and the interactions between TMP and organizations internal to DOE that need information on transportation requirements.

Specific recommendations center on developing stronger relations with external organizations that affect transportation, and improving communications through established mechanisms such as: congressional affairs; published and electronic communication devices; and establishing a central point of contact for information flow, such as a Regulations Coordinator.

Packaging and Transportation Needs for the 1990s

Site restoration activities will generate new waste forms to be packaged and transported. The current organizational relationships between the TMP and other DOE offices is weak in critical areas that influence the inclusion of packaging and transportation in overall program planning. Near-term, long-term, and over-arching strategies addressed actions to be taken to meet anticipated needs. Continued needs assessment, the inclusion of transportation activities in roadmapping, and the assessment of existing data bases for applicability to packaging needs assessment are some short-term solutions. Long-term and over-arching recommendations include the promulgation of a DOE Order requiring TMP sign-off on program plans that include major transportation operations, providing education on TMP to other DOE project officers, and the development of documentation on transportation plans that explicitly state assumptions for transportation of any product.

Transportation Research and Development Needs

Research and development (R&D) seeks to ensure the transportation program will provide safe and efficient transportation of radioactive materials and mixed wastes for the DOE complex. This issue group examined existing R&D efforts, and developed a TRAIN R&D program designed to meet these needs. Two main issues identified were the need for transportation expertise in planning for waste minimization and site restoration efforts, and the need for required documentation to substantiate the safety of hazardous materials while they are being transported.

Recommendations for the short-term included a comprehensive systems analysis, the implementation of DOE Order 1540.3 (3), the revision of NUREG-0170 (4). More far-reaching recommendations suggested an evaluation of packaging and transportation needs for hazardous and mixed wastes, and participation in an integrated demonstration project.

Institutional and Outreach Programs

There is a demand today for more information and more participation in DOE activities on the part of the interested public. The Institutional and Outreach Program goal aims to strengthen the process by which DOE and representatives of the public exchange information that helps contribute to safer, faster, and cost-effective transportation.

Three major needs emerged in this study:

- Public involvement should be encouraged early in the planning process
- Internal consistency is necessary among transportation interest areas in approaches to transportation institutional activities
- DOE must work to improve credibility in maintaining effective working relations with the public

To meet these needs, four strategies were identified to help TMP achieve its institutional and outreach goals. TMP should obtain a consensus on operating ground rules, refine the mechanisms of interaction; where and with whom; improve cost-effectiveness in project efforts, and increase program credibility.

TMP Roles and Responsibilities

Providing a clear-cut strategy to implement the integration of TMP's mission with the DOE organizational framework will result in a more effective packaging and transportation service to DOE. TMP must improve integration and planning within the EM and DOE programs in which transportation issues are of major importance. The prioritization of recommendations from TRAIN's seven other issue areas must be related to the overall improvement of the TMP roles, responsibilities, and overview functions.

Recommendation Analysis and Integration

To best formulate a direction for the future, the recommendations were evaluated for redundancies, impact, and consistency with TRAIN goals and objectives. The eight issue areas generated a list of 63 primary recommendations. Often, the same recommendations were offered in more than one issue area. Recommendations were given primary and secondary rank, depending upon the level of impact extended over the eight issue areas. A correlation matrix was created to develop a set of general recommendations based upon programmatic recommendations and functional goals, that support the achievement of overall TMP goals and objectives for the next five to ten years (see Fig. 2).

Implementation

In order to successfully implement TRAIN, TMP must be integrated into the EM organizational structure from both a functional and programmatic standpoint. Appropriate TRAIN recommendations must be incorporated into Field Office TMP program plans at the earliest opportunity.

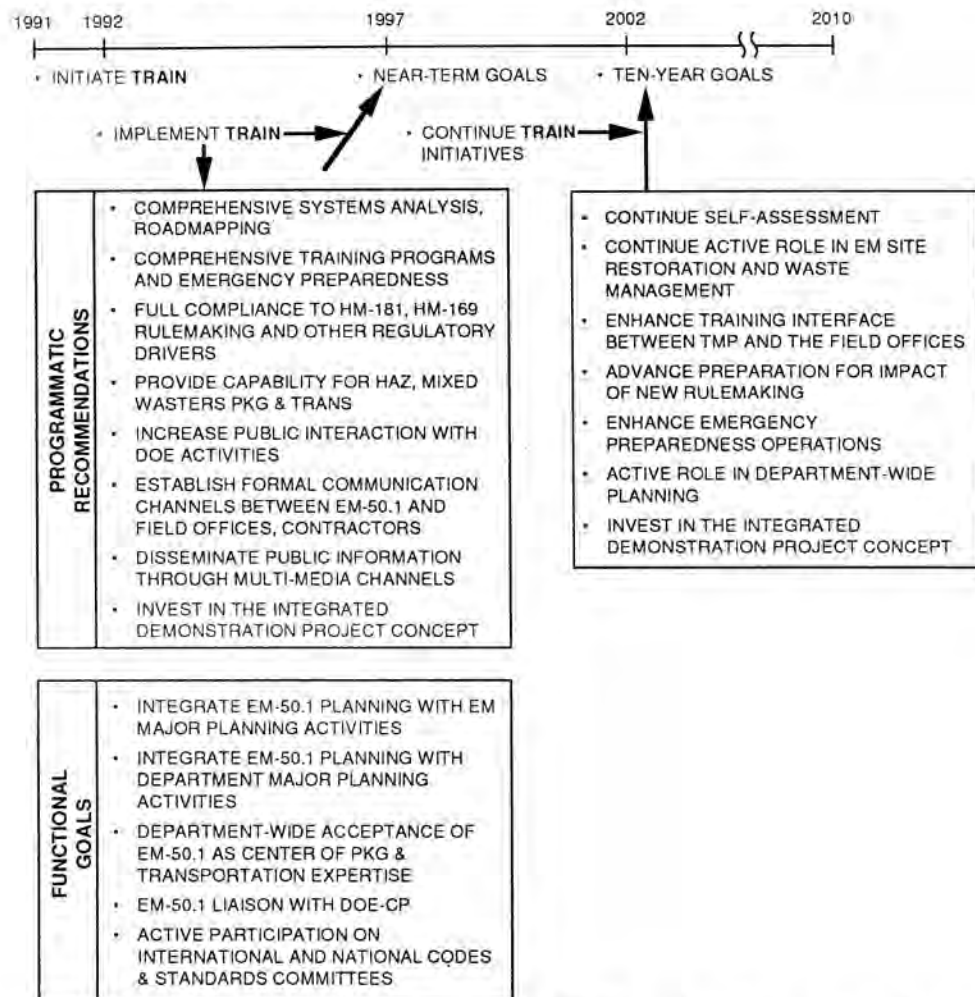


Fig. 2. Overview of TRAIN primary recommendations to achieve TMP's goals and objectives in the next five and ten years.

Recommended TRAIN activities must also be reflected in the EM Five-Year Plan, and any strategic plans. Inclusion of these activities will provide the credentials for interaction and coordination with other DOE operations, and heighten TMP visibility throughout the DOE organization. Packaging and transportation needs should be considered from the beginning of the planning effort, so that the effect of transportation issues may be considered relative to other programmatic requirements. The idea of integrating field level transportation activities into planning efforts for new research activities, such as Integrated Demonstration Projects, offers this unique opportunity. A secondary result would be functional integration with the Headquarters organization responsible for the Integrated Demonstration (ID).

Close coordination within TMP will also promote effective planning and implementation of TRAIN recommendations. A balance of needs, resources, and funds must be evaluated periodically and readjusted to serve the changing needs within DOE.

CONCLUSION

Integration of the TRAIN plan into the DOE complex will result in a more efficient approach towards DOE transportation management. A central focal point for addressing

transportation issues will mitigate resource redundancy and accelerate cleanup schedules. Improving transportation operations throughout the DOE complex will increase efficiency and reduce cost while maintaining a high level of safety. These increases result in faster, cheaper, safer, better transportation operations.

REFERENCES

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