

Identifying Research Payoffs

A Task Force History

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The Task Force on the Importance of Research conducts a meeting in the TRB Library. Current task force members include (from left): Crawford Jencks, Herbert Pennock, Elaine King, W. Campbell Graeub, and David Witheford (Chairman). Not shown is the sixth member of this group: Robert Reilly, Director of TRB's CRP Division, and former task force chairman.

To many researchers, the benefits derived from their efforts are obvious; therefore they may be surprised and at a loss for a quick response if asked by budget analysts, administrators, legislators, and others: "What have you done for us lately?" Yet these groups consider the question reasonable to ask because they must be assured that investments in research do produce reasonable returns.

The Transportation Research Board is a logical entity to assist researchers faced with this sometimes difficult question because one of its primary objectives is to stimulate research. Recognizing that once research has been stimulated it is equally as important to demonstrate its value, TRB developed a plan for linking research payoffs to research projects. The first step was for TRB Executive Director Thomas Deen to appoint the members of the Task Force on the Importance of Research, a staff group drawing members from all units of the Transportation Research Board and representing a cross section of subject-area specialities.

Since its inception in 1982 the task force's mission has been to link research

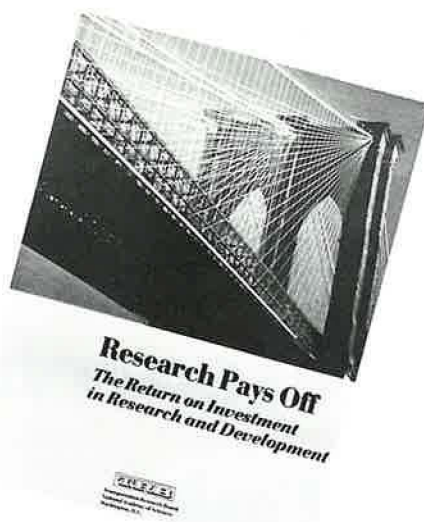
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findings and the benefits derived therefrom in terms of dollars saved, improved safety, efficiency, and productivity. Initially, members began by devising a mechanism for reporting research by presenting feature articles on research benefits. The medium chosen to publicize research payoffs was *TR News*, a bimonthly journal distributed to more than 8,000 readers. This journal, perhaps more than any other TRB publication, finds its way to target audiences. The message, "Research pays off," is conveyed by brief descriptions of specific projects in short concise statements titled Problem, Solution, Application, and Benefit.

Source of Topics

Finding the appropriate examples of research payoffs to publish was the initial task force activity and it continues to be the top priority today. Topics are solicited mainly from TRB committee chairmen and staff and from state representatives in highway and transportation agencies. The published articles have also generated sufficient interest among readers to frequently attract unsolicited submissions of articles or ideas from the transportation community at large.

The 200 submissions received since 1982 have come from a variety of sources:



The TRB publication entitled *Research Pays Off: The Return on Investment in Research and Development* is a compilation of Research Pays Off articles previously published in *TR News*.

state highway agencies, federal transportation agencies, consultants, research organizations, trade associations, and others. They have arrived in various forms: as one-line or one-sentence descriptions of projects, in presentations virtually ready for publication, and as complete research reports.

The topics of the Research Pays Off series are almost evenly divided between hard-side (materials, structures, or other physical research) and soft-side (planning, traffic, environmental, etc.)

subjects. Although most subjects are highway related, transit and rail modes are well represented also. The number of submitted topics by subject are given in Table 1.

Many Are Culled but Few Are Chosen

Suggested topics for Research Pays Off articles are carefully scrutinized for validity and accuracy by task force members. When a recommendation is received, it is assigned to a member with expertise in the subject area for initial review and classification into one of four categories: (a) promising, for immediate use; (b) promising, needs additional data; (c) possible, hold in files; or (d) drop. Less than 10 percent fall into the first and second categories; the remainder is about evenly divided between the third and fourth categories.

Why are so few topics accepted? The answer is not simple; there are many reasons. For example, the same topic may be submitted by a number of sources because several agencies may have conducted similar research on similar problems. Projects in a series, each building on earlier results, may be submitted separately. Such submissions may ultimately be gathered together and published as one Research Pays Off article. In other cases, the task force may conclude that the cited research is an example of value engineering or management decision making rather than funded research. In the case of many of the submissions, the task force may find that the benefits are forecast rather than achieved, or, if achieved, they are not clearly attributable to the research itself.

Choosing to concentrate primarily on concise reports of problems, solutions, applications, and benefits, task force members have focused on projects rather than on programs. Articles are published that highlight research for which results have been put into practice, with demonstrated results attributable to a specific project.

When the task force identifies a promising topic for publication, a draft

TABLE 1 Research Pays Off Articles Published in *TR News*

Subject	Number of Submissions
Administration	5
Planning	10
Environmental	7
Bridges	17
Pavements	27
Other materials	13
Safety appurtenances	19
Soils and foundations	24
Traffic	44
Maintenance	30
Aviation	3
Railroad	5
Transit operations	14

TRB Task Force on the Importance of Research

More than a dozen TRB staff have served on the Task Force on the Importance of Research. Current members are: W. Campbell Graeub, Engineer of Public Transportation; Crawford F. Jencks, Senior Program Officer, Cooperative Research Programs; Elaine King, Rail Transport Specialist; Herbert A. Pennock, Senior Program Officer, Special Projects Division; Robert J. Reilly, Director, Cooperative Research Programs; and David K. Witheford, Engineer of Traffic and Operations (*Chairman*).

Dr. Reilly served as first chairman of the task force. Other TRB staff members who have participated in the past include: Thomas L. Copas, Neil F. Hawks, Francis P. Mulvey, Thomas H. Myers, Jr., James A. Scott, Harry A. Smith, and Lawrence F. Spaine.

article is prepared by either the originator or a task force member. The draft is reviewed for content, clarity, and suitability. After approval by the entire task force, the final article is prepared by the originators or a task force member and submitted for publication in *TR News*.

Articles Published to Date

A total of 24 articles in the series have been published. Topics have come from different state transportation agencies and have been predominantly highway related; six agencies have submitted rail or transit research topics. Federal agencies, such as the FHWA and UMTA, have also been active in submitting ideas or articles. Subjects have been diverse, ranging from pavements to planning, from safety to structures, and from computer modeling to manhole cover placement methods.

Feature articles have appeared on bridge fatigue, earthquake protection for structures, and broad research program benefits experienced in Kansas. Early Research Pays Off articles have

been compiled into a booklet and distributed among TRB sponsors and committees; publication of a second booklet of more recent articles will be forthcoming. Other journals and newsletters in the transportation field have reprinted some of the Research Pays Off articles from *TR News*, adding further to the awareness of research benefits.

Task Force To Continue Its Role

Clearly, there will always be a need, as well as a variety of ways, to stress the importance of research. For example, the TRB videotape *TRB: On the Move* serves indirectly in that respect. But, judging from the experience of the past few years, the Task Force on the Importance of Research appears likely to play a continuing role. Thus, the search for projects to develop and report for publication continues. Steps are now being taken to develop articles on long-term research programs, which will be prepared by sponsors such as the FHWA. Thus, opportunities continue to demonstrate that research pays off.

