

STRATEGIC PLAN AND OPERATING PROCEDURES 2008



LRRB

LOCAL
ROAD RESEARCH
BOARD

...MAKING A DIFFERENCE

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FORWARD

This manual provides operating information for the [Minnesota Local Road Research Board \(LRRB\)](#). It presents the LRRB strategic plan, includes information about procedures, highlights the organization's history and gives examples of [LRRB projects](#).

This manual documents LRRB procedures, policies, and plans in one convenient place. For use primarily by [LRRB members](#), it offers a one-stop resource detailing goals and strategies, membership, voting, project development, implementation, and other operational issues.

Because information contained in this manual changes from time to time, LRRB staff will distribute updated pages at the first LRRB meeting of every year, or as other update timetables may dictate. Please note the publication dates on pages for the most up-to-date information.

We welcome feedback on the content and usefulness of this document, and encourage members to alert us to the need for updates or the need for new information.

PART I

BACKGROUND

HISTORY

For more than 50 years, the [LRRB](#) has brought important developments to transportation engineers throughout the state. Those developments range from new ways to determine pavement strength to an economical method for recycling asphalt from old pavement to new pavement. Today, LRRB remains true to its important mission: supporting and sharing the latest in transportation research applications with the state's city and county engineers. These activities include a focus on implementation.

Established in 1959 through state legislation, LRRB has sponsored more than 200 individual research projects over the last 15 years on a variety of topics. Current LRRB-funded research falls primarily into the following categories: design, construction, maintenance/operations, environmental compatibility, administration, and implementation. See pages 6 and 7 for tables categorizing research projects according to their research emphasis.

LEGISLATION

In 1959 the [Minnesota Legislature](#) established funding from the state aid allocation for the purposes of supporting research on problems of specific interest to local road engineers. The legislation, [Chapter 162.06 subd. 4](#) and [Chapter 162.12 subd. 4](#), also established the LRRB to manage activities. The original legislation stated that LRRB allocate those funds "...solely for the purpose of conducting research in the methods of and materials for the construction and maintenance of...county state-aid highways and municipal state-aid streets". The 1959 legislation set the funding level at ¼ of 1 percent of the state aid allocation and mandated that the [Commissioner of Transportation](#) oversee the administration of these funds.

In 1974 the Minnesota Legislature modified the original legislation by adding a research focus to improve the design and environmental compatibility of state-aid highways,

streets, and appurtenances. It also allowed for constructing research elements and reconstructing or replacing research elements that fail. In addition, the legislation broadened the [LRRB](#)'s scope to include conducting programs for implementing and monitoring research results (see Attachment K).

The latest change in LRRB legislation occurred in 1994, when the funding level was increased from $\frac{1}{4}$ of one percent to its current level of $\frac{1}{2}$ of one percent of the state aid allocation, effectively doubling LRRB's funding capability.

MISSION

According to Minnesota statutes, LRRB funding must support the following purposes:

- ◆ research to improve the design, construction, maintenance, and environmental compatibility of state-aid highways and streets and appurtenances;
- ◆ construction of research elements and reconstruction or replacement of research elements that fail; and
- ◆ programs for implementing and monitoring research results.

The following statement reflects LRRB's mission:

The LRRB serves local road transportation practitioners through:

- ◆ development of new initiatives,
- ◆ acquisition of and application of new knowledge, and
- ◆ exploration and implementation of new technologies.

TRANSPORTATION RESEARCH IN MINNESOTA

Transportation research in Minnesota involves extensive and productive collaborations among state agencies, city and county staff, the [University of Minnesota](#), [Minnesota State Colleges & Universities](#), and private industry. The LRRB was developed to

provide a mechanism to fund transportation research which benefits the local state aid system

The LRRB may provide sole research funding for projects, or provide collaborative match funds with: Mn/DOT, other State agencies, cities, counties, University of Minnesota (ITS Institute), MnSCU, other Universities and Federal research efforts. These financial collaborations take place through a number of formal and informal partnerships. The LRRB, Mn/DOT RSS staff, and CTS assist with the identification of match funding opportunities.

The LRRB uses a collaborative process to manage research projects. Researchers from Mn/DOT, the University of Minnesota, Minnesota State Colleges and Universities and consulting firms conduct the research, and report on the results. A Technical Advisory Panel (TAP) made of City/County Staff, other state agencies(MPCA, Mn/DOT, DPS etc.) staff, and other expert volunteers monitor the research Mn/DOT's Research Services Section (RSS) monitors the research performance and reports on the research activities to the LRRB.

Once the research is completed, the LRRB [Research Implementation Committee \(RIC\)](#), which includes county and city engineers, University of Minnesota [Center for Transportation Studies](#) (CTS) personnel, and [Minnesota Department of Transportation](#) (Mn/DOT) research and administration personnel, may then contract with a private engineering consultant for implementation of a research project.

PART II

STRATEGIC PLAN

RESEARCH GOALS AND STRATEGIES

In October 1995, the [LRRB](#) developed a strategic plan to guide future research decisions. A major update in September 2000 added the goal of environmental compatibility, and the document is reviewed and updated as needed by the LRRB at the Summer meeting. The document is intended to be a living document, with RSS providing necessary updated Attachments at board meetings, e.g. LRRB program, conference sheets, and RIC program etc.

The plan identifies four strategic planning research categories to track and report on LRRB projects: Design, Construction, Maintenance/Operations, and Environmental Compatibility. The following table gives general examples, and specific projects may fall into more than one category.

DESIGN (GOAL 1)	CONSTRUCTION (GOAL 2)
Community Impact	Equipment
Constructability	Management System
Economic Development	Materials
Economic Efficiency	Partnering
Engineering	Physical Development of Project
Financing	Quality
Geometrics	Tools
Individual Impact	
Materials	
Project Need	
Planning	
Public Involvement	
Right of Way	
Safety	
Social	

MAINTENANCE/OPERATIONS (GOAL 3)	ENVIRONMENTAL COMPATIBILITY (GOAL 4)
Equipment	Community & Social Environment
Level of Service to Public	Economic Environment
Life Cycle Costing	Individual Environment
Maximize Service Life of Project	Natural Environment
Methods and Materials	Mitigating Environmental Impacts
Pavement Management	
Preserve Investment	
Privatization	
Protect Investment	
Responding to Public	
Safety	
Snow removal	
Staffing	
Traffic Operations	

The [LRRB](#) recognizes the need for and seeks to fund both basic and applied research including knowledge building and problem solving research projects.

The LRRB developed basic definitions for design, construction, and maintenance/operations categories, outlined the following strategic goals and strategies for design, construction, maintenance/operations, and environmental compatibility, and added a fifth goal to help determine research needs. Each year these goals and strategies are reviewed and updated as needed.

Goal 1 - Design Research

The [LRRB](#) shall solicit and sponsor research projects that improve the design of Minnesota's local government road system.

Definition: Design is the process and product of determining the need for and nature of a proposed road system project.

Potential Topics: Design includes but is not limited to: need for, geometrics, materials, environmental, safety, planning, financial, economic development, right of way, social, engineering, community impact, individual impact, public involvement and constructability.

- Strategy 1A Support research at the [Minnesota Road Research Facility \(Mn/ROAD\)](#)
- Strategy 1B Conduct research that emphasizes the preservation and maintenance of pavement life.
- Strategy 1C Conduct research on design standards that are safe and affordable
- Strategy 1D Conduct research on pavements containing recycled or non traditional materials
- Strategy 1E Conduct research on right-of-way management such as access, utilities, and vegetation
- Strategy 1F Conduct research on load capacity of local roads
- Strategy 1G Conduct research on relationships among multiple modes, mobility, and access to land use

Goal 2 - Construction Research

The [LRRB](#) shall solicit and sponsor research projects that improve the construction of Minnesota's local government road system.

Definition: Construction is the process and product used for the implementation of the plans and specifications from the road system design process.

Potential Topics: Construction includes but is not limited to: equipment, physical development of project, management system, tools, materials, partnering, and quality.

Strategy 2A Conduct research on alternative construction contracting methods (warranties/low bid/design-build/incentives)

Strategy 2B Conduct research on material and construction process quality control and construction automation

Strategy 2C Conduct research on best practices for project management technology

Strategy 2D Evaluate technical and economic feasibility of new construction products and processes

Goal 3 - Maintenance/Operations Research

The [LRRB](#) shall solicit and sponsor research projects that improve the maintenance/operations of the local government road system.

Definition: Maintenance/Operations is the process and products used to operate and maintain the road system investment.

Potential Topics: Maintenance/Operations includes but is not limited to: preserve investment, snow removal, safety, level of service to public, protect investment, pavement management, maximizing service life of project, life cycle costing, methods and materials, equipment, privatization, responding to public, traffic operations, and staffing

- Strategy 3A Conduct research on neighborhood traffic capacity and safety management
- Strategy 3B Conduct research on proactive preventative maintenance versus reactive maintenance
- Strategy 3C Conduct research on the economics of alternative maintenance strategies and partnerships
- Strategy 3D Conduct research on Intelligent Transportation Systems (ITS) for local road application such as traffic management, traveler information, maintenance operations, etc.
- Strategy 3E Conduct research on specialized maintenance equipment, materials, and products
- Strategy 3F Conduct research on snow removal and ice control including anti-icing methods
- Strategy 3G Conduct research on emergency management (planning response and recovery)

Goal 4 – Environmental Compatibility

The [LRRB](#) shall solicit and sponsor research projects that relate to Environmental Compatibility of roads and the maintenance of the local road system.

Definition: Environmental Compatibility is the integration of the local road system into the community to minimize adverse environmental impacts while contributing to economic and social well-being.

Potential Topics: Environmental Compatibility includes but is not limited to: Natural Environment, Industrial Environment, Economic Environment, Community and Social Environment.

- Strategy 4A Conduct research related to the effects of design, construction, and maintenance on the natural environment (soil, water, air, plants, and animals) including storm water management and erosion control

- Strategy 4B Conduct research related to the impacts of roads, road building, and traffic on the individual, such as impacts on individual safety, travel, health, etc.

- Strategy 4C Conduct research on the economic effects of roads, construction and maintenance, such as access management studies and right-of-way acquisitions

- Strategy 4D Conduct research on the community aspects of roads and changes in roads and maintenance, such as neighborhood cohesion, equity, vitality and social structure

- Strategy 4E Conduct research on mitigating environmental impacts of public roadway infrastructure at the source, such as porous/pervious pavements, quiet pavements, warm asphalts, culverts, etc.

Goal 5 - Research Needs

The [LRRB](#) shall determine the research needs and topics of the local governments.

- Strategy 5A Perform surveys, develop research roadmaps, and use focus group meetings to identify problem statements and knowledge building priorities
- Strategy 5B Actively solicit input and ideas from peers and others
- Strategy 5C Utilize the internet and explore other technologies for soliciting and recording research needs
- Strategy 5D Conduct surveys and evaluations
- Strategy 5E Exhibit booth at select conferences
- Strategy 5F Solicit research needs and ideas from academic and professional experts
- Strategy 5G Annually evaluate allocation of resources to ensure a balanced research program
- Strategy 5H Conduct literature searches, provide reference material, and develop research synthesis.

IMPLEMENTATION GOALS AND STRATEGIES

Funding Guidelines

The [LRRB](#) identified implementation as a strategic planning category during its strategic planning process. The Board will fund implementation, training and information activities for new technologies and innovations that improve transportation. The Board has determined that LRRB will not fund information and training activities (beyond [Local Technical Assistance Program \(LTAP\)](#) base courses) for technologies with the following attributes:

- The technology is privately developed. In this case vendors offer their own training.
- The technology is long-established. The LRRB focuses primarily on innovative research.
- The technology is generalized or common with other industries. The LRRB emphasizes transportation research.
- The technology requires continuing funding to support training and information activities.

The LRRB will fund curriculum development and start-up implementation costs, but ultimately expects training programs to be self-supporting.

Implementation Task Development

The LRRB recognizes the importance of moving research results into practice. The LRRB works through its [RIC](#) to make information available and to transfer research results into practical applications. Look for more details about the RIC in Part III, Operating Procedures, Implementation Activities. The RIC and its staff coordinate implementation task development.

RIC members include four county and two city engineers, the Mn/DOT Deputy State Aid Engineer, a Mn/DOT District State Aid Engineer, a Mn/DOT RSS representative, a Mn/DOT Office of Materials representative, and a University of Minnesota CTS

representative. Additional staff from [Mn/DOT RSS](#) and the [University of Minnesota CTS](#) provides support services.

The [RIC](#) uses a variety of media to reach engineers and others with new developments, including DVDs, CD-ROM, streaming videos, web-based tools, written reports, pamphlets, seminars, workshops, field demonstrations, presentations, and the [LRRB](#) web site.

Goal 6 - Implementation Needs and Processes

The [LRRB](#) shall ensure that selected research projects are likely to have implemental results and that coordinated processes and resources are in place for helping local governments implement those results and other innovations.

- Strategy 6A Include implementation in the focus group process, research roadmaps, surveys and review of completed projects for determining research priorities
- Strategy 6B Ensure the incorporation of implementation planning into the research process and the development of implementation plans for completed research
- Strategy 6C Continue to sponsor a [RIC](#) that plans, directs, and administers implementation projects
- Strategy 6D Ensure that completed research projects are considered by the RIC and [LTAP](#) in assessing and identifying research implementation needs
- Strategy 6E Continue to sponsor LTAP to provide training, technical assistance, and information to local agency personnel
- Strategy 6F Continue to fund [Minnesota Transportation Libraries \(MTL\)](#) (Mn/DOT, LRRB and CTS partnership)

Goal 7 - Employee Information and Training

The [LRRB](#) shall ensure that local government employees and officials are informed of research results and other innovations, are able to exchange information on innovations in a timely manner, and are trained in the application of innovations.

- Strategy 7A Sponsor [LTAP](#) activities such as courses, [Circuit Training and Assistance Program \(CTAP\)](#), publications, electronic information, best practices, and syntheses for local government personnel
- Strategy 7B Sponsor [RIC](#) multi-media products such as videos, manuals, publications, etc.
- Strategy 7C Sponsor [Minnesota Transportation Libraries \(MTL\)](#) services such as information requests, dissemination of reports, web site, etc.
- Strategy 7D Support special conferences and events that feature new transportation technologies and innovative practices
- Strategy 7E Support the publication of research reports, status reports of research in progress, syntheses, and other written materials
- Strategy 7F Explore & implement new technology transfer technologies
- Strategy 7G Maintain an interactive web site that highlights LRRB research projects and links to other related information
- Strategy 7H Support activities that contribute to current and future workforce development
- Strategy 7I Support publishing of the Mn/DOT Library Recent Acquisitions, catalog of DVDs, CDs and video tapes, and other transportation related information.

Goal 8 - Technology and Product Development

The [LRRB](#) shall ensure the development of research results into technologies and products that can be used by local agencies.

- Strategy 8A Support field trials of research results
- Strategy 8B Ensure the development of new standards and specifications for new technologies and products
- Strategy 8C Promote public/private partnerships for technology and product development
- Strategy 8D Support technical assistance activities that help local employees implement new technologies and products
- Strategy 8E Sponsor the [Operational Research Assistance \(OPERA\)](#) program.

ADMINISTRATIVE GOALS AND STRATEGIES

The [LRRB](#)'s administrative strategic goals and strategies focus on the following issues: open participation to the LRRB process and products, support services to ensure an effective and efficient program, and leadership and evaluation to ensure that the overall program meets the needs of its customers.

Goal 9 - Participation

The LRRB shall ensure that all local governments have access to LRRB processes and opportunities to participate in LRRB activities.

- Strategy 9A Prepare annual summary of activities and make the summary available to all local governments via the LRRB web site

- Strategy 9B Solicit participation of local government staff in research, implementation, and administrative activities

- Strategy 9C Continue to sponsor an outreach committee

- Strategy 9D Sponsor outreach projects to communicate LRRB activities and accomplishments

- Strategy 9E Participate in other partnerships such as [Transportation Engineering and Road Research Alliance \(TERRA\)](#), [LTAP](#), [Pavement Research Institute \(PRI\)](#), [Iowa Highway Research Board \(IHRB\)](#) and the Intelligent Transportation Systems (ITS) Institute Steering Committee.

Goal 10 - Support Services

The [LRRB](#) shall ensure that support services exist to help achieve research and implementation goals in timely and cost effective ways.

- Strategy 10A Provide funding for [Mn/DOT's RSS](#) for administrative support staffing to the LRRB and [RIC](#)
- Strategy 10B Provide funding for Mn/DOT's [Office of Materials](#) for research and technical assistance support staffing to LRRB and RIC
- Strategy 10C Provide funding for [Mn/DOT's library](#) staff, material, and equipment that support LRRB activities and constituents
- Strategy 10D Provide funding for Mn/DOT's [Office of Maintenance](#) for Circuit Training and Assistance Program ([CTAP](#)).

Goal 11 - Leadership and Evaluation

The LRRB provides leadership to ensure that the overall program meets the needs of its customers.

- Strategy 11A Solicit local government leaders to be active members of the LRRB and its committees
- Strategy 11B Sponsor attendance of the LRRB and appropriate Mn/DOT research and administrative support staff at conferences and events to learn new approaches that would benefit Minnesota local governments
- Strategy 11C Sponsor program evaluation and feedback activities

PART III

OPERATING PROCEDURES

MEMBERSHIP

General (see Attachment A for current membership list)

LRRB membership includes four county and two city engineers who may serve a maximum of two three-year terms. Mn/DOT members include the State Aid Engineer, the director of the Office of Materials, and the RSS Manager, who is the ex-officio secretary and a voting member. A University of Minnesota [CTS](#) representative serves as the 10th member. The Commissioner appoints members in a process described in [Minnesota Rules 8820.3200](#) (see Attachment L).

When a new member is appointed to fill the term of an outgoing LRRB member with less than two years remaining in service time, the new member is eligible for an additional two full terms. If the period remaining is two years or more, that time will be counted as one full term toward eligibility.

Responsibilities

Members are expected to attend meetings and prepare by reviewing appropriate material before LRRB meetings.

LRRB members serve as representatives of local road practitioners and are committed to carrying out LRRB's mission. They make presentations about the LRRB during appropriate meetings of local transportation practitioners, and staff the LRRB booth at various conferences and trade shows.

LRRB members actively support local transportation practitioners through their participation in local focus group meetings, active solicitation of research topics, and identification of Technical Advisory Panel (TAP) participants.

The LRRB nominates and elects a Chair, who oversees and leads LRRB meetings. The Chair is responsible for organizing ad hoc committees as necessary to review or further develop LRRB issues, naming committee members and appointing committee chairs. In

addition to these responsibilities, the Chair or designated LRRB member also represents the LRRB on the LTAP steering committee and on research governance committees such as TERRA, PRI, and ITS Institute Board. The Chair serves LRRB for a period of up to 3 years.

Voting

The LRRB uses generally accepted meeting procedures requires a minimum quorum of 6 members of which four (4) must be from a county or city, and operates on a majority vote to approve expenditure of LRRB funds and to make policy decisions. Polling of members shall be kept to a minimum and used only as necessary for action required before the next regular scheduled LRRB meeting, and such action shall be presented to the LRRB for affirmation at the next available LRRB meeting.

RESEARCH PROJECT DEVELOPMENT

Needs Identification

The research needs identification process plays a key role in developing an effective research program. As the first step to initiating a research project and developing the overall research program, identifying the "right" research topics directly impacts the program's success, as well as the potential for each project's implementation. Again, the LRRB recognizes the need for, and seeks to fund, both basic and applied research projects including knowledge building and problem solving projects.

Involving the transportation practitioner is fundamental to the needs identification process and helps ensure selection of the right research and implementation of research results.

As part of its responsibility to serve LRRB, Mn/DOT's RSS conducts locally held focus group meetings throughout the state at the discretion of the board. The meetings help RSS and LRRB to identify and prioritize the research needs of local transportation practitioners from counties, municipalities, and townships.

If a focus group is to be held, RSS works closely with the Mn/DOT District State Aid Engineer to take advantage of any existing meeting schedules and to develop an agenda that maximizes the groups' efforts. RSS facilitates each meeting.

Problem statements (see Attachment D) may also be submitted by county and city engineers without the use of focus groups. Forms are available on the [LRRB](#) web site.

Proposals

The LRRB collects and funds research proposals on an annual cycle based mostly from an annual solicitation generated from the synthesis of the focus group problem statements. The proposals selected for funding by the LRRB are annually brought forward to the Commissioner of Transportation for final funding approval. See Attachment E for the Mn/DOT RSS and CTS Research Funding Process for further details.

The LRRB also accepts unsolicited proposals on an ongoing, case-by-case basis only from LRRB members. Members must submit all proposals to RSS for consideration at subsequent LRRB meetings. All proposals submitted for consideration must use the standard form (see Attachment F). Proposals not submitted in this format and on schedule will be considered only at the discretion of the LRRB Chair.

Work Plans and Contracts

All projects funded by the LRRB must have a work plan before contract funds can be expended. The work plan will be kept on file by the RSS.

The project's Principal Investigator (PI) is responsible for the development of the project work plan, which also identifies who will write the final report. RSS staff keeps a copy of the work plan and reports to the LRRB on work plan development status. RSS staff will

assign a technical liaison (TL) who will assist the PI and approve the work plan, approve and accept contractual deliverables, assemble and conduct TAP meetings, and provide technical expertise to the project. TAP guidelines are available on the LRRB website, along with other basic guidelines.

The TAP helps guide and monitor the development of each LRRB project. The TAP consists of one or more professionals who possess a background in the research area or an interest in the research topic. The TAP meets as necessary to ensure that the project follows the work plan and maintains progress. The TAP is also responsible for the technical review of a project's findings and deliverables.

RSS solicits volunteers from the transportation practitioner community to serve on TAPs. In addition, RSS staff handles administrative responsibilities for each project, including contract compliance when applicable with the assignment of the Administrative Liaison (AL).

Reports

A final report must be completed for all projects funded by the LRRB. Details and length of the report will vary depending on the type of project.

Implementation

The TAP, as part of its project responsibilities, develops an implementation plan that identifies the process to move project findings into the implementation phase.

An implementation plan documents the responsible parties and timelines for applying the results of the research project to solve real world problems. The plan helps ensure a return on the research investment. The TAP also considers ways in which LRRB's Research Implementation Committee can assist in these efforts.

Evaluation

Although evaluation often comes as the final step in the research process, planning for evaluation occurs during the entire research process, with three key milestones. The first occurs during the research proposal process, which involves an evaluation of proposal's value. The second happens after completion of the research project to determine if the project accomplished its goals and if results can be implemented. The third takes place after implementation of research results to see the applied impact of the research.

IMPLEMENTATION ACTIVITIES

Research Implementation Committee (RIC)

The LRRB works through its RIC to make research information available and to transfer research results into practical applications. The RIC focuses on implementing the results of transportation research. Its members are four county and two city engineers, the Mn/DOT Deputy State Aid Engineer, a Mn/DOT District State-Aid Engineer, a Mn/DOT RSS representative, a Mn/DOT Office of Materials representative, and a non-voting University of Minnesota, CTS representative. Other support staff from Mn/DOT RSS and the University of Minnesota, CTS provide support services. At least one local agency member must also be a member of the LRRB to ensure the link between the LRRB and the committee.

The RIC membership is subject to term limits. The Local Engineer Chair of the RIC is selected to serve a maximum of a single, 3 year term. All local members are selected to serve a maximum of a single, 6 year term. At least one local agency member per year is appointed to their individual 6 year term, thus ensuring an annual succession cycle that completely recycles every 6 years. Terms for non-local members are indefinite, with the exception of the District State Aid Engineer whose term will cycle every 4 years. See Attachment G of this LRRB strategic plan for current membership list and Attachment H for the RIC Orientation Manual.

The RIC uses a variety of methods to reach engineers and others with new developments, including presentations, videos, written reports, pamphlets, seminars, workshops, field demonstrations, web-based technology, and on-site visits.

The LRRB continues to look for new ways to turn research results into applications that save money or improve practice. These efforts include exploring new communication technologies and alternative methods of delivering on-site training and assistance.

Minnesota Transportation Libraries

A collaborative effort of LRRB, CTS, and Mn/DOT, the Minnesota Transportation Libraries make transportation-related information more readily accessible by providing services through the [Mn/DOT Library](#), the [CTS Library](#), and other Knowledge Networks.

The two libraries work together to offer library and information services to the state's transportation community. These services include literature searches on transportation topics and assistance with reference and research questions. With access to an international catalog of resources, library staff can identify, locate, and borrow transportation-related information materials from libraries around the world for local use. Library staff catalog LRRB and other project reports, videos, and other materials and add this information to this same international catalog. As a result, Minnesota's research products can be identified by researchers and practitioners around the globe.

The libraries also provide desktop access to transportation information resources. Transportation officials can use these services to search the Transportation Research Board's (TRB) Transportation Research Information Services (TRIS) database and other information resources by using the internet.

The library web sites provide links to the libraries' catalog of books and reports, a searchable catalog of videotapes for loan to local transportation officials, a listing of journals and magazines that the libraries receive, and links to other important

information resources, including technology transfer centers and catalogs and sources for standards and specifications.

Mn/DOT Library and CTS Library, collaborate with other transportation libraries in developing expanded services. Recent developments include:

- a) Creation of the Midwest Transportation Knowledge Network (MTKN). The network is intended to increase access for state and local transportation officials to information resources held by DOTs and Universities throughout FHWA's Region 3.
- b) Development of TL Cat, a free to the user, online service accessible to local transportation officials that combines the catalogs of 20 of the nation's largest transportation libraries. The TL Cat database of transportation information resources is second in size only to TRB's TRIS Online service and lists many resources not included in TRIS.
- c) Participation in a pooled fund study aimed at developing transportation libraries in other state DOTs and creating a national network of transportation libraries modeled on the successes of MTKN to further improve access to transportation information for state and local transportation officials.

Local Technical Assistance Program (LTAP)

A collaborative effort by the LRRB, the Federal Highway Administration (FHWA), Mn/DOT, and the University of Minnesota's CTS provides support and direction for a variety of transportation implementation activities. The [LTAP](#) is composed of a national network of centers – one in every state, Puerto Rico, and regional centers serving tribal governments. The LTAP national network maintains important links to national research implementation and technology transfer efforts. The LTAP mission is to foster a safe, efficient, environmentally sound transportation system by improving skills and knowledge of local transportation providers through training, technical assistance, and technology transfer.

Under the LTAP Program, FHWA offers each center base funding with the requirement of each to secure matching funds at the local/state level. LRRB matches federal funding for the Minnesota LTAP Program to support its base program services, including delivery of ongoing and subsidized training workshops, quarterly publication of the Technology Exchange newsletter, maintenance of a customer database of more than 6,500 customers, library lending and reference services, and information and technical assistance referral.

In addition to matching base program funds, the LRRB uses “continuing program funds” to annually support continued, in-demand LTAP services that extend beyond the base services. These continuing activities include:

- Maintenance Research Expos
- CTAP, and
- Student Transportation Career Expos

The LTAP also requests special program funds for priority research implementation and training needs as identified by the LTAP Program Steering Committee, chaired by the Mn/DOT Director of State Aid for Local Transportation Division.

The Minnesota LTAP Program closely supports all LRRB research implementation and technology transfer initiatives through its participation and membership on the RIC, its partnerships with RSS and Mn/DOT Maintenance Research, and its collaboration with many Mn/DOT technical offices to participate in cooperative local agency technology transfer and training initiatives.

Minnesota LTAP, in working with its national, state and local transportation agency partners, provides a wide range of tools and strategies to effectively implement research, share best practices and develop new knowledge and skills. These tools broadly include workshops and interactive web-based training, conferences and key expert discussions, product demonstrations, best practice manuals and technical resource guides, and web-based resources and electronic news items. The LRRB has supported a broad range of training and communications outreach tools to support its research implementation goals.

LRRB ACTIVITY ADMINISTRATION

General

Investigation 999 serves as LRRB's administrative account. Expenditures from this account provide funding for administrative support, program development, and work not covered by a specific LRRB investigation. The following lists items funded under Investigation 999:

- ◆ LRRB meeting expenses
- ◆ LRRB and staff expenses for meetings and approved conference allocations (see Attachment C)
- ◆ Publication of reports, videos, DVDs, CD-ROM, and other technology transfer products from LRRB research
- ◆ Purchasing of published reports for distribution to LRRB constituents
- ◆ Special expenses for LRRB authorized activity for input to research in progress and technology transfer to LRRB constituents
- ◆ Project development before programming
- ◆ Consultant services for development of research proposals
- ◆ Monetary support for two Mn/DOT administrative support positions in RSS
- ◆ LRRB outreach program, newsletters, development of presentations, exhibits, and displays at conferences.
- ◆ Maintenance of the LRRB Website.

At the annual programming meeting, the LRRB allocates enough investigation account funds to cover the subsequent year's anticipated expenses.

Subcommittees and Programs

In addition to the LRRB's RIC Committee (See Page 25), there are two standing subcommittees and an operational research program of LRRB members and staff to carry out LRRB operations.

The Outreach Subcommittee

This committee includes LRRB members and staff from Mn/DOT and LTAP. LRRB established this committee to increase the awareness of LRRB functions and products within the transportation community. This committee meets as needed to review current LRRB marketing practices and public relations strategies.

The Strategic Planning Subcommittee

This committee includes LRRB members and staff from Mn/DOT. This committee meets at least every 3 years to review the current LRRB strategic plan and revise or add strategies to reflect the latest transportation needs. The updated strategic plan is discussed and approved by the full LRRB.

The Operational Research Assistance (OPERA) Program

This program exists to promote innovations in operations and maintenance methods, materials and equipment. The program funds projects up to \$10,000. Project selection is conducted by the [OPERA](#) program selection committee meeting as needed. A requirement of the program is a written report which is due upon completion of the project.

Staff Support

RSS provides primary support for LRRB's function and operation (see Attachment J). RSS staff administers the LRRB program, as well as fulfilling individual research project liaison duties.

RSS administrative responsibilities include making arrangements for meeting sites and associated accommodations. RSS prepares and distributes meeting agendas and records LRRB meeting minutes. RSS also prepares the contractual documentation and agreements necessary to carry out the research program. In addition, RSS maintains the LRRB's financial records and those of each research project.

Research project liaison duties include monitoring and reporting the progress of LRRB projects. RSS assembles and submits LRRB's annual report of approved research projects to the Commissioner of Transportation by June 1st.

[Office of Materials](#) staff also serves LRRB in the role of technical advisors. At LRRB's request, the office's staff aids and advises LRRB on topics related to materials design, construction, and maintenance. Staff insight into current state-of-the-art developments helps LRRB to make sound, technically correct decisions. In addition, the Office of Materials conducts and provides technical support for LRRB projects.

Other similar offices within Mn/DOT may conduct research for LRRB and/or provide technical support for LRRB projects.

Meetings

The LRRB meets formally four times annually. (The LRRB also may call additional programming meetings.) Meetings are typically scheduled on normal workdays. The meeting room layout allows LRRB members to interact directly with other members and provides priority seating to LRRB members and key staff and background seating for additional support staff, guests, and others. Lunches and breaks are typically provided.

The LRRB generally schedules subsequent meeting date(s) at the previous LRRB meeting. Unless the LRRB otherwise directs, LRRB staff determine the meeting site, make arrangements, and distribute the agenda, previous meeting minutes, and other pertinent information 2 weeks before the meeting.

At every meeting the current program is distributed for the board's review. This program review includes a financial update documenting available funds. Brief presentations from research investigators and presentations requesting additional funding may be heard at each meeting and if time is available, tours of transportation research sites and facilities or interesting transportation test sections may be arranged.

Strategy Meeting – Spring

The spring meeting functions as a 2nd programming meeting and strategy identification meeting, with specific emphasis placed on identifying research topics for the subsequent year. At this meeting, the LRRB makes decisions on ongoing funding commitments, every other year on RIC funding, and approves the next year's travel budget. Information on projects completed during the past year is provided and members are encouraged to review this information prior to the summer meeting where a focus on implementation strategies is conducted.

Project Review Meeting – Summer

The summer meeting is a joint meeting between LRRB and RIC members. This two-day summer meeting takes place outside of the metro area, typically in a current LRRB member's city or county. When possible, LRRB staff arranges a field tour of a nearby research installation or project site. This meeting includes formal adoption of the upcoming year's strategic plan. During this meeting, the LRRB uses focus group feedback, themes and gaps identified in Research Road Map efforts and completed research reports to determine research needs for the upcoming RFP and implementation strategies for the RIC. Information on projects completed during the past year is provided.

Program Review Meeting – Fall

The fall meeting focuses on the status of active and ongoing LRRB projects. An update on the research RFP is provided and any information relevant to the upcoming programming meeting is distributed.

Focus groups or research seminars for the upcoming year are scheduled and the strategic plan is used to help coordinate future research strategies for the upcoming year.

Programming Meeting – Winter

Informal Meeting

The informal winter meeting focuses on reviewing the LRRB member's top ranked research proposals received during the RFP process and identifies those proposals for which presentations will be heard at the formal meeting.

Formal Meeting

The formal winter meeting is reserved for identifying those projects that the LRRB will fund in the upcoming calendar year. At this meeting, LRRB members hear brief presentations from research investigators. LRRB members have the opportunity to ask the researchers questions at the conclusion of each presentation. The LRRB then votes on funded projects. The LRRB may schedule an additional meeting, if necessary, to complete the programming task.

Unless otherwise directed by the LRRB, the sharing ratio for LRRB-funded projects will stay fairly consistent with the standard breakdown of: County - 76.32 percent and Municipal - 23.68 percent.

Annual Report

Each year RSS prepares and submits an annual report for submittal by the LRRB to the Commissioner of Transportation. The report includes a table that lists the LRRB-funded projects for that year. The report also includes a more detailed project-by-project review (see Attachment I) that includes project descriptions, schedules, and budgets.

RSS typically prepares the report, which reflects those projects funded at the previous programming meetings, to the Commissioner by June 1st. The LRRB Chair, the State-Aid LRRB representative, and the LRRB Secretary sign the cover letter that accompanies the report.

Funding Cycle

Each year, the County Screening Board and the City Screening Committee recommend to the Commissioner a sum of money that the Commissioner shall set aside from the county state-aid highway fund and the municipal state-aid street fund. According to Minnesota statutes, the amount set aside from each of these funds shall not exceed 1/2 of one percent of the preceding year's apportionment sum.

The LRRB's funding cycle is based on the calendar year. Yearly funds set aside for the LRRB can be carried forward for one year. Any balance remaining in the research accounts at the end of each year from the sum set aside for the year immediately previous, are transferred back to the county and municipal state aid highway funds. The LRRB annual budget has grown from about \$86,000 in 1960 to a current budget of approximately \$2.3 million.

Evaluation

RSS will collect, summarize, and present information on proposed research projects and assist the LRRB in selecting the appropriate research projects for funding. At the completion of the research project, the TAP determines if the research project accomplished its objectives. The TAP also looks at the implementation potential of the project. The LRRB and RIC receive the post-research project evaluation information for appropriate action. Finally, RSS works with local government transportation practitioners after implementation of research results to determine the research's ultimate impact. The LRRB receives this information on a regular basis.