



# **Transportation Engineering and Road Research Alliance**

**FY2012**

**July 1, 2011 – June 30, 2012**

# **BUSINESS PLAN**

**February 8, 2012**

# TABLE OF CONTENTS

I.	PURPOSE OF TERRA .....	1
II.	BACKGROUND .....	2
III.	TERRA STRATEGY .....	3
	Mission .....	3
	Vision .....	3
	Strategic Directions .....	3
IV.	TERRA BUSINESS DIRECTIONS .....	4
	Investment Guidelines .....	4
	Measures and Targets .....	4
	TERRA Product Lines .....	5
V.	TERRA PROJECT SELECTION PROCESS .....	6
	Description .....	6
	Flowchart .....	7
VI.	TERRA ACTION PLAN .....	8
	Member and Partner Engagement Committee .....	8
	Research and Implementation Committee .....	9
	Marketing and Communications Committee .....	10
	Coordinating Committee .....	12
	APPENDIX A: TERRA Board Members as of September 20, 2011 .....	A-1

# TERRA FY2012 BUSINESS PLAN

## I. PURPOSE OF TERRA

TERRA, The Transportation Engineering and Road Research Alliance is a road research governance structure that will facilitate a comprehensive research program, with strategic focus to take advantage of the MnROAD test facility and associated resources. TERRA reflects the full capacity of the partners to conduct significant research, building on previous accomplishments.

While the primary focus will be to expand pavement-related research opportunities, other compatible research such as vehicle technologies and driver communications will be pursued in order to diversify funding.

TERRA exists to:

- Guide future pavement research investments and activities;
- Exchange information, share ideas, and learn research results;
- Develop relationships, and provide a network for expanded collaboration and development of proposals;
- Attract key public, industry, academic and other program partners to contribute resources; and,
- Expand entrepreneurial use of the capacity and capabilities of the MnROAD facility by pursuing opportunities to serve a broader research community.

The following Business Plan describes the direction of TERRA, defines the Board structure, and serves as a critical step towards implementing the vision for TERRA.

## II. BACKGROUND

MnDOT asked the Center for Transportation Studies (CTS) at the University of Minnesota to involve key stakeholders in the evaluation of new partnership and governance structures. The Task Force was charged by then MnDOT Deputy Commissioner Douglas Differt to investigate options and make recommendations for the future governance of MnROAD. In March 2004, the Task Force published a report entitled “Pavement Research Governance”, describing its recommendations to MnDOT. The report was accepted by MnDOT. These recommendations included the creation of a new pavement research governance structure and identity (TERRA) to take greater advantage of the MnROAD facility.

In December 2004 the TERRA Board held an initial strategic planning session. Invited guests joined Board members for the morning session of this meeting to help determine the needs of the transportation engineering and road research industry. Board members then spent the afternoon synthesizing the information provided and determined a course of action for the TERRA organization. A complete report from the session is available upon request.

The TERRA Board held a second strategic planning session in October 2007 to assess the status of the organization and provide direction for the next five years. Upon completion of the 2007 strategic planning session, an updated Strategic Plan for the organization was created, centered around five strategic directions. The five-year Strategic Plan, which guides this Business Plan, is available upon request.

### III. TERRA STRATEGY

#### **Mission**

To develop, sustain, and communicate a comprehensive program of research on pavement, materials, and related transportation engineering challenges, including issues related to cold climates.

#### **Vision**

A dynamic partnership of government, industry, and academia that continuously advances innovations in road engineering and construction.

#### **Strategic Directions**

- Defining and launching a bold and synergistic research program
- Implementing research results “on the ground”
- Setting up activities that enhance TERRA’s role as a dynamic forum for research interchange
- Expanding TERRA’s membership proactively
- Developing governance and operating structures that assure a thriving, changing, and sustainable organization

Priority actions for these directions can be found in the Strategic Plan.

## IV. TERRA BUSINESS DIRECTIONS

### Investment Guidelines

To provide specific direction to setting priorities, TERRA members and partners will utilize some guidelines in directing their resources. This will outline how these resources are structured to facilitate achieving its strategic directions.

- 1) There will be operating budgets for TERRA committee activities, marketing, and technology transfer.
- 2) Key investments will be based on TERRA performance targets and measures.
- 3) Priority will be given to addressing gaps between targets and performance.
- 4) Through entrepreneurial efforts, acquire additional resources.
- 5) Customer input will be evaluated in all decisions.
- 6) Research will be performed by qualified, timely, and cost-effective researchers.

### Measures and Targets

Along with investment guidelines, measures and targets were developed to serve as a key point of guidance for development of this plan.

- A **measure** is a set of values that tracks progress toward a desired end result for a customer.
- A **target** is tied to a measure and is the level of service to be delivered to customers for a specific period of time.

Performance targets enable TERRA members and partners to direct their resources and strategies to deliver specific levels of services and products to its customers. Long-term targets define the gap between system and customer needs and current levels of service, generally with unconstrained resources. Setting achievable targets is a challenging art, especially in areas of influences beyond TERRA. As more performance and cost data are accumulated, and as forecasting tools are improved, TERRA will be able to better calibrate targets.

Performance measures for FY2012, as defined by each of the TERRA committees, are shown below.

### Member and Partner Engagement Committee

---

*Related Strategic Direction: Expanding TERRA's membership proactively*

1. Number of organizations represented on board
2. Number of new members
3. Number of partner organizations
4. Number of research project ideas submitted

## Research and Implementation Committee

*Related Strategic Directions: Defining and launching a bold and synergistic research program; Implementing research 'on the ground'; Setting up activities that enhance TERRA's role as a dynamic forum for research interchange*

1. Number of research project ideas considered by the committee
2. Number of research projects initiated by TERRA
3. Research funding level from new partners
4. Number of research implementation highlights

## Marketing and Communications Committee

*Related Strategic Directions: Implementing research 'on the ground'; Setting up activities that enhance TERRA's role as a dynamic forum for research interchange*

1. Number of recipients of TERRA e-newsletters
2. Number of visits to TERRA website
3. Number of participants at TERRA events/demos
4. Number of TERRA publications

## TERRA Product Lines

There are product lines that relate to customer benefit. Product lines are defined as a group of closely related products and services.

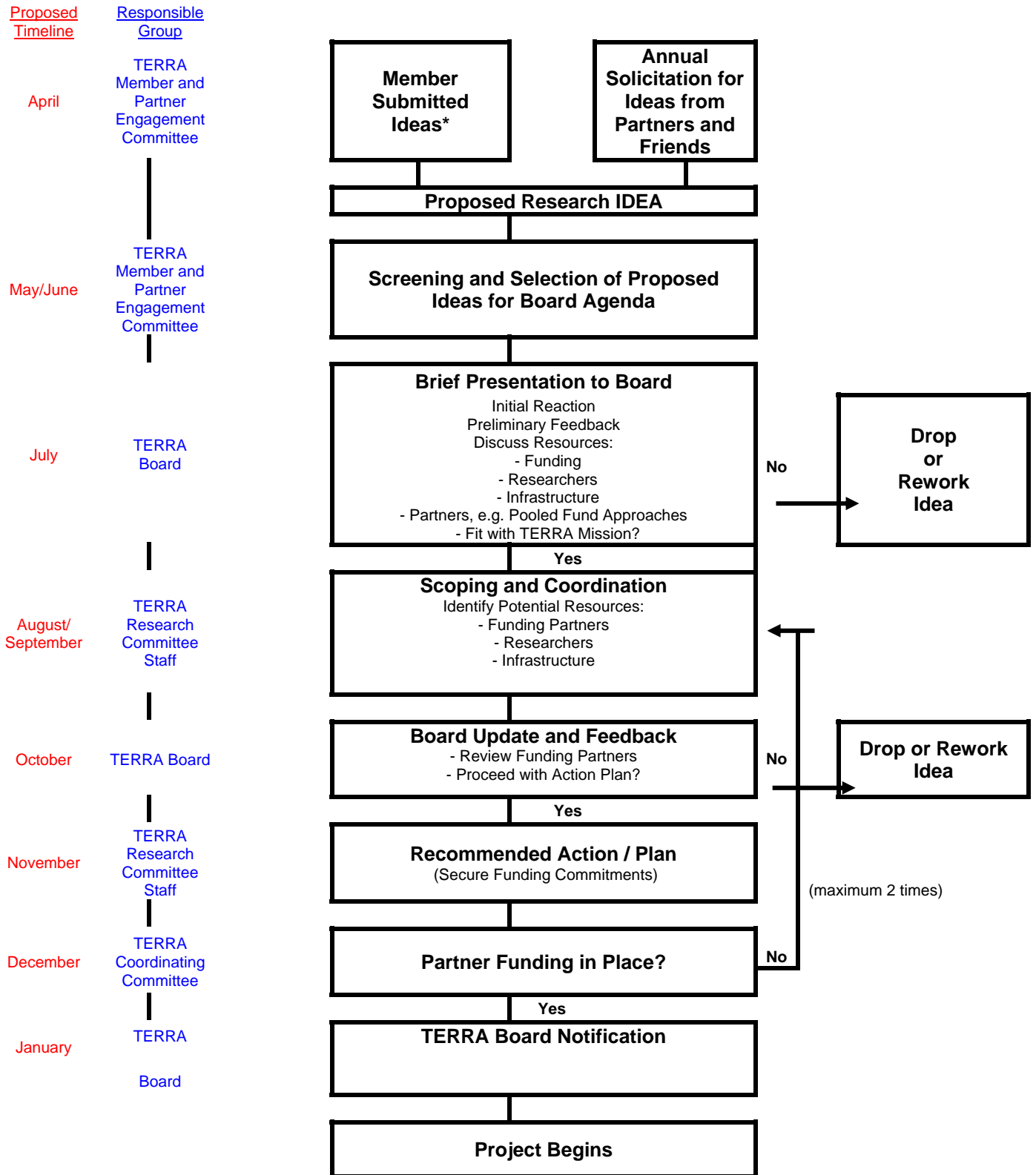
<b>Product Line</b>	<b>Description</b>
MnROAD Research Facility	This 150 acre facility in a cold climate environment includes 6 miles of research capable roadways. These roadways include fifty-one different pavement structures featuring extensive automated measurement and data collection capabilities. Options for loading test sections range from live freeway traffic to controlled and limited loadings.
Pavement Expertise	TERRA represents a unique and broad collection of pavement stakeholders embodying a wealth of expertise. TERRA provides a forum for the sharing and leveraging of that expertise amongst members. TERRA will also foster research and technology transfer programs that develop new information and increase the knowledge of the transportation community.
Influence over Future Research Investment and Activities	TERRA Board members will participate in the identification and prioritization of potential research projects.
Communication Tools	Through TERRA activities (i.e. committees) and communication products (i.e. web pages and summaries of research results) members will have immediate and first hand access to research results.
Collaboration Opportunities	TERRA creates a networking environment with unlimited opportunities to collaborate in solving shared problems and to pool/leverage resources resulting in more efficient research efforts.

## **V. TERRA PROJECT SELECTION PROCESS**

The TERRA organization has developed the General TERRA Project Selection Process to utilize when research project ideas are presented to the Board. This process allows the input of research ideas in two manners: ideas may be submitted by members at any Board meeting, or ideas may be submitted by partners and friends through an annual solicitation process. The General TERRA Screening Process can be seen on page 7.

# TERRA Project Selection Process

## January 2009



\*Members can submit ideas at any quarterly Board meeting; ideas do not necessarily need to follow this timeline.

## VI. TERRA ACTION PLAN

### Member and Partner Engagement Committee

*Related Strategic Direction: Expanding TERRA's membership proactively*

#### **FY2011 Accomplishments:**

Action	When
1. Identified and recruited new members and partners to fill gaps in membership: <ul style="list-style-type: none"> <li>• Secured one new state DOT member</li> <li>• Secured one new private industry member</li> </ul> Provided data to the Coordinating Committee on the number of new members for budget implications	June 2011
2. Secured commitments for FY11 membership renewals. Sent letters to begin FY12 renewal process.	January 2011
3. Coordinated with the R&I committee to ensure any connections from the screening process were communicated to the MPE committee.	June 2011
4. Strengthened the definition of member and partner, including benefits to each group. Continued actively engaging TERRA partners.	June 2011
5. Engaged the USDOT (EPA, FAA, FTA for example) in TERRA and considered leveraging opportunities for potential research funding at both the program and project level.	June 2011
6. Engaged with delegates of TERRA members states.	June 2011
7. Continued the TERRA Project Selection Process annual solicitation for ideas from partners and friends.	May 2011
8. Collected data and report on performance measures for the MPE Committee.	October 2011

#### **FY2012 Action Plan:**

Action	Target Completion Date	Lead
1 Identify and recruit new members and partners to fill gaps in membership: <ul style="list-style-type: none"> <li>• Secure one new state DOT member</li> <li>• Secure one new international member</li> <li>• Secure one new academic member</li> <li>• Secure one new private industry member</li> </ul> Provide data to the Coordinating Committee on the number of new members for budget implications.	June 2012	MPE Committee
2 Secure commitments for FY12 membership renewals. Send letters to begin FY13 renewal process.	January 2012	CTS

3	Coordinate with the R&I Committee to ensure any connections from the screening process are communicated to the MPE Committee.	June 2012	Steph Malinoff; Maureen Jensen
4	Continue actively engaging TERRA partners.	June 2012	MPE Committee
5	Engage federal and regional agencies (FHWA, FAA, FTA, EPA for example) in TERRA on a project level and consider leveraging opportunities for potential research funding at both the project and program level.	June 2012	MPE Committee
6	Continue the TERRA Project Selection Process annual solicitation for ideas from partners and friends and conduct initial screening.	April 2012	CTS; MPE Committee
7	Collect data and report on performance measures for the MPE Committee.	June 2012	CTS

### **Research and Implementation Committee**

*Related Strategic Directions: Defining and launching a bold and synergistic research program; Implementing research 'on the ground'; Setting up activities that enhance TERRA's role as a dynamic forum for research interchange*

#### **FY2011 Accomplishments:**

<b>Action</b>		<b>When</b>
1	Became an incubator for research and implementation plans and proposal so that the collective knowledge and resources of TERRA members were applied and goals were met, including reviewing research proposals as directed by the TERRA Board.	June 2011
2	Coordinated and conducted seminars and workshops to share innovations among TERRA members.	May 2011
3	Pursued opportunities for new projects at MnROAD as cells were available, including opportunities beyond Minnesota. Coordinated research opportunities with TERRA member organizations.	June 2011
4	Reported and discussed TERRA projects, including findings and data analysis.	June 2011
5	Reviewed committee membership with a goal to broaden representation from state DOT TERRA board members; used technology to connect members outside of Minnesota to the meetings.	June 2011
6	Provided topic ideas to the MC Committee for fact sheet topics and E-news articles.	June 2011
7	Collected data and report on performance measures for the R&I Committee.	June 2011

**FY2012 Action Plan:**

Action		Target Completion Date	Lead
1	Become an incubator for research and implementation plans and proposal so that the collective knowledge and resources of TERRA members are applied and goals are met, including reviewing research proposals as directed by the TERRA Board.	June 2012	R&I Committee
2	Coordinate and conduct seminars and workshops to share innovations among TERRA members.	May 2011	R&I Committee
3	Pursue opportunities for new projects at MnROAD as cells are available, including opportunities beyond Minnesota. Coordinate research opportunities with TERRA member organizations.	June 2012	R&I Committee
4	Report and discuss TERRA projects, including findings and data analysis.	June 2012	Maureen Jensen
5	Review committee membership with a goal to broaden representation from state DOT TERRA board members; use technology to connect members outside of Minnesota to the meetings.	June 2012	R&I Committee, CTS
6	Provide topic ideas to the MC Committee for fact sheet topics and E-news articles.	June 2012	R&I Committee
7	Collect data and report on performance measures for the R&I Committee.	June 2012	CTS

**Marketing and Communications Committee**

*Related Strategic Directions: Implementing research ‘on the ground’; Setting up activities that enhance TERRA’s role as a dynamic forum for research interchange*

**FY2011 Accomplishments:**

Action		When
1	Held one TERRA Innovation Series event, including press releases, in Wisconsin. Engaged the leadership of the host organization.	August 2010
2	Maintained TERRA website.	June 2011
3	Distributed quarterly TERRA electronic newsletter.	July & Oct. 2010; Jan. & Apr. 2011

4	Distributed materials, and consider exhibiting, at events with audiences interested in recent TERRA publications (fact sheets, written reports, etc.).	June 2011
5	Communicated with FHWA staff.	June 2011
6	Developed customized materials as requested by Board members.	June 2011
7	Coordinated communications with the Research and Implementation Committee.	June 2011
8	Sponsored the TERRA Pavement Conference, including active participation on the planning committee.	February 2011
9	Developed two Research Fact Sheets.	July 2010 & Jan. 2011
10	Developed a one-pager highlighting accomplishments in FY11.	January 2011
11	Collected data and report on performance measures for the Marketing and Communications Committee.	June 2011

**FY2012 Action Plans:**

	<b>Action</b>	<b>Target Completion Date</b>	<b>Lead</b>
1	Host a TERRA Open House at the MnROAD facility with a specific goal to engage policy makers, especially those in TERRA member states. This event will also be counted as the Innovation Series event.	October 2011	MC Committee; CTS
2	Maintain TERRA website.	June 2012	CTS
3	Further redesign of the TERRA website, including the addition of graphics, direct links to TERRA projects, and potential Wiki groups.	July 2011	CTS
4	Distribute quarterly TERRA electronic newsletter. Continue to track E-news subscribers, web hits, E-news open rate, and click rate. Consider a TERRA E-news subscriber survey.	June 2012	CTS
5	Distribute materials, and consider exhibiting, at events with audiences interested in recent TERRA publications (fact sheets, written reports, etc.).	June 2012	MC Committee
6	Develop customized materials as requested by Board members. Tailor PPT presentation to audience.	June 2012	MPE & MC Committee
7	Coordinate communications with the R&I Committee.	June 2012	MC & RI Committees

8	Sponsor the TERRA Pavement Conference, including active participation on the planning committee. Consider sponsorship of other conferences, especially conferences sponsored by TERRA member organizations.	February 2012	MC & Research Committees
9	Develop two research fact sheets.	May 2012	CTS
10	Develop a one-pager highlighting accomplishments in FY12. Include in E-news and as post online.	January 2012	CTS
11	Collect data and report on performance measures for the MC Committee.	June 2012	CTS

### **Coordinating Committee**

#### **FY2012 Action Plan:**

	<b>Action</b>	<b>Target Completion Date</b>	<b>Lead</b>
1	Provide direction and support for three board meetings. CTS will prepare all materials; CC will be responsible for review, input, and strategic planning.	June 2012	Coordinating Committee; CTS
2	Provide direction and support for four Coordinating Committee meetings. CTS will prepare all materials; CC will be responsible for review, input, and strategic planning.	June 2012	Coordinating Committee; CTS
3	Provide input and direction in development of FY13 TERRA operations budget, ensuring a balanced budget.	June 2012	Coordinating Committee; TERRA members
4	Review and provide direction on FY13 TERRA Performance Measures and Business Plan and FY09-FY13 TERRA Strategic Plan.	June 2012	Coordinating Committee, MCC, MPE, & R&I; TERRA members
5	Engage state, local, and national policymakers in TERRA and consider their attendance and participation at the TERRA Innovation Series event.	June 2012	Coordinating Committee
6	Lead planning and development to update the TERRA Strategic Plan.	June 2012	Coordinating Committee
7	Communicate with FHWA staff and consider an in-person meeting with Debra Elston and/or other appropriate staff at Turner Fairbanks. Meeting should have a specific project focus.	June 2012	Coordinating Committee
8	Provide support to all three TERRA committees, including agenda development and meeting notes.	June 2012	CTS

## APPENDIX A: TERRA Board Members as of February 8, 2012

---

**Rory Rhinesmith, (Co-chair),**

Director of Regional Operations, Division of Transportation Systems Development, Wisconsin Department of Transportation

**Dan Wegman (Co-chair),**

Account Manager, Road Science, A Division of ArrMaz Custom Chemicals

**Bernie Arseneau,**

Deputy Commissioner and Chief Engineer, Minnesota Department of Transportation

**Leif Baklokk,**

Senior Principal Engineer, Norwegian Public Roads Administration

**Roberto Ballarini,**

Professor and Department Head, Department of Civil Engineering, University of Minnesota

**Mike Barnes,**

Director, Operations Division, Minnesota Department of Transportation

**Tom Bold,**

Pavement Design and Research Supervisor, North Dakota Department of Transportation

**Steven Bower**

Engineer of Research, Research and Best Practices, Michigan Department of Transportation

**John Bukowski,**

Senior Pavement Engineer, Federal Highway Administration

**André Clover**

Research Program Manager, Bureau of Field Services/Executive, Michigan Department of Transportation

**Fred Corrigan,**

Executive Director, Aggregate and Ready Mix Association of Minnesota

**Mark Dunn,**

Operations Research Engineer, Iowa Department of Transportation

**Emily Fischer,**

Etranstech, LLC (representing Northland Chapter of ATSSA)

**Gary Frederick,**

Director, Transportation Research and Development, New York State Department of Transportation

**Julie Garbini,**

Executive Director, RMC Research and Education Foundation

**Jacob Hiller,**

Assistant Professor, Michigan Tech University

**Ron Horner,**

Materials and Research Engineer, North Dakota Department of Transportation

**Steven Krebs**

Chief Materials Management Engineer, Wisconsin Department of Transportation

**Mark Maloney,**

Director of Public Works, City of Shoreview, Minnesota (representing Minnesota LRRB)

**Laurie McGinnis,**

Director, Center for Transportation Studies, University of Minnesota

**Shashi Nambisan,**

Director, Institute for Transportation, Iowa State University

**Matthew Oman,**

Senior Engineer, Braun Intertec

## **TERRA Board Members, Con't.**

---

**Bob Orthmeyer,**

Senior Pavement Engineer, Federal Highway Administration

**Dean Potts,**

Engineering Manager, Caterpillar Inc.

**Gerald Reinke,**

President, Mathy Technology and Engineering Services and Technical Director, Mathy Construction Company

**Keith Shannon,**

Director, Office of Materials and Road Research, Minnesota Department of Transportation

**Mike Sheehan,**

County Highway Engineer, Olmsted County, Minnesota (representing Minnesota LRRB)

**Julie Skallman,**

Director, State Aid Division, Minnesota Department of Transportation

**Dan Staebell,**

Director of Pavement Services, Mathy Construction Company

**Larry Sutter,**

Professor, Construction Materials; Director, Michigan Tech Transportation Institute; and Director, University Transportation Center for Materials in Sustainable Transportation Infrastructure, Michigan Tech University

**Peter Taylor,**

Associate Director, National Concrete Pavement Technology Center, Institute for Transportation, Iowa State University

**Derrell Turner,**

Minnesota Division Administrator, Federal Highway Administration

**Gerald Voigt,**

President and CEO, American Concrete Pavement Association

**Rich Wolters,**

Executive Director, Minnesota Asphalt Pavement Association

**Tim Worke,**

Director, Transportation and Highway Division, Associated General Contractors of Minnesota

**Matt Zeller,**

Executive Director, Concrete Paving Association of Minnesota

## **TERRA BOARD RESOURCE STAFF**

---

**Maureen Jensen,**

Manager, Road Research Section, Office of Materials and Road Research, Minnesota Department of Transportation

**Kaydee Kirk,**

Program Coordinator, Center for Transportation Studies, University of Minnesota

**Stephanie Malinoff,**

Manager of Outreach Services and Events, Center for Transportation Studies, University of Minnesota

**Roger Olson,**

Research Operations Engineer, Office of Materials and Road Research, Minnesota Department of Transportation