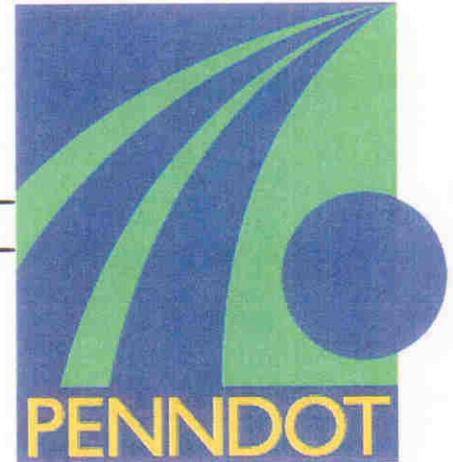


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**COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION**

PENNDOT RESEARCH



**RAC MENTORING AND TRAINING FRAMEWORK
EDUCATIONAL GUIDELINES**

**University-Based Research, Education,
and Technology Transfer Program**

AGREEMENT NO. 359704, WORK ORDER 115

FINAL REPORT

September 2002

By J. A. Anderson, A. F. Davenport, and M. A. Horton

PENNSSTATE



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FINAL REPORT

Prepared for

Commonwealth of Pennsylvania
Department of Transportation

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16. Abstract <p>The American Association of State Highway and Transportation Officials (AASHTO) Research Advisory Board (RAC) advises the AASHTO Standing Committee on Research (SCOR), works with the National Cooperative Highway Research Program (NCHRP), performs high-value research, and works with the Transportation Research Information System (TRIS) and Research in Progress (RIP) systems. As such, RAC members perform many important functions. When they are promoted to their positions, many new RAC members lack a working knowledge of RAC's background, function, and resources. This knowledge is necessary to operate their state department of transportation (DOT) research program successfully, and maximize their function within the committee. New RAC members run the risk of being generally unaware and uninformed of the full scope of their duties, responsibilities, capabilities, contacts, and resources as RAC members. New RAC members need proper orientation instruction.</p> <p>As part of a program to inform, instruct, and provide assistance to new RAC members, RAC has developed an orientation program called RAC 101, and designed a Mentor-Protégé Program. The objective of both RAC 101 and the Mentor-Protégé Program is that new RAC members quickly and easily assimilate into the RAC community to maximize their effectiveness in their new roles and for their state DOT.</p> <p>RAC has long needed vehicles to build organizational identity and develop knowledge among its members. These two initiatives can help the organization move toward those goals.</p> <p>The pilot RAC 101 session was well received and is already being modified for future use. The mentoring program has been fleshed out and awaits implementation. Both programs have a good chance of success, but their ultimate fate depends on senior RAC member support.</p>					
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RAC Mentoring and Training Framework Educational Guidelines

STATEMENT OF THE PROBLEM

The American Association of State Highway and Transportation Officials (AASHTO) Research Advisory Board (RAC) advises the AASHTO Standing Committee on Research (SCOR), works with the National Cooperative Highway Research Program (NCHRP), performs high-value research, and works with the Transportation Research Information System (TRIS) and Research in Progress (RIP) systems. As such, RAC members perform many important functions. When they are promoted to their positions, many new RAC members lack a working knowledge of RAC's background, function, and resources. This knowledge is necessary to operate their state department of transportation (DOT) research program successfully, and maximize their function within the committee. The Transportation Research Board (TRB) meets annually and national RAC meetings are held biennially, yet new RAC members may come into office anytime during the year. If they are appointed after the TRB meeting, they run the risk of being generally unaware and uninformed of the scope of their duties, responsibilities, capabilities, contacts, and resources as RAC members. New RAC members need proper orientation instruction.

As part of a program to inform, instruct, and provide assistance to new RAC members, RAC has developed an orientation program called RAC 101, and designed a Mentor-Protégé Program. The objective of both RAC 101 and the Mentor-Protégé Program is that new RAC members quickly and easily assimilate into the RAC community to maximize their effectiveness in their new roles.

RAC 101 AGENDA DEVELOPMENT

The initial RAC 101 agenda was developed for the regional RAC meeting in summer 2002. Because of the short time between the beginning of this project and the meeting, the initial agenda may differ from the agendas used at RAC 101 meetings in subsequent years.

The agenda was developed by gathering survey data from RAC committee members. A list of possible discussion topics was generated and the topics were then grouped into four categories. Table 1 shows the categories and topics.

Table 1. RAC 101 categories and topics.

RAC History and Function	Research Opportunities	Professional Development	Information Resources
<i>Topics that explain RAC's history and function within the realm of AASHTO, TRB, and SCOR.</i>	<i>Topics that point out opportunities for research including information about funding.</i>	<i>Topics that allow members to develop professional skills that will aid them in future research.</i>	<i>Topics that show researchers where they can find valuable information resources.</i>
<ul style="list-style-type: none"> • History of RAC Including Its Relationship to AASHTO & SCOR • The AASHTO Regional Map • Research Organizations, Funding Streams, & Relationships • RAC Member Responsibilities • How RAC Advises SCOR on Research Proposals • What is TRB? • The NCHRP Ballot Process • FHWA Roles & Partnership • Acronym Soup 	<ul style="list-style-type: none"> • Transportation Pooled Fund Program • Papers, Guidelines, & Federal Requirements Regarding Peer Exchanges • Report Distribution • Federal & State Contracting Regulations (Other Than Funding) • Guidelines for Reports to FHWA 	<ul style="list-style-type: none"> • An Overview of <i>Seven Keys to a Robust Research Program</i> • How to Develop the Annual Work Program & Budget • A View of Different Models of Administration, Program Plans, & Consultant Use • The Mentoring Process within RAC • TRB Annual Visit • Research Implementation Practices • Lessons Learned (Success or Failure) • Methods for Getting Published • Technology Transfer • Research Evaluation of Processes & Outcomes (Scientific Method) • Peer Reviews 	<ul style="list-style-type: none"> • A List of Information Resources Including TRIS, RIP, Each State's <i>Research Program Manual</i>, BTS & NTC Libraries, & Other Resources • High Value Research Web Site

The survey asked members to rank the categories and rate various topics for inclusion in RAC 101. The survey also asked for input on various administrative items regarding RAC 101 and the mentoring program being developed during this project. The results were then analyzed, and all subjects receiving scores higher than the mean were included in the initial agenda. Table 2 lists the topics receiving the highest scores.

Table 2. Topics selected by survey.

Acronym Soup
History of RAC Including Its Relationship to AASHTO & SCOR
RAC Member Responsibilities
The AASHTO Regional Map
The NCHRP Ballot Process
A List of Information Resources Including TRIS, RIP, Each State's <i>Research Program Manual</i> , BTS & NTC Libraries, & Other Resources
FHWA Roles & Partnership
Research Implementation Practices
Research Evaluation of Processes & Outcomes (Scientific Method)
The Mentoring Process within RAC
Technology Transfer
High Value Research Web Site

The RAC 101 developers used these topics to develop a RAC 101 agenda. This agenda called for an introductory session where selected speakers would outline basic background information for the new members, including:

- The history of RAC.
- RAC member responsibilities.
- TRB and its relationship to SCOR and RAC.
- RAC's role in national research.

A second session would cover topics in more depth and be a facilitated session with expert panels. This more interactive session where participants could guide discussion would touch on eleven areas:

- *Seven Keys to a Robust Research Program.*
- Peer exchanges.
- Federal and state contracting regulations (other than funding).
- Guidelines for reports.
- TRIS, RIP, state *Research Program Manuals*, and BTS & NTL libraries.
- Research organizations, UTCs, funding streams, and relationships.
- High value research Web site.
- Transportation Pooled Fund Program.
- Fostering and ensuring the use of the scientific method in the research process.
- Project peer reviews.
- Technology transfer and implementation.

Following this session, participants could provide feedback to give developers guidance for further sessions.

A third session covering success stories, lessons learned, and hot topics would follow. This would be a facilitated discussion with featured participants who would share their experiences. Participants could also discuss other topics of interest.

A concluding (fourth) session would then move the group toward the future of RAC. A short presentation on the RAC Mentoring Program or another developing initiative would provide the new members with an idea of future directions for the organization.

Once this tentative agenda was in place, the developers created PowerPoint® slides to accompany the introductory and final sessions. Additionally, handouts would include:

- A list of appropriate acronyms.
- AASHTO regional map.
- Condensed history of RAC and its relationship to AASHTO, SCOR, & TRB.
- Bulleted list of RAC member responsibilities.
- A diagram of the NCHRP process.
- *Seven Keys to a Robust Research Program*.
- FHWA research guidelines.

Agenda Modification Conference Call

The proposed agenda was circulated to key RAC members, and a conference call was arranged to discuss it. Several RAC members were concerned that a four-hour session would not be well received. Their concerns were based on the following conditions:

- The short preparation time between the conference call and the meeting did not lend itself to an extensive agenda.
- The agenda was characterized as research management 101 instead of RAC 101, the implication being that the agenda was overly ambitious.
- The RAC 101 session was scheduled for a Saturday night. It was felt that participants would not stay at a four-hour presentation.

Given these circumstances, it was decided that the 2002 meeting would run an abbreviated version of RAC 101 as a pilot. The agenda was pared down to a minimum. The first session would remain, but the facilitated (second) session would be reduced to a forty-five minute free discussion on a smaller array of subjects. The third session would be eliminated entirely. The fourth session would remain intact.

The slides developed for the initial agenda would be used with the shortened agenda. Additionally, it was suggested that a “model calendar” be developed as a handout for new members to give them a feel for annual RAC activities. *Seven Keys to a Robust Research Program* and FHWA research guidelines were eliminated.

EDUCATIONAL BASIS FOR AGENDA ITEMS

The RAC 101 session is an attempt by the current RAC body to perpetuate a solid organizational identity for its incoming members. Further, by passing along key concepts to new members, the organization moves toward becoming a “learning organization” as discussed in literature on total quality management. Consequently, it can be said that the RAC 101 initiative is the first step in an organizational transformation.

As Baldwin notes, “Transformation of the culture sustains a learning environment for organizational members. Learning strategies necessary for successful transformation will include educational programs and specialized training for the synergistic effect to become

successful.” (See Works Cited section for publications referred to here and throughout this report.)

In effect, the organization has made a decision to aid new members by providing them necessary information about RAC’s operations. This decision represents a departure from previous practice where new members were left to fend for themselves. RAC 101 also will help the organization deal with turnover among members. There is at least anecdotal information that turnover is slightly higher than it has been in the past, presenting the organization with a situation analogous to rapid growth in private industry. RAC 101 will also serve notice to the research community that one of RAC’s goals is to have a well trained membership to improve the overall quality of research management in the transportation field.

Any of these factors alone could prompt an organization to undertake efforts to establish its identity both to its members and to its peers. According to Albert and Whetten, “The circumstances in which identity becomes important include formation of an organization, loss of a sustaining element (such as a founding father), accomplishment of an organization’s *raison d’etre* (for instance, curing polio), *very rapid growth, change in corporate status such as merger, takeover, or retrenchment.*” (Emphasis added.)

An initiative to establish or clarify organizational identity can pay large dividends to the overall health of the organization. First of all, a clear identity helps to overcome the name recognition factor. This is particularly important in organizations that depend on public financing. For example, everyone has an iconic image of the FBI, the CIA, or the Marines. The image may be positive or negative, but everyone recognizes these organizations immediately. As Young states, “Organizational identity is a collective notion that requires buy-in by key stakeholders.” In RAC’s case, the key stakeholders include RAC 101 participants, RAC members, state DOTs, FHWA, TRB, SCOR, state and federal legislators, and ultimately the motoring public.

The RAC 101 program should seek to meet the following goals:

- Educate new members as to RAC’s function
- Get new members to “buy in” to RAC’s identity and mission
- Bind new members to the organization in a way that motivates them to work toward the organization’s mission in a creative and effective manner
- Serve as a motivating tool for current members
- Be a forum for knowledge transfer
- Increase horizontal communication among RAC members
- Inform RAC members of concerns and topics of interest at the state level

AN AGENDA WITH PURPOSE

When initially planned, the agenda provided for a four-hour session. This length was initially proposed and agreed to by four of the five survey respondents. However, the participants in the conference call opted for a shorter session. The overriding concern seemed to be that the length was not compatible with a Saturday night session.

As a result, RAC 101 exists in two forms. The shortened RAC 101 scheduled for the 2002 meeting would serve as a pilot. It also may be used again when RAC's turnover rate is low. However, the longer version will be useful when RAC membership turnover is high. RAC members have two tools to use and may choose either, depending on the organization's circumstances.

ORGANIZATIONAL AND EDUCATIONAL BASIS FOR THE RAC 101 AGENDA

The RAC 101 agenda was designed to include all of the issues scoring above the mean on the RAC 101 survey. It was designed to be the length preferred by survey respondents. By addressing a variety of issues, the agenda lends itself to a variety of presentation and media, thereby appealing to a wider range of adult learning styles (McArdle, 53).

First Session

Organizational Importance

RAC exists as a sub-committee. Much of its organizational identity is drawn from its relationship to SCOR and TRB. What is unique about RAC is its function. It is the only organization that allows all 52 member DOTs to have input into proposed and current research.

Consequently, the introductory piece focuses on RAC's history and function. This first session is informative in nature, and its main purposes are to:

- Inform new members what RAC does.
- Let new members know what their responsibilities are.
- Bind new members to the organization by starting the key stakeholder "buy-in" process discussed earlier.

Educational Analysis

To help ensure participants retain more information, the presentation employs visual aids. Visual aids are important because they generate interest in the subject matter, encourage participation among the trainees (McArdle, 117), and provide a reference for future use. The visual aids are a PowerPoint® presentation and handouts, including a list of all appropriate acronyms, AASHTO regional map, a condensed history of RAC and its relationship to AASHTO, SCOR, and TRB, a bulleted list of RAC member responsibilities, a RAC model calendar, and a diagram of the NCHRP process.

The first session consists of basic information. New RAC members need to have an understanding of RAC's history and function, but not in-depth knowledge. This session delivers the basic information concisely and gives the new RAC members a basis for understanding more complex material presented in the second session.

Second Session

Organizational Importance

The second session can be held in breakout groups or for the entire group, depending on the number of attendees. The second session focuses on specific RAC functions and resources. The second session's goals are to let the new member know about all the activities and resources RAC provides to the research community. By doing so, the

“organizational bonding” process continues. As individuals realize the importance of the organization’s mission and understand the resources RAC offers, they buy into the organization’s identity. The second session can be recorded and archived for future reference.

Educational Analysis

The two-hour, breakout-group discussions facilitate learning because most “adults in a learning environment gain more from experiencing the concepts being taught than they do from just a lecture or non-interactive presentation” (McArdle, 54).

The second session appeals to a wider variety of learning styles than the first. In particular, “confident learners” should be very comfortable in this setting. A confident learner will set his or her own goals for learning and may even influence the learning goals of those in his or her group (McArdle, 52). It is reasonable to assume that a person who heads a state DOT research department and consistently evaluates research would be a confident learner. Therefore, a breakout session where participants actively engage in a discussion of research management issues would be very productive for a confident learner.

Interactive learning sessions can also be effective for the “transitional learner.” A transitional learner is someone who has just begun a new job or has been promoted to a new position he or she is yet unfamiliar with. Although the participants may be accomplished in their field, they may be new to their positions within their DOTs and are by definition new to RAC. Discussion can help these people to learn from others in their particular position who are more experienced (McArdle, 53).

Third Session

Organizational Importance

The third session is a facilitated discussion of specific research success stories or case studies. This session allows new RAC members to hear firsthand from researchers in the field. The researchers can describe research projects on which they have worked, problems they encountered, and strategies they employed to overcome those problems. This glimpse of “life in the field” can help RAC members empathize with field researchers. A closer tie with researchers and those in the research community can help bond them to the organization.

Educational Analysis

The third session is also an interactive session, but on a slightly more intimate scale. New RAC members can ask direct questions of researchers and bring up topics of their own to discuss. After experiencing the first two sessions, new members should feel comfortable enough to bring up subjects of their own. This session represents the logical progression from the formal presentation in the first session to the less formal second session and the more intimate third session.

Cognitive science is full of literature detailing how storytelling aids knowledge transfer. The reason is that stories enter the realm of “episodic memory, (where) information is stored immediately in the hippocampal region of the brain, then transferred slowly to

long-term storage in the neocortex” (Moll et al). Therefore, a session of success stories can provide participants with a wealth of knowledge in a very short period of time.

The discussion is important in that adults tend to learn and retain information if it is related to real problems and their solutions and they have a chance to apply what they have learned to situations they have faced in the workplace. Open debate is also an excellent way to reinforce learning, as trainees have an opportunity to discover the opinions of their peers (McArdle 52).

Fourth Session

Organizational Importance

By this time, the new RAC member should feel more comfortable with other RAC members and the organization as a whole. During the first three sessions, the new member would have taken the measure of other participants, noting allies, antagonists, swing votes, etc. A person who undergoes this mental exercise is visualizing his or herself as part of the organization, an important step in bonding with the organization. Bonding is necessary for the individual to undertake the work for the organization.

The fourth session lays out the organization’s future plans. If the new member has “bought-in,” he or she should be ready to learn about and be a part of the organization’s future.

Educational Analysis

Psychologically, the fourth session is somewhat of a rest from the “forced” intimacy of the third session. The description of future activities allows the participant to be a passive listener and contemplate his or her place in the organization. By design, however, this session is short so as not lose the participant.

The session concludes with one last “buy-in” activity. The participant is asked for input about the session, and is given a feedback form to complete.

RAC 101 AGENDA SUMMARY

The agendas created by RAC and the developers will serve to socialize and educate new RAC members quickly. RAC members may decide which agenda to use given the time allotted for presentation, when it occurs within the program, and the number of new members attending.

Due to the short time for preparation for the first presentation of RAC 101, the shortened agenda can be used for the first meeting in 2002. This presentation can serve as a pilot program to determine how to modify the agenda in future years.

In future years, the RAC committee should reconsider holding RAC 101 on a Saturday night. As shown previously, RAC 101 offers significant organizational and educational benefits to the organization. It probably should be scheduled at a time when new members are prepared to participate fully.

RAC committee members should get feedback from participants, and incorporate those comments into future RAC 101 sessions. It is anticipated that much of the content of the first and second sessions will remain the same, as this information represents the core knowledge necessary to function as a RAC member. However, planners should update the third and fourth sessions as topics of interest change over the years.

RAC 101 should be evaluated in multiple ways. As stated earlier, feedback from participants is important, but it is only part of the picture. RAC 101 has a very important organizational function as well. RAC 101 participants should be tracked to see if they:

- Remain members of RAC (with normal job changes taken into account).
- Perform their RAC duties successfully.
- Become active participants in RAC functions.
- Make full use of RAC resources.

Updating RAC 101 will be an ongoing process. RAC members should always bear in mind the dual purposes of RAC 101: organizational development and education.

FEEDBACK FROM THE FIRST RAC 101 SESSION

By all accounts the initial RAC 101 session was well received. Due to an extended free discussion period, the session went beyond its originally scheduled ending. Thirteen participants provided feedback on the session.

To enable better understanding the RAC 101 audience, participants were asked to provide some demographic data. It is displayed in table 3 below.

Table 3. Demographic data of RAC 101 participants.

	Least Experienced	Median Experience of Group	Most Experienced
Years in current position (in years & months)	4 months	2 years, 4 months	20 years
Total DOT experience (in years)	2 years	17.5 years	37 years

RAC 101 participants were also asked to assess the session. The first three questions asked participants to place the answers on a scale of 1 to 5, where 1 was “not useful” and 5 was “very useful.” These ratings appear in the table below.

Table 4. Five point Lickert scale responses, RAC 101 evaluation.

Question	Rating
1. Prior to attending RAC 101, did you expect this to be a useful workshop?	4.23
2. Now that it’s over, do you feel this was a useful workshop?	4.38
3. Give your overall reaction to RAC-101 workshop.	4.31

Question four asked participants to rate the presenters for each session. However, the sessions did not conform to the format of the evaluation. Only one person completed this

section. Therefore data from this question is of little use. Future RAC 101 organizers should consider aligning this section with session format, or find other ways to gather session/presenter-specific feedback.

Questions 5 to 8 were “yes-no” questions. The answers appear in the table below.

Table 5. Answers to questions 5 to 8.

Question	Yes	No	No Response
5. Do you expect the handout materials will be useful to you?	11	0	2
6. Would you recommend RAC 101 to a new RAC member?	12	0	1
7. Would you recommend RAC 101 to an experienced RAC member?	12	0	1
8. Would you recommend RAC 101 to any of your staff?	7	3	3

Questions 9 to 11 were short-answer questions.

9. What did you like best about the RAC 101 workshop?

Responses (Number If More Than 1):

Interaction/Q & A–dialogue (7).

Model calendar discussion (3).

Organization layout.

Description and conversations about NCHRP & TRB process.

Overview.

Input from experienced RAC members/officers, NCHRP, FHWA....

10. What did you like least about the workshop, and how would you improve it?

Responses (Number If More Than 1):

Need Copies of Slides (2).

Meeting time did not coincide with scheduled time (2).

Late timing in a long day.

Handouts could have been more detailed. More info on NCHRP/TRB processes.

Too much confusion about TRB rep role & RAC role.

Need more handouts; build on calendar with links to references, examples.

Break out in small groups for 10 to 15 minutes with a senior member.

Make longer; good forum for sharing ideas on research administration issues.

A little long, but discussion was interesting.

11. Additional comments:

Responses (Number If More Than 1):

Need slide handouts.

Reference to RAC Web site.

RTAP no longer exists; add LTAP to abbreviations and acronyms.

AAPA name wrong in abbreviations.

Add R & T Partnership.

Given the limited time, it's important to keep the discussion focused and succinct. A hard-copy handbook or manual would be useful.

How do you get onto RAC listserv?

List of RAC members on AASHTO Web site?

Research final report POC/Preferences. A way to list research projects into RIPs use of TRIS.

List members of SCOR, TRB committees, NCHRP panels, AASHTO committees.

Expand references on model calendar.

Need RAC handbook, TRB org chart, info on how TRB is funded; need handouts on NCHRP—explain that NCHRP is funded separately from TRB core program.

How to get info; more reference materials; show what is on Web site.

Strengthen mentoring program.

Have RAC 101 in conjunction with National RAC meeting (not TRB meeting).

I want to thank you; very helpful in understanding RAC.

RAC handbook? What is that?

Introductions like this can be a lifesaver for a new member. It also could be a great refresher for the old hand.

Include slides in booklet.

Good workshop! Thanks!

RAC 101 AFTER-ACTION REVIEW

It was decided that future RAC 101s would be longer than the one scheduled for the summer 2002 meeting. Additionally, RAC will maintain a copy of the slides prepared for the presentation, and a complete set of handouts for future use. The slide presentation will be segmented into two presentations: one for RAC 101 and one on mentoring.

RAC member Robert Garrett of PENNDOT is going to prepare a manual of RAC procedures and general research management procedures to serve as a reference for RAC members.

MENTORING PROGRAM DEVELOPMENT

The initial mentoring program outline was developed for the regional RAC meeting in summer 2002. This outline was incorporated into the RAC 101 presentation to inform new RAC members of the program's existence and developmental progress.

The process began with input from RAC committee members. As part of the RAC 101 development, committee members were surveyed concerning a mentoring program. They were asked two questions (answer choices are listed below questions):

1. In the proposed RAC mentoring program, what role should the mentor play?
 - a. Simply be available.
 - b. Initiate a welcome phone call.
 - c. Offer to make a site visit.
 - d. Contact and coach the protégé prior to key functions.
 - e. Introduce protégé to RAC members at functions.

2. Discussions of the mentor program have suggested that regional chairs should choose mentors with consideration given to geographical location and similarity of DOT operation. Do you agree with this approach, or is another approach better?
 - a. Yes, I agree.
 - b. No, another approach is better.

Respondents could choose more than one answer for question 1. The answers in decreasing popularity were:

1. Offer to make a site visit.
2. Initiate a welcome phone call.
3. Introduce protégé to RAC members at function.
4. Contact and coach the protégé prior to key functions.

No respondents chose “simply be available.”

On question 2, two of the five respondents agreed that the RAC regional chairs should match mentors and protégés. One respondent suggested regional RAC members should pair mentors and protégés, one respondent suggested it should be done on a voluntary basis without regard to regions, and one suggested the national chair choose mentors.

In addition to the survey information, the developers consulted literature on mentoring within organizations.

RAC’S UNIQUE STATUS

RAC is a national organization comprised of researchers from each of the nation’s DOTs. Unlike typical workplace mentoring situations, RAC members do not have a common employer. They also spend most of their time performing duties not associated with RAC. However, for RAC to perform its mission effectively, new members must be taught essential RAC practices and procedures.

RAC is also unique in the sense that it is a “college of equals.” Other than regional and national chairs, all members are equal in status. However, members of longer standing do possess knowledge of RAC practices and procedures that should be imparted to new members. This “college of equals” arrangement actually lends itself to a mentoring arrangement. Mentoring works better when there is not too great a distance in the hierarchical structure between mentors and protégés; otherwise protégés may feel inhibited (Kram).

RAC’s status also has implications for the nature of the mentoring relationship as well. Mentors and protégés in this type of environment will have a less formal relationship than their counterparts working for the same employer. It is anticipated RAC mentors and protégés will have a more collegial relationship than co-workers.

THE RAC MENTORING PROGRAM

Why Mentor?

RAC members have noted difficulty in “bringing new members up to speed” over the past several years. The RAC mentoring initiative is seen as a way of addressing this problem. Mentoring is a personal approach to knowledge transfer that would be very appropriate in an organization such as RAC. Mentoring is effective in organizations that must impart specialized, organization-specific information to its members. Only with the introduction of the new RAC 101 program has there been a mechanism for “socializing” new RAC members. RAC 101 provides a formal overview of organizational procedures. The mentoring program can provide new members with a personal resource in a less formal setting.

New RAC members could contact their mentor to answer questions about procedures and organizational mores, while mentors could help new members network with key people in the transportation research field. There would be no formal requirements of either the mentor or protégé. However, to achieve the best possible results, mentors and protégés should be familiar with the expectations laid out below.

Table 6. Mentor-protégé expectations.

Expectations of Mentors	Expectations of Protégés
Be a source of information.	Be responsible for own growth.
Provide insight.	Cultivate the ability to perform in more than one skill area.
Have tutor skills.	Keep records of challenging assignments and new responsibilities.
Give feedback.	Be receptive to feedback and coaching.
Coach activities.	
Be a confidant.	
Meet and help plan.	
Subscribe to the no-fault conclusion: Mentor not responsible for Protégé's actions.	
Protégé not responsible for mentor.	

Mentoring Program Goals

The mentoring program seeks to meet the needs of both the individual RAC members and the organization as a whole. The mentoring program is an attempt to:

- Build the RAC community.
- Quickly socialize and train new RAC members.
- Help RAC members perform their duties successfully.
- Encourage members to be more active in RAC functions.
- Educate members about the full range of RAC resources.

THE MENTORING PROCESS

Mentors will be chosen and paired with new members by the regional chair based on geographical and functional similarities. Mentoring literature suggests that mentors should be chosen based on similar values and communication styles (Hale). Regional chairs should match mentors and protégés based on their knowledge of current members and discussions with new members. Additionally, the mentor should have more relevant experience than the protégé, but the gap should not be so wide the two have no common frame of reference. The literature on mentoring suggests that mentors have the following characteristics:

- **Strong interpersonal skills.**
Mentors do not stand back from the crowd; they put in their ideas and are heard. They enjoy interacting and being with people. They are social and develop relationships well. They would rather work with a group than alone. There is always an exception to the rule. Persistent, outgoing protégés may be paired with quiet, strong mentors. However, be careful when doing this sort of pairing. Never pair a passive protégé with a quiet, strong mentor. Someone must initiate and communicate. Mentors should be great talkers and wonderful listeners.
- **Organizational knowledge.**
Mentor should know the long-range goals of the organization. To do this the mentor should have open communication within formal and informal channels of the organization. Mentors must know where there are opportunities and give the protégé real aspirations. Mentors should have an extensive network of resources.
- **Technical competence.**
A mentor should be the person who has skills that the protégé needs to develop.
- **Status and prestige:**
Look for a person who is highly respected.
- **Personal power and charisma:**
A mentor commands respect and is looked up to. Mentors' opinions are respected and sought.
- **Willingness to be responsible for someone's growth.**
Choose mentors who are secure about their competence and will willingly give up time to help others grow.
- **Ability to share credit:**
A good mentor will be able to step back and allow the protégé to accept credit when deserved. Good mentors will never take credit for a protégé's work, nor give their work to a protégé. Mentors are team players.
- **Patience and risk taking:**
The mentor must be willing to watch the protégé make decisions and fail. Mentors must be there to support protégés and let them prove themselves in risky

situations. However, mentors must be careful with those risks and not push the protégé. There is a fine line between when to step in and when to step back (Murray).

Once paired, the mentor and protégé would be largely free to create their own program. However, mentoring literature suggests that role play or other exercises that teach by doing are most effective (Hale). The participants, of course, will be free to negotiate whatever arrangements they like.

Expected Actions of Mentors and Protégés

Once selected, mentors are expected to make contact with their protégés. Mentors should be available for RAC functions to introduce the protégé to important people within the organization. If convenient, mentors should accompany protégés to their first RAC 101 meeting.

It is recommended that mentors invite protégés to their DOTs for a site visit. This allows the protégé to see another DOT research operation and allows a casual environment for information exchange. The site visit need not be elaborate. A tour of the operation, a discussion of similarities and differences between the operations, and perhaps some brainstorming to solve problems would be sufficient. Lunch is suggested.

The site visit serves as a bonding experience, and is very important to building the mentor-protégé relationship. The site visit serves to break the ice between mentor and protégé. Protégés will probably find it easier to contact their mentors after a site visit.

EVALUATION

The mentoring program will be evaluated to determine if it is meeting personal and organizational goals. Both the mentor and protégé will evaluate their own performance and that of their counterpart. The organization will evaluate whether each mentoring relationship met the organizational goals of:

- Building the RAC community.
- Quickly socializing and training new RAC members.
- Helping RAC members perform their duties successfully.
- Encouraging members to be more active in RAC functions.
- Educating members about the full range of RAC resources.

RAC members could then make changes to the program based on the feedback they receive.

MENTORING SUMMARY

Mentoring is an effective teaching tool in organizations where it is vital to impart organizational norms and values to new members. In fact, many researchers believe this is the largest benefit of mentoring (even more than the transfer of knowledge and skills) (Swap et al). New RAC members need to learn these norms and values, and how to use and where to find RAC resources quickly. The best source is an experienced RAC member.

Between the mentoring initiative and RAC 101, new RAC members should be able to make the most of RAC's resources, including its senior members. It is vital that RAC members incorporate feedback from the mentoring experiences to ensure the program is accomplishing the organization's goals.

CONCLUSION

RAC has long needed vehicles to build organizational identity and develop knowledge among its members. These two initiatives can help the organization move toward those goals.

The pilot RAC 101 session was well received and is already being modified for future use. The mentoring program has now been fleshed out and awaits implementation. Both programs have a good chance of success, but their ultimate fate depends on senior RAC member support.

Senior RAC members must continually update and evaluate both programs. This report provides criteria for evaluating both. It is suggested that the annual evaluation and updating processes be incorporated into the RAC model calendar.

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**APPENDIX A:
RAC 101 AND MENTORING SURVEY**

Selected RAC members are being surveyed to determine what information would most benefit new RAC members. Your input is very important to us. Information from this survey will be used in developing training modules for RAC meetings and the RAC mentoring program.

The survey is in three parts. Please complete all three sections. Your input is appreciated. Please complete the survey and return to **Bob Garrett at garrett@dot.state.pa.us**.

Potential topics of interest have been grouped into knowledge categories. The table below lists the categories with a brief explanation, along with associated topics.

RAC History and Function	Research Opportunities	Professional Development	Information Resources
<i>Topics that explain RAC's history and function within the realm of AASHTO, TRB, and SCOR.</i>	<i>Topics that point out opportunities for research including information about funding.</i>	<i>Topics that allow members to develop professional skills that will aid them in future research.</i>	<i>Topics that show researchers where they can find valuable information resources.</i>
<ul style="list-style-type: none"> • History of RAC Including Its Relationship to AASHTO & SCOR • The AASHTO Regional Map • Research Organizations, Funding Streams, & Relationships • RAC Member Responsibilities • How RAC Advises SCOR on Research Proposals • What is TRB? • The NCHRP Ballot Process • FHWA Roles & Partnership • Acronym Soup 	<ul style="list-style-type: none"> • Transportation Pooled Fund Program • Papers, Guidelines, & Federal Requirements Regarding Peer Exchanges • Report Distribution • Federal & State Contracting Regulations (Other Than Funding) • Guidelines for Reports to FHWA 	<ul style="list-style-type: none"> • An Overview of <i>Seven Keys to a Robust Research Program</i> • How to Develop the Annual Work Program & Budget • A View of Different Models of Administration, Program Plans, & Consultant Use • The Mentoring Process within RAC • TRB Annual Visit • Research Implementation Practices • Lessons Learned (Success or Failure) • Methods for Getting Published • Technology Transfer • Research Evaluation of Processes & Outcomes (Scientific Method) • Peer Reviews 	<ul style="list-style-type: none"> • A List of Information Resources Including TRIS, RIP, Each State's <i>Research Program Manual</i>, BTS & NTC Libraries, & Other Resources • High Value Research Website

Ranking Categories

Please look over the categories, and then rank them from most relevant to new RAC members' activities to least relevant. For example, there are four categories. If you think **RAC History and Function** is the most relevant category to new RAC members, then this category would be ranked number 1. The next most relevant would be number 2, and so on. Please rank the following categories:

- RAC History and Function** _____
- Research Opportunities** _____
- Professional Development** _____
- Information Resources** _____

Rating Topics & Choosing Training Methods

Each of the potential topics is listed below. For each topic, rate on a 1 to 10 scale how important the topic is to a new RAC member, with 10 being the most important and 1 the least.

Additionally, please check any of the training methods that would be appropriate for each topic. You may check more than one method for each topic.

The training methods are:

- **RAC 101 Presentation**, a classroom type of presentation at a RAC regional or national meeting.
- **Welcome Package**, a packet of materials given to each new RAC member.
- **Mentoring**, a one-on-one teaching format with a more experienced RAC member.
- **Web Site**, posting the training material on the RAC website.
- **E-mail**, e-mailing pertinent information to the new RAC member.
- **Other**; respondents are free to include other training methods deemed appropriate.

	<i>Rate from 1-10</i>	<i>Check All That Apply</i>					<i>Write in Other Methods</i>
Topic	Rating (1-10)	RAC 101 Pres.	Welcome Package	Mentoring	Web Site	E-mail	Other
History of RAC Including Its Relationship to AASHTO & SCOR		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
The AASHTO Regional Map		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Research Organizations, Funding Streams, & Relationships		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
RAC Member Responsibilities		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

	<i>Rate from 1-10</i>	<i>Check All That Apply</i>					<i>Write in Other Methods</i>
Topic	Rating (1-10)	RAC 101 Pres.	Welcome Package	Mentoring	Web Site	E-mail	Other
How RAC Advises SCOR on Research Proposals		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
What is TRB?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
The NCHRP Ballot Process		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
FHWA Roles & Partnership		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Transportation Pooled Fund Program		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Papers, Guidelines, & Federal Requirements Regarding Peer Exchanges		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Report Distribution		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Federal & State Contracting Regulations (Other Than Funding)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Guidelines for Reports to FHWA		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
An Overview of <i>Seven Keys to a Robust Research Program</i>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
How to Develop the Annual Work Program & Budget		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Different Administration, Program Plans, & Consultant Use Models		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
The Mentoring Process within RAC.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
TRB Annual Visit		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Research Implementation Practices		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

	<i>Rate from 1-10</i>	<i>Check All That Apply</i>					<i>Write in Other Methods</i>
Topic	Rating (1-10)	RAC 101 Pres.	Welcome Package	Mentoring	Web Site	E-mail	Other
Lessons Learned (Success or Failure)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Methods for Getting Published		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Technology Transfer		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Research, Processes, & Outcomes Evaluation (Scientific Method)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Peer Reviews		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
A List of Information Resources Including TRIS, RIP, Each State's <i>Research Program Manual</i> , BTS & NTC Libraries, & Other Resources		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
High Value Research Website		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Acronym Soup		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Administrative Questions

Please provide your opinion on the following administrative questions. Check the box next to the answer you choose.

1. How should RAC 101 be managed in the future?
 - a. Appoint the RAC 101 chair annually.
 - b. Use the national RAC chair.

2. Discussions of RAC 101 have envisioned the presentation lasting about three or four hours (half-day session). Do you agree this is the appropriate length?
- a. Yes.
 - b. No.
3. Plans are for RAC 101 to be given twice a year. One presentation would be given at TRB. When do you think the other presentation should be given?
- a. At the national RAC meeting in even years and the regional RAC meetings in odd years.
 - b. At the TRB biannual briefing.
4. In the proposed RAC mentoring program, what role should a mentor play?
- a. Simply be available.
 - b. Initiate a welcome phone call.
 - c. Offer to make a site visit.
 - d. Contact and coach the protégé prior to key functions.
 - e. Introduce protégé to RAC members at functions.
5. Discussions of the mentor program have suggested that mentors should be chosen by regional chairs with consideration given to geographical location and similarity of DOT operation. Do you agree with this approach, or is another approach better.
- a. Yes, I agree.
 - b. No, another approach is better. (Please explain.) _____

Please e-mail completed survey to Bob Garrett at garrett@dot.state.pa.us.

**APPENDIX B:
HANDOUTS FOR THE RAC 101 SESSION**

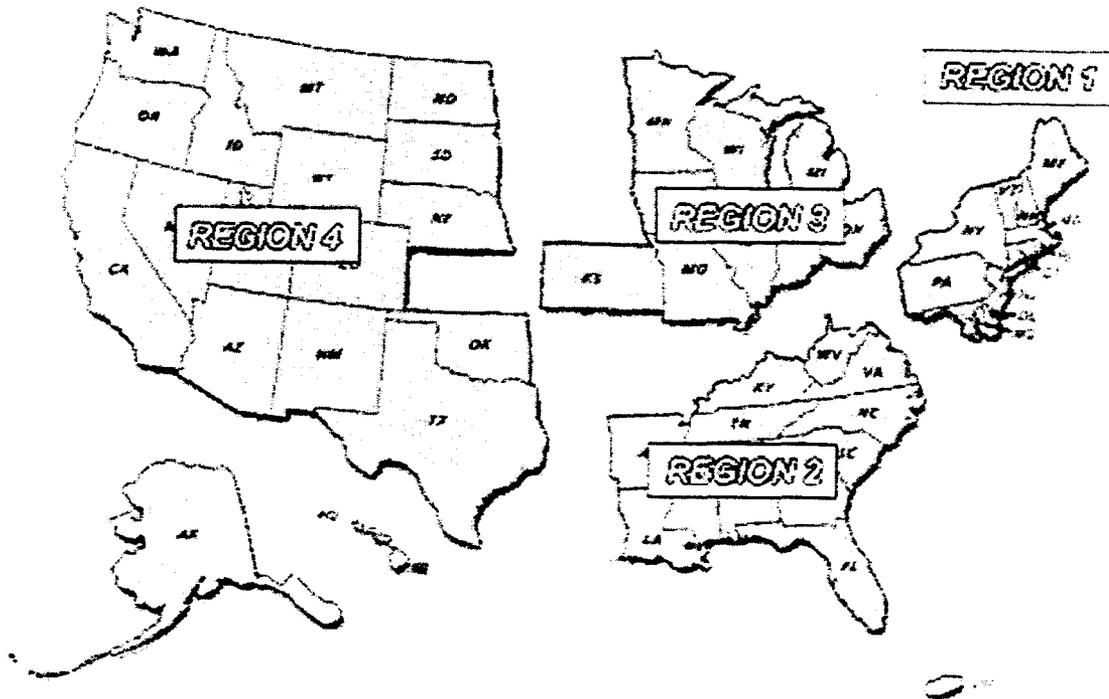
RAC 101

An Orientation for New RAC Members

Agenda

- I. Introduction (1 hour)
 - a. Brief History of RAC
 - b. RAC Member Responsibilities
 - c. TRB
 - i. State Liaison Roles
 - ii. TRB Annual Visit
 - iii. The NCHRP Process
 - d. National Research
 - i. Roles & Partnership
- II. Free Discussion (30 minutes)
- III. Where Do We Go from Here? (15 minutes)
 - a. The Mentoring Process within RAC

AASHTO Regions



Region 1 – Northeastern Association of State Transportation Officials (NASTO):
Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, District of Columbia, Puerto Rico

Region 2 – Southeastern Association of State Highway and Transportation Officials (SASHTO):
Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia

Region 3 – Mississippi Valley Conference of State Highway and Transportation Departments:
Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Ohio, Wisconsin

Region 4 – Western Association of State Highway and Transportation Officials (WASHTO):
Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oklahoma, Oregon, South Dakota, Texas, Utah, Washington, Wyoming

RAC History

The concept of RAC was developed during a meeting of the Task Force on AASHTO Organization, which met during the summer of 1987. Shortly following this meeting, at its 1987 Annual Meeting, AASHTO established the Standing Committee on Research (SCOR) to replace the then operating Select Committee on Research. A feature of the new SCOR was the charge:

"The Standing Committee shall also have a Research Advisory Committee, and each Member Department shall be entitled to representation thereon. The President of the Association shall designate a Chairman and Vice Chairman for the Research Advisory Committee."

Considering SCOR was organized to have representatives from 16 Member Departments, and not all 52, the creation of RAC provided a forum for representatives of research activities from all member departments.

In creating RAC, it was AASHTO's intention to have RAC facilitate SCOR's work. The initial functions of RAC were generally defined at the first SCOR meeting. These are:

- Participate in establishing the National Cooperative Highway Research Program (NCHRP) by rating each year's research problem statements and providing the results to SCOR for its annual selection procedure.
- Work with the AASHTO member departments to facilitate the development of research problem statements for consideration by SCOR and incorporation into the NCHRP program.
- Undertake an organized program to identify ongoing and planned state-only funded research being sponsored by member departments, including:
 - Listing research projects and providing those listings to all member departments and SCOR, to help avoid duplication and encourage more effective research on transportation issues.
 - Determining which research projects have produced reports that can be shared with other member departments and establishing a system for such sharing.
- Maintain an overview of all state-related highway and other transportation research utilizing federal funds, and advising thereon.
- Provide overall advice on transportation research matters to SCOR and the AASHTO Executive and Policy Committees.

Other items initially considered for RAC were as follows:

- RAC should meet at least annually, and perhaps in conjunction with the TRB Annual Meeting.
- RAC members should meet within the AASHTO regions from time to time to discuss research matters of importance.

The president of AASHTO requested Member Department Chief Administrative Officers (CAOs) to each designate a Research Advisory Committee member as of May 31, 1988. The first RAC meeting was a joint meeting with SCOR at the 1989 Annual Meeting of the Transportation Research Board.

RAC Member Responsibilities

- **Participate In Selecting NCHRP Projects.**
- **Work With AASHTO To Develop Research Problem Statements.**
- **Identify Ongoing And Planned State-only Funded Research.**
- **Maintain Overview Of All State Related Highway And Other Transportation Research.**
- **Provide Advice On Transportation Research To SCOR And AASHTO.**
- **Meet Annually.**
- **Meet With AASHTO Regions.**
- **Vote On Proposals, Resolutions, And Other Matters.**

A Brief Guide to Transportation Abbreviations & Acronyms

AAA	American Automobile Association
AAAE	American Association of Airport Executives
AAAM	American Association of Automotive Medicine
AAMA	American Automotive Manufacturers Association
AAMVA	American Association of Motor Vehicle Administrators
AAPA	American Association of Railroads
AAR	American Association of Railroads
AASHTO	American Association of State Highway and Transportation Officials
ABA	American Bus Association
ACI	Airports Council International (formerly Airport Operators Council International)
ACI	American Concrete Institute
ACIR	Advisory Commission on Intergovernmental Relations
ACPA	American Concrete Pavement
ACTS	Automotive Coalition for Traffic Safety, Inc. (formerly American Coalition for Traffic Safety, Inc.)
AHUA	American Highway Users Alliance (formerly HUFSSAM, Highway Users Federation for Safety & Mobility)
AGCA	Associated General Contractors of America
AISI	American Iron and Steel Institute
ALF	Accelerated Loading Facility
AMPO	Association of Metropolitan Planning Organizations
AMTRAK	National Railroad Passenger Corporation

ANSI	American National Standards Institute
AOPA	Aircraft Owners and Pilots Association
APA	American Planning Association
API	American Petroleum Institute
APTA	American Public Transit Association
APWA	American Public Works Association
ARTBA	American Road and Transportation Builders Association
ASCE	American Society of Civil Engineers
ASTM	American Society for Testing and Materials
ATA	American Trucking Associations
ATA	Air Transport Association of America
ATAC	American Transportation Advisory Council
AWS	American Welding Society
BTS	Bureau of Transportation Statistics (US DOT)
CAFE	Corporate Average Fuel Economy
CBSSE	Commission on Behavioral and Social Sciences and Education (NRC)
CBO	Congressional Budget Office
CERF	Civil Engineering Research Foundation
CETS	Commission on Engineering and Technical Systems (NRC)
CIMA	Construction Industries Manufacturers Association
COMTO	Conference of Minority Transportation Officials
CRP	Cooperative Research Programs (TRB)
CRS	Congressional Research Service

C SHRP	Canadian Strategic Highway Research Program
CUTC	Council of University Transportation Centers
DARPA	Defense Advanced Research Projects Agency (DOD)
DBE	Disadvantaged Business Enterprise
DOT, USDOT	U.S. Department of Transportation
ECMT	European Conference of Ministers of Transport
EPA	U.S. Environmental Protection Agency
ETTM	Electronic Toll and Traffic Management
EU	European Union
FAA	Federal Aviation Administration (US DOT)
FARS	Fatal Accident Reporting System (NHTSA)
FHWA	Federal Highway Administration
FRA	Federal Railroad Administration (US DOT)
FTA	Federal Transit Administration (US DOT)
GAO	General Accounting Office
GIS	Geographic Information System
HITEC	Highway Innovative Technology Evaluation Center
HPMS	Highway Performance Monitoring System (FHWA)
HSGT	High-speed Ground Transportation
HUFSAM	Highway Users Federation for Safety and Mobility, now called American Highway Users Alliance
IACP	International Association of Chiefs of Police
IANA	Intermodal Association of North America
IATA	International Air Transport Association
IBTTA	International Bridge, Tunnel and Turnpike Association

ICAO	International Civil Aviation Organization
IDEA	Innovations Deserving Exploratory Analysis (TRB)
IIHS	Insurance Institute for Highway Safety
IOM	Institute of Medicine
INA	International Navigation Association (formerly called PIANC, Permanent International Association of Navigation Congresses)
IRF	International Road Federation
ISTEA	Intermodal Surface Transportation Efficiency Act of 1991
ITE	Institute of Transportation Engineers
ITS	Intelligent Transportation Systems
ITS America	Intelligent Transportation Society of America
LTPP	Long Term Pavement Performance Program
MARAD	Maritime Administration (US DOT)
MB	Marine Board (TRB)
MMS	Minerals Management Service
MPO	Metropolitan Planning Organization
MUTCD	Manual on Uniform Traffic Control Devices
NACE	National Association of County Engineers
NACO	National Association of Counties
NAE	National Academy of Engineering
NAGHSR	National Association of Governors' Highway Safety Representatives
NAPA	National Asphalt Pavement Association
NARC	National Association of Regional Councils

NAS	National Academy of Sciences
NASAO	National Association of State Aviation Officials
NCHRP	National Cooperative Highway Research Program
NCLS	National Conference of State Legislatures
NCSRO	National Conference of State Railway Officials
NGA	National Governors' Association
NHI	National Highway Institute (FHWA)
NHS	National Highway System
NHTSA	National Highway Traffic Safety Administration (US DOT)
NIST	National Institute of Standards and Technology (formerly National Bureau of Standards)
NIT League	National Industrial Transportation League
NRC	National Research Council
NSC	National Safety Council
NSF	National Science Foundation
NSPE	National Society of Professional Engineers
NSTC	National Science and Technology Council
NTSB	National Transportation Safety Board
OECD	Organization for Economic Cooperation and Development
ONR	Office of Naval Research
OSTP	White House Office of Science and Technology Policy
OST	Office of the Secretary of Transportation (US DOT)
PIANC	Permanent International Association of Navigation Congresses (now called International Navigation Association)
PIARC	Permanent International Association of Road Congresses (now called World Road Association)

PICRI	Pavement Industry Cooperative Research Initiative
PROMETHEUS	Program for European Traffic with Highest Efficiency and Unprecedented Safety
PTRC	Planning and Transport Research and Computation
RAC	Research Advisory Committee (AASHTO)
RCCC	Regular Common Carrier Conference (ATA)
RSF	Roadway Safety Foundation (AHUA)
RTAP	Rural Transportation Assistance Program (FHWA)
RTCC	Research and Technology Coordinating Committee [FHWA] (TRB)
RSPA	Research and Special Programs Administration
SAE	Society of Automotive Engineers
SCOH	Standing Committee on Highways (AASHTO)
SCOR	Standing Committee on Research (AASHTO)
SHRP	Strategic Highway Research Program
SMSA	Standard Metropolitan Statistical Area
SNO	Subcommittee for NRC Oversight (TRB)
SPPR	Subcommittee on Planning and Policy Review (TRB)
STPP	Surface Transportation Policy Project
SWE	Society of Women Engineers
T ²	Technology Transfer
TCRP	Transit Cooperative Research Program (TRB)
TDC	Transit Development Corporation (APTA)
TEA-21	Transportation Equity Act for the 21 st Century
TIP	Transportation Improvement Program

TMA	Transportation Management Association
TOPS	TCRP Oversight and Project Selection Committee
TRB	Transportation Research Board
TRF	Transportation Research Forum
TRI	Trucking Research Institute (ATA)
TRIP	The Road Information Program
TRIS	Transportation Research Information Services (TRB)
TRRL	Transportation and Road Research Laboratory (United Kingdom)
TSC	Volpe National Transportation Systems Center (US DOT)
TSM	Transportation System Management
UITP	International Union of Public Transport
USACE	U. S. Army Corps of Engineers
USCG	U. S. Coast Guard (US DOT)
UTCP	University Transportation Centers Program (US DOT)
VTI	Road and Traffic Research Institute of Sweden
WTS	Women's Transportation Seminar
WRA	World Road Association (formerly PIARC, Permanent International Association of Road Congresses)

Model Calendar

January

TRB- Annual Meeting
NCHRP- Synthesis of Highway Practice topics due

February

NCHRP- Ballots completed/returned
FHWA- SP&R Annual Work Plan development begins

March

TRB- Annual state visit announced
NCHRP- SCOR prioritizes/selects projects
TCRP- Problem statement solicitation
NCHRP- Funds obligation due
TRB- Core program contributions due for Transportation Pooled Funded-option states

April

TCRP- Problem statements due
NCHRP- Solicit panel nominations

May

TRB- Mailing list verification forms sent
NCHRP- State DOT Endorsement
NCHRP- Solicitation of panel members due
TIG- request for topics
NCHRP- Board of Directors ballot distributed

June

TRB- Call for abstracts for annual meeting
FHWA- SP&R Annual Work Plan due

July

NCHRP- Board of Directors ballot due
NCHRP- Problem statements solicited

August

TRB- Annual Meeting abstracts due

September

NCHRP- Problem Statements due

October

TRB- Annual Meeting promotion

November

NCHRP- Problem Statement evaluation completed
NCHRP- Synthesis of Highway Practice call for topics

December

NCHRP- Submitters informed of status
NCHRP- Ballot distributed to SCOR and RAC

RAC 101 Evaluation

Please Print Clearly

Date _____ / _____ / _____ Indicate your AASHTO region: 1 2 3 4

What is your job title? _____

How many years of service ...in this position? _____yr _____mo ...with the DOT? _____

Please take time to answer the following questions:

1. Prior to attending RAC 101, did you expect this to be a useful workshop?

Not 1 2 3 4 5 Very
Useful Useful

2. Now that it's over, do you feel this was a useful workshop?

Not 1 2 3 4 5 Very
Useful Useful

3. Give your overall reaction to RAC 101 workshop.

Not 1 2 3 4 5 Very
Satisfied Satisfied

4. Rate the following on a scale of 1 (lowest) to 5 (highest). Place the appropriate values in the spaces provided in each column.

For each session, indicate your rating from 1 to 5 <i>Where 1 = low and 5 = high</i>				
	Introduction	Research Practices	Resources	Success Stories
Presenter(s) told us what we would learn				
Presenter(s) used language I understood.				
Presenter(s) knew the subject				
Presenter(s) involved the audience				
Presenter(s) were smooth & professional				
Training aids (slides, etc.) helped me learn				

...Please Continue on the Back of This Page...

5. Do you expect the handout materials will be useful to you? Yes No
6. Would you recommend RAC 101 to a new RAC member? Yes No
7. Would you recommend RAC-101 to an experienced RAC member? Yes No
8. Would you recommend RAC 101 to any of your staff? Yes No
9. What did you like best about the RAC 101 workshop?

10. What did you like least about the workshop, and how would you improve it?

11. Additional Comments:

Thank You Very Much for Completing This Evaluation.

**APPENDIX C:
MENTORING OUTLINE FOR RAC 101 PRESENTATION**

RAC 101 Mentoring Outline 2002 Summer Meeting

OVERVIEW

This document provides an outline of the proposed RAC mentoring program. The presenter at the 2002 RAC meeting may use this document to spell out the essential elements of the mentoring program. This document will explain:

- Why RAC should have a mentoring program.
- What the goals of the mentoring program should be.
- Who should participate as mentors and protégés.
- What the mentors' and protégés' responsibilities are.
- How the program will be evaluated.

WHY MENTOR?

RAC members have noted difficulty in “bringing new members up to speed” over the past several years. Both the RAC 101 and mentoring initiatives are seen as ways of addressing this problem. Mentoring is viewed as a personal approach to knowledge transfer that would be very appropriate in an organization such as RAC.

New RAC members could contact their mentor to answer questions about procedures and organizational mores, while mentors could help new members network with key people in the transportation research field.

PROGRAM GOALS

The mentoring program seeks to meet the needs of both the individual RAC members and the organization as a whole. The mentoring program is an attempt to:

- Build the RAC community.
- Quickly socialize and train new RAC members.
- Help RAC members perform their duties successfully.
- Encourage members to be more active in RAC functions.
- Educate members about the full range of RAC resources.

THE MENTORING PROCESS

Before developing the mentoring program, RAC members were surveyed to determine what the role of a RAC mentor should be. The survey reported that RAC mentors should (in descending order of importance):

- Offer to make a site visit.
- Initiate a phone call.
- Introduce the protégé to RAC members at functions.
- Contact and coach the protégé prior to key functions.

Mentors will be chosen and paired with new members by the regional chair, based on geographical and functional similarities. Mentoring literature suggests that mentors should be chosen based on similar values and communication styles. Regional chairs should match mentors and protégés based on their knowledge of current members and discussions with new members. Additionally, the mentor should have more relevant

experience than the protégé, but the gap should not be so wide the two have no common frame of reference. The literature on mentoring suggests that mentors have the following characteristics:

- **Strong interpersonal skills.**
Mentors do not stand back from the crowd; they put in their ideas and are heard. They enjoy interacting and being with people. They are social and develop relationships well. They would rather work with a group than alone. There is always an exception to the rule. Persistent, outgoing protégés may be paired with quiet, strong mentors. However, be careful when doing this sort of pairing. Never pair a passive protégé with a quiet, strong mentor. Someone must initiate and communicate. Mentors should be great talkers and wonderful listeners.
- **Organizational knowledge.**
Mentor should know the long-range goals of the organization. To do this the mentor should have open communication within formal and informal channels of the organization. Mentors must know where there are opportunities and give the protégé real aspirations. Mentors should have an extensive network of resources.
- **Supervisory skills.**
Management skills are essential for a mentor and include, but are not limited to, these skills:
 - Planning performance* – helping to set objectives, create plans, schedule time, etc.
 - Appraising performance* – observing performances, evaluating them, giving appropriate feedback.
 - Giving feedback and coaching* – giving feedback that reinforces the desired performance and coaches how to improve to the agreed standards.
 - Modeling* – demonstrating the desirable techniques for task performance.
 - Delegating* – giving tasks to capable and appropriate persons and then negotiating all aspects related to that task, e.g., time for completion, resources to be used, etc.
- **Technical competence.**
A mentor should be the person who has skills that the protégé needs to develop.
- **Status and prestige.**
Look for a person who is highly respected.

- **Personal power and charisma.**
A mentor commands respect and is looked up to. Mentors' opinions are respected and sought.
- **Willingness to be responsible for someone's growth.**
Chose mentors who are secure about their competence and will willingly give up time to help others grow.
- **Ability to share credit.**
A good mentor will be able to step back and allow the protégé to accept credit when deserved. Good mentors will never take credit for a protégé's work, nor give their work to a protégé. Mentors are team players.
- **Patience and risk taking.**
The mentor must be willing to watch the protégé make decisions and fail. Mentors must be there to support protégés and let them prove themselves in risky situations. However, mentors must be careful with those risks and not push the protégé. There is a fine line between when to step in and when to step back.

Once paired, the mentor and protégé would be largely free to negotiate their own program. However, mentoring literature suggests that role play or other exercises that teach by doing are most effective. The participants, of course, will be free to negotiate whatever arrangements they like.

RESPONSIBILITIES OF MENTORS AND PROTEGES

Mentor Responsibilities	Protégé Responsibilities
Be a source of information.	Be responsible for own growth.
Provide insight.	Cultivate the ability to perform in more than one skill area.
Have tutor skills.	Keep records of challenging assignments and new responsibilities.
Give feedback.	Be receptive to feedback and coaching.
Coach activities.	
Be a confidant.	
Meet and help plan.	
Subscribe to the no-fault conclusion: Mentor not responsible for protégé's actions.	
Protégé not responsible for mentor.	

EVALUATION

The mentoring program will be evaluated to determine if it is meeting personal and organizational goals. Both the mentor and protégé will evaluate their own performance and that of their counterpart. The organization will evaluate whether each mentoring relationship met the organizational goals of:

- Building the RAC community.
- Quickly socializing and training new RAC members.
- Helping RAC members perform their duties successfully.
- Encouraging members to be more active in RAC functions.
- Educating members about full range of RAC resources.

RAC members could then make changes to the program based on the feedback they receive.

