

# FLORIDA TRANSPORTATION RESEARCH SYMPOSIUM

## Agenda

## Rooms

### Tuesday September 25th, 2007

- 7:30 – 8:30 am Registration
- 8:30 – 9:00 am Gathering and networking
- 9:00 – 9:45 am **Opening Session**
- 9:45 – 10:00 am Break
- Breakout Groups**
- 10:00 – 10:45 am Identifying our vision of the future
- 10:45 – 11:30 am **Florida Department of Transportation Peer Exchange**
- 11:30 – 1:00 pm Lunch (on your own)
- 1:00 – 1:45 pm Research opportunities
- 1:45 – 2:00 pm Categorizing research
- 2:00 – 3:00 pm Prioritizing research
- 3:00 – 3:20 pm Break
- Plenary**
- 3:20 – 3:40 pm Movement of People report
- 3:40 – 4:00 pm Movement of Freight report
- 4:00 – 4:20 pm Infrastructure – Construction report
- 4:20 – 4:40 pm Infrastructure – Operations report
- 4:40 – 5:00 pm Policy report
- 5:00 – 5:15 pm Summary

- 1** Movement of Freight  
Palm I
- 2** Infrastructure – Construction  
Buena Vista I
- 3** Infrastructure – Operations  
Buena Vista II
- 4** Movement of People
- 5** Policy  
Seminole

### September 24 – 27, 2007

### FINAL REPORT October 10, 2007

[Prepared and submitted in accordance with 23 CFR 420.207(6)(b)]

### Wednesday September 26th, 2007

- 8:00 – 8:15 am **Plenary**
- Breakout Groups**
- 8:15 – 10:00 am Review, discuss and develop recommendations
- 10:00 – 10:15 am Break
- Plenary**
- 10:15 – 10:30 am Movement of People top picks
- 10:30 – 10:45 am Movement of Freight top picks
- 10:45 – 11:00 am Infrastructure – Construction top picks
- 11:00 – 11:15 am Infrastructure – Operations top picks
- 11:15 – 11:30 am Policy top picks
- 11:30 – 12:00 pm Wrap-up and Adjourn

- 1** Movement of Freight  
Palm I
- 2** Infrastructure – Construction  
Buena Vista I
- 3** Infrastructure – Operations  
Buena Vista II
- 4** Movement of People  
Buena Vista III
- 5** Policy  
Seminole

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**ABBREVIATIONS**

AASHTO	American Associations of State Highway Transportation Officials
CFR	Code of Federal Regulations
Caltrans	California Department of Transportation
DOT	Department of Transportation
FDOT	Florida Department of Transportation
FHWA	Federal Highway Administration
LDOTD	Louisiana Department of Transportation and Development
LTRC	Louisiana Transportation Research Center
Mn/DOT	Minnesota Department of Transportation
NAAQS	National Ambient Air Quality Standards
NCHRP	National Cooperative Highway Research Program
PennDOT	Pennsylvania Department of Transportation
PM	Project Manager
RD&T	Research, Development, and Technology Transfer
RFP	Request for Proposal
SCOR	Standing Committee on Research
SHRP 2	Strategic Highway Research Program
TRB	Transportation Research Board
UF	University of Florida
WYDOT	Wyoming DOT

## INTRODUCTION

23 CFR Part 420, Subpart B contains four provisions that each State must meet to be eligible for FHWA planning and research funds for its research, development, and technology transfer (RD&T) activities. They include the following:

- Implement a program of RD&T activities for planning, design, construction, and maintenance of highways and public and intermodal transportation systems.
- Develop, establish, and implement a management process that identifies and implements RD&T activities expected to address high priority transportation issues.
- Maintain documentation of its management process.
- Agree to conduct peer exchanges that consider for improvement the State's RD&T management process and be willing to participate in the peer exchanges held by other States' programs.

This report documents the Florida Department of Transportation's third peer exchange held in partial fulfillment of these federal requirements.

The Florida Department of Transportation (FDOT) held its third Peer Exchange September 24 – 27, 2007. Members of this Peer Exchange team included:

- |                            |  |
|----------------------------|--|
| • Michael Bonini, PennDOT  | • Patti Brannon, FDOT                  |
| • Darryll Dockstader, FDOT | • Monique Evans, Ohio DOT              |
| • Chris Hedges, TRB/NCHRP  | • Sue Lodahl, Mn/DOT                   |
| • Richard C. Long, FDOT    | • Wes Lum, Caltrans                    |
| • Tim McDowell, WYDOT      | • Carl Mikyska, FHWA, Florida Division |
| • Skip Paul, LDOTD         |  |

Other participants observing the exchange included:

- |                    |                       |
|--------------------|-----------------------|
| • Nina Barker, UF  | • Sandra Bell, FDOT   |
| • Janet Degner, UF | • Sandy Greenwood, UF |
| • Tiffany Wise, UF |                       |

Each of FDOT's peer exchanges has been substantially different in composition and theme. The first focused on overall research program management and was attended by representatives from the California, Minnesota, Pennsylvania, and Virginia DOTs, the Institute for Transportation Research and Education at North Carolina State University, the Volpe Research Center, and the Florida Division of FHWA.

The theme of the second peer exchange was to explore opportunities for enhancing the Research Center's relationships with its primary customers, the FDOT functional areas and project managers, and its primary research partners, the universities. Participants included

representatives of four universities (including both researchers and sponsored research staff) and three functional areas.

The theme of this third peer exchange was to identify research opportunities through visioning. Peer exchanges typically present a program or aspects of a program for the assembled team to review and comment upon. For this exchange, the Research Center took an innovative approach by overlaying the peer exchange onto FDOT's first Research Symposium, held in Orlando, Florida on September 25-26, 2007. The symposium brought together university researchers and FDOT employees to explore research opportunities critical to the future of transportation in Florida, through visioning activities and the development of research concepts.

The next two sections of this report will describe the structure and purpose of both the peer exchange and the research symposium, and the responses of the peer exchange team members to these events, respectively.

## PEER EXCHANGE THEME AND PURPOSE

The theme of this Peer Exchange was to identify research opportunities through visioning. FDOT implemented a new process for identifying research needs which called for a statewide meeting of transportation experts from both FDOT and the state universities. The meeting was dubbed the FDOT Research Symposium, and it was attended by over 130 registered participants, including mostly FDOT project managers and university researchers, but also some representatives of divisions of sponsored research and private research consultants. This symposium, which involved visioning and research concept development processes, was the specific focus of the peer exchange.

The purpose of the symposium was to gather FDOT project managers, office managers, and directors, and university transportation researchers from around the state to network and explore the future of transportation in Florida. The goal was to generate a roadmap of research that should be undertaken in the near term to support Florida's anticipated transportation system needs. The ideas that compose the roadmap will be prioritized and developed into a strategic research plan for FDOT. By participating in the symposium, participants had a voice in developing the ideas that will help to guide FDOT's research program and potentially shape the future of transportation in Florida. This approach marked a significant departure from FDOT's traditional approach to developing an annual research program.

FDOT has employed a very successful problem-solving, or bottom-up, method of determining which research projects to pursue and fund, but that method has not been conducive to developing a longer range strategic program except in a few areas. Thus, the primary objective of the symposium was to develop a set of concepts and issues to consider in developing a strategic agenda for Florida transportation research.

The Research Center sent the peer exchange team pre-meeting materials, including a white paper on the symposium and information regarding its structure, which consisted of a series of plenary and breakout sessions. The peer exchange team participated in the symposium as breakout session facilitators, which allowed them to observe and assess the process at close range.

### Pre-Symposium Meetings

The Research Center welcomed and met with the peer exchange team on September 24, 2007 to review the purpose of the symposium, answer questions, and set the stage for the peer exchange. Discussion focused on symposium dynamics and expectations, and on project selection and strategic planning. Members shared their experiences with strategic planning



*Above, first meeting of the peer exchange team*

and project generation and selection. The Research Center invited the team to provide recommendations for carrying out the symposium activities. No specific recommendations were made to modify the symposium format or agenda. Several of the issues discussed included the following:

- Partnering opportunities
  - ✓ work with research partners to leverage funds
  - ✓ allow opportunities for peer states to partner on developed concepts
- A balanced approach to selecting research
  - ✓ ensure that both bottom-up and long-term strategic research needs are addressed
- Intellectual property
  - ✓ keep the discussions at the conceptual level so that intellectual property rights do not become an issue
- Achieving a cooperative environment
  - ✓ develop a cooperative environment for (and beyond) the concept development sessions to achieve buy-in, from the partners, project managers, and management

The primary charge to the peer exchange team was to observe the entire process, assess its effectiveness, and develop feedback that can be used to advance the newly implemented visioning and research concept development process.

The next morning, the Research Center met with the peer exchange team and the breakout group team leaders to discuss and answer questions about the breakout sessions.



*Above, team leader and facilitator meeting*

## Symposium Sessions

At the conclusion of the first day of the symposium, the Research Center met with several members of the peer exchange team to conduct an mid-process review and analysis of symposium. As a result, the agenda for the second day was modified to build upon the concept development activities that had already taken place during the initial breakout sessions.



*(pictured left, top to bottom, the opening plenary session of the symposium and the Policy breakout group)*

## Post-Symposium Sessions

Following the symposium, the peer exchange team reconvened twice: once the afternoon following the end of the symposium, and again the following morning. Discussion focused on the symposium dynamics and outputs initially, but moved to management of outcomes, such as the development of requests for proposals (RFPs) and implementation of research results. In summary, several of the issues and recommendations discussed during these sessions included the following:



*Above, concluding peer exchange team meeting*

- Group dynamics
  - ✓ ensure equitable opportunities for participation, so that neither FDOT nor researcher personalities dominate; the quieter folks may have great ideas if they are allowed and encouraged to participate
  - ✓ investigate alternative systems for working with ideas to facilitate group discussion (e.g., use of fabric boards to develop and move around ideas)
- Development of RFPs
  - ✓ carefully consider how RFPs are created and framed to allow for creative responses, while setting limits to what is meant by “future”
  - ✓ consider follow-up consultation with peer exchange team and possibly others (e.g., academic experts, industry stakeholders, subject matter experts from other fields that could or should inform a more comprehensive, holistic approach) during RFP development
- Performance measurement, implementation, technology transfer
  - ✓ seeing the future and having a strategic plan are not the same thing; the two must be brought together and performance measures should be applied to ensure progress stays on course
  - ✓ implementation must be considered an integral part of the research process, not an add-on to research
  - ✓ consider making a Powerpoint presentation of research results a required deliverable to facilitate technology transfer
  - ✓ keep in mind what will be necessary to achieve a “pull” rather than a “push” of research results—what will decision makers need to use/promote the results? what levels of buy-in will be necessary, and at what levels?

The following section provides in greater detail the observations and recommendations of the individual peer exchange participants.

## **PARTICIPANT FORUM: OBSERVATIONS AND RECOMMENDATIONS**

While ownership of a peer exchange rests with the host state, and the primary objective of the peer team is to satisfy the expectations developed by the host state, an equally important part is for participants to formulate ideas that can be discussed and applied to their respective organizations. Consequently, the Research Center asked all peer team members to provide feedback on FDOT's research symposium (i.e., what went well, what could be improved) and project selection/strategic visioning process, but also to comment on any ideas or issues that arose during the Peer Exchange that they felt could be applied to their respective organizations.

The remainder of this section includes the responses prepared and provided by peer exchange participants, who represented five state transportation departments, the Transportation Research Board, and the Federal Highway Administration.



Michael Bonini, Manager  
Research Program Development & Implementation  
Pennsylvania Department of Transportation  
400 North Street, 6<sup>th</sup> Floor East  
Harrisburg, PA 17120  
(717) 772-4664  
[mbonini@state.pa.us](mailto:mbonini@state.pa.us)

### General Observations

The FDOT Research Center is staffed with extremely intelligent individuals who know the intricacies and fine details of their Research Program, with an emphasis on how projects are currently selected for inclusion and funding.

It's exciting and "revolutionary" to see that a Research Center is willing to set their current, successful model aside and explore opportunities for developing a strategic Research Program with an emphasis on solving future needs (concurrently with dealing with today's issues and challenges).

I am grateful for the opportunity to participate in this Peer Exchange and for the opportunity to see the Research Symposium unfold. From my perspective, it was an extremely well run session with results that will benefit the Florida DOT and the transportation industry within Florida for years to come. Thank you to our gracious hosts (Richard, Patti, Darryll, and Sandra) and to my Research Manager back in Pennsylvania for enabling me to participate!

I will propose this same concept in Pennsylvania - to develop a Research Program that is focused on dealing with the issues and challenges of what the transportation system will look like / be in 50 years, and to provide a mechanism to get there through research.

### What Went Well

- The focus on the future of what Florida will look like in 25 years and then using that conceptual framework to develop research ideas that will either solve particular needs or get Florida to where it needs to go.
- The collaborative spirit and synergies that were created between (and among) Florida DOT personnel and university faculty members/researchers.
- Providing a template for the notes on day two really helped structure and simplify the tasks given to the team leaders and facilitators.
- The use of a team leader, facilitators, flip-charters, and laptop scribes really ensured that all comments and thoughts were captured so as not to lose any points made and to reinforce the idea that all comments were welcomed. Having strength in numbers made the role of the team leader much more manageable and gave them the opportunity to not only guide the discussion, but to also get involved with their thoughts and ideas.
- Intentional or not, there was a good distribution within the team leaders. The five groups had one team leader from the FDOT Research Center staff, one team leader who was a key project manager of several FDOT research projects, and three university professors (all from different universities).
- The limited timeframe of the symposium really provided a sense of urgency – which, to my observation, ultimately led to focused discussions (hardly any sidebars and dueling conversations).
- There were plenty of opportunities for all symposium attendees to participate and provide comments – in both the breakout groups and two of the three plenary sessions conducted.
- There was a sense of pride that was created in each group. With both of the reporting sessions that were conducted, symposium attendees were visibly proud of their efforts and ideas/concepts/recommendations.
- Same or similar research ideas and concepts were generated by more than one breakout group, which indicates to me that the groups were really identifying key issues for Florida to tackle in the coming years in order to solve identified problems.
- There was an opportunity provided and stressed to the participants to be willing to think “out of the box” and to see the world in 25-50 years. For research idea generation, this is truly creative.

- Providing two hours of unstructured agenda time after the Symposium and before the “After Action Review” enabled Peer Exchange participants the opportunity to discuss how each state develops and initiates their respective Research Program in a rapid-fire, quick hit discussion that flowed freely without any wasted time. This “hot topic” session really provided a basis of several “take-home” items for PennDOT to adopt, consider or explore.

### Opportunities for Improvement

- Explore using and/or inviting graduate students to participate in the session to capture information from a younger generation. One thought would be to have the graduate students serve as laptop note takers since they are knowledgeable about the breakout subject area and excellent with computers. This would also provide them with an opportunity to begin to develop a network of professionals in their areas of study.
- There may not be a need for the breakout groups to consider which Strategic Highway Research Program 2 (SHRP 2) “categories” each identified research idea should belong to – perhaps the FDOT Research Center could accomplish this with their key Project Managers.
- Provide a template for note takers so that the notes that come from each of the breakout groups come back in the same format. This was provided in day two and made the session much more efficient.
- The “aha” Factor – it took until the morning of day two of the symposium for the participants in our breakout group to realize that the purpose of the symposium was not to identify incremental research concepts that are currently being funded today; but rather, to identify leap frog, high benefit research concepts. Perhaps this occurred as a natural result of going through the process of day one, or perhaps a definition of expectations could have been identified at the start of the Symposium.

### Items To Consider – for FDOT & PennDOT (when we use this approach)

- Consider moving tables around for the breakout sessions to foster communication and so that the participants in the front rows don’t have their backs to the participants seated behind them.
- Consider asking a “*Then what?*” question. This question would help move the conversation from the initial identification and discussion of why a particular concept is an issue to be addressed to answering a “so if we did this research, then what benefits can be envisioned so that the project is successful?” question.
- Consider conducting two sessions to discuss the Research Program. This would assist in the identification of new research concepts as well as the communication and technology transfer of active research project results. I heard three conversations going

on with FDOT employees saying, “I didn’t know that we were doing this or that,” and a session to share projects and results may assist in the implementation and knowledge transfer activities of the Department.

- Picked up during our After Action Review discussion, consider conducting a student session to let them define the future and develop a vision for how they see the world prior to a future Symposium and then bring that information to a future symposium in the form of a plenary kickoff session. This may enable the Research Center to use this as a jump start to challenge the participants to identify the ideal world and how to get to it.
- Consider including Project Management assignments and identified measures as part of individual Employee Performance Reviews.

### Take Home Items

- A structure for conducting a similar visioning / program development workshop within Pennsylvania to identify a “Leap Frog Approach to Developing the PennDOT Research Program” that focuses on strategic research needs. The day two structure of the symposium was an excellent model for how to gather the necessary information that will enable a Research office to make a case for funding of these research concepts to their executive management team.
- Obtain a Word version of the FDOT Research Center Program Manual and use that as a template for updating our program manual as it provides an excellent model.
- Obtain a copy of Florida’s noncompetitive RFPs to determine how to incorporate this concept into the PennDOT Research Program.
- Obtain a copy of Florida’s Technology Deployment/Implementation Plans to determine how to incorporate this concept into the PennDOT Research Program.



Monique Evans, Administrator  
Office of Research & Development  
Ohio Department of Transportation  
1980 West Broad Street  
Columbus, OH 43223  
(614) 728-6048  
[monique.evans@dot.state.oh.us](mailto:monique.evans@dot.state.oh.us)

The similarities between Ohio's and Florida's research programs are numerous, so I was pleased to have the opportunity to exchange information regarding our strategic program development processes.

We have held three Cooperative Research Seminars in Ohio, designed to bring departmental staff, researchers and other stakeholders together to discuss the strategic research plan we have already developed internally. They have an opportunity to suggest modifications; however, they do not help to initially define it as you have done in Florida. In many respects, our approach has been more reactive than cooperative, and I think we will benefit greatly by engaging external input earlier in the process.

We also use the SHRP 2 categories as our major focus areas with the addition of Economic Development instead of Institutional Knowledge. However, the descriptions we provide for those categories are more tailored to the needs of the department rather than the actual SHRP projects. Florida DOT may want to consider a similar modification for future symposiums.

Both of our programs are decentralized and face similar challenges that come with this structure. One of the foremost is the perception that project management responsibilities are done in addition to the project managers' "real jobs." Since research is a tool used by the department to make better decisions, the ability to effectively use this tool should be considered a "fundamental" part of the PM's job responsibilities if program management is expected to remain decentralized. Adding these responsibilities to annual individual performance plans is one way to help solidify this.

Florida's symposium was quite impressive, especially for a first effort. The adjustments that were made to the agenda on the second day served to increase the value obtained from the event and to demonstrate the agility the Research Center uses to respond to customer needs. Their flexibility, focus on the future, keen understanding of the Florida's transportation needs and challenges, and their desire to work cooperatively with their stakeholders will continue to keep Florida's research program relevant, robust and effective.



Chris Hedges  
Senior Program Officer  
National Cooperative Highway Research Program  
500 Fifth Street NW  
Washington, DC 20001  
(202) 334-3238  
[chedges@nas.edu](mailto:chedges@nas.edu)

### Overall Impressions

The Florida DOT Research Symposium provided a unique opportunity to identify and discuss strategic research needs with transportation professionals from a cross-section of organizations, disciplines, and responsibilities. Working with disparate groups of individuals to reach consensus on complex issues is both challenging and rewarding, but never boring. The research symposium produced many interesting and innovative ideas for research, but I suspect the participants found the process to be as rewarding as the results. The event provided an occasion for the participants to understand and better appreciate the relative concerns and perspectives of their colleagues in government, academia, and consulting, with different subject specialties and management responsibilities. I believe this will facilitate future interaction and collaboration on research activities. Furthermore, I believe that assigning a portion of the Florida DOT research budget to more long-term, innovative research will help all of the agency's stakeholders to take a broader view of research and will stimulate more good ideas in the future.

### Specific comments

The mix of using both local and outside (peer exchange participants) facilitators was very successful. Having three people in that role helped move through the agenda efficiently and prevented domination of the discussion by any individuals in the group. The organization of the meeting was excellent, and having two staff members to simultaneously note key points on flip charts and take more detailed notes on a laptop was invaluable. The group leaders were well-chosen, since they were clearly comfortable working with groups and presenting material concisely and coherently.

### Suggestions for Improvements

Hindsight is always 20/20, and it is much easier to provide constructive criticism after the fact than in the planning stage. If a similar symposium were to be offered again, I would offer a number of suggestions for minor changes to the procedures: 1) Give participants a chance to select the group in advance in which they participate. Some members of our group (Policy) were more comfortable with specific technical issues than higher level policy decisions; 2) Try

to have the participants better briefed on concepts, definitions, and objectives before the breakout sessions begin (either by distributing material in advance or by presenting material during the plenary session). For example, provide clearer definitions of the A, B, and C groupings, examples of future trends, definitions of “future vision” versus “research concepts,” “leap frog” versus “incremental,” and “high risk versus low risk.” These concepts were interpreted in different ways by different people, and establishing a common understanding up front may result in a more efficient use of the time available; 3) The classification of research concepts into the SHRP 2 subject categories was not well-understood and the relevance was not clear. I would recommend this type of classification be done after the symposium by the organizers.

#### What it all means to me

Transportation agencies are beginning to take a life cycle approach to the maintenance of transportation infrastructure, with the knowledge that money spent wisely today can be a much better investment than deferring expenditures until the future. The next step in the evolution could be to apply such a longer term, life cycle approach to multi-modal, integrated transportation system planning by investing research dollars today on the problems of tomorrow.

The concept of devoting a portion of a research budget to more long term, strategic needs is a topic under current discussion by the AASHTO Standing Committee on Research (SCOR), the oversight body for the National Cooperative Highway Research Program (NCHRP). I think it would be a very interesting and productive exercise to conduct a similar symposium with the SCOR members. I would suggest beginning the exercise with a presentation summarizing current needs and predicted future trends described in the TRB *Critical Issues in Transportation* report and similar documents from AASHTO, FHWA, and other stakeholders. The composition of SCOR (a mix of research heads and senior management) would provide a unique forum for the identification of research concepts to address the critical issues likely to affect our economy, environment, and way of life. Devoting a portion of the NCHRP budget to these longer term needs might produce a more balanced program that would both address current problems and facilitate proactive strategies to reduce or mitigate the impacts of future issues before they occur.



Sue Lodahl, Director  
Research Services Section  
Minnesota Department of Transportation  
First Floor North MS 330  
395 John Ireland Boulevard  
St. Paul, MN 55155  
(651) 366-3765  
[sue.lodahl@dot.state.mn.us](mailto:sue.lodahl@dot.state.mn.us)

### Observations

- 1<sup>st</sup> symposium in Florida
- The three strategic goals for the Florida DOT are Safety, Mobility and Customer Service.
- Dreams minus Action = Squat
- The collapse of the I35W over the Mississippi River in MN has affected EVERYONE in some manner.
- Folks that attended the symposium were very passionate.
- Not everyone is a futurist but maybe more folks should be.
- The Florida DOT Research Center should feel success due to the fact that they had to turn people away and were truly interested in transportation research.
- Academia tended to focus how they could get their research funded.

### Opportunities

- Tie the identified concepts and ideas to the three strategic goals listed above for the Florida DOT
- Further investigate the research ideas and create a roadmap for each topic area, e.g. identify a roadmap for freight, another for movement of people. Look at what Florida has already done in each area and then tie this into the 20 years into the future concepts. You should find that projects/concepts will cross silos into another group. Freight projects will cross over into infrastructure. (see MN roadmaps provided)
- Further mix up the groups. Do not put all experts in an area in the same group.
- Reporting out was difficult for the team leaders.

### Takeaways

- As heard at other peer exchanges, all DOTs experience difficulty in getting projects completed on time and have concerns that they are spending their research dollars wisely.
- Extremely important to get buy in from top management

- Minnesota should do more cost plus contracts in hopes of getting more accountability out of academia.
- Minnesota's first strategic research visioning seminar involved only folks internal to Mn/DOT. As we further define the research program areas identified we should involve academia. We were nervous about doing this, however, after seeing how well this symposium went it can work very well.
- The research offices in state DOT are both a program management and contract management organization
- Networking after hours at the symposium was very valuable and made the second day go smoother.
- The idea of a concept RFP is very unique.
- Minnesota's recent strategic visioning seminar also asked the three key questions that Richard referred to in the opening plenary session:
  - Is the right research being done? Is it addressing a Mn/DOT need?
  - Is the research being done right? Accountability
  - Is the research having the desired impact? Apply research results.



Wes Lum, Chief  
National Liaison Office  
California Department of Transportation  
1227 O Street, 5<sup>th</sup> Floor  
Sacramento, CA 95814  
(916) 654-8892  
[wes.lum@dot.ca.gov](mailto:wes.lum@dot.ca.gov)

The symposium was well planned, logically and organizationally. Participants engaged throughout the sessions. Pre-symposium reading material provided enough, but not too much, information to prepare the participants for thinking into the future and outside of the box. The numbers of participants were optimal both in the plenary and in the breakouts. Using research managers as facilitators was a very good idea. We were able to guide the discussions, answer questions, and assist the team leaders.

Participants were limited to transportation employees of FDOT and university researchers. Other stakeholder input can be helpful in defining Florida's future and concomitant research needs, such as youth, business, and local governments.

I am most interested in sharing this experience with the managers in Caltrans, especially in the Division of Research and Innovation. The Symposium process and the research outcomes should generate interest. There may be opportunities to partner on research of mutual interest. Even though I was helpful to the success of the symposium, I was especially gratified when participants from FDOT and academia conveyed their appreciation for meeting various Caltrans employees in national activities.



Timothy McDowell  
State Programming Engineer  
Wyoming Department of Transportation  
5300 Bishop Boulevard  
Cheyenne, WY 82009  
(307) 777-4412  
[tim.mcdowell@dot.state.wy.us](mailto:tim.mcdowell@dot.state.wy.us)

### Observations:

The Florida transportation research community has undertaken a major effort in moving the state of research forward by this strategic symposium. By allowing the research community to envision the future of Florida, and then begin to address how it will handle those future transportation needs, allowed the Florida DOT to set a new framework for truly advanced and dynamic research concepts.

The preparation for the symposium, combined with the research peer exchange, was well done. There was a lot of information that was given ahead of time to fully prepare for the strategic planning for research in Florida. Although it may have been difficult for many to get out of “the box” for awhile, by the end of the symposium most of the participants began to see how research can reach the future. One of the key points that was stressed, and for the most part achieved, was to begin to develop a research program that will move Florida into the future. Even though this type of strategic research thinking was a first time for the Florida research community, I think it was achieved.

Focusing on research concepts that were “leap frog” in nature forced the participants to go beyond the traditional 2-10 year time frame, of day to day research. It allowed researchers to dream about the future and then come up with research concept areas that will allow Florida to radically move forward. One of the realizations that many came to see was that their research was part of a whole integrated transportation system that needs to perform cohesively.

Florida certainly has a very robust and forward thinking culture in transportation research. The research community is ready and willing to meet the future challenges of Florida. The strategic research symposium exposed great opportunities to give Florida a major return of the research investment. By opening up this avenue of conceptual thinking, I foresee that much more “leap frog” research will come forward. The symposium also validated many of the programs within the Florida DOT that already think strategically with their research.

Opportunities for Improvement:

- Provide a list of definitions for the categories for strategic research for future symposiums: i.e., “Renewal” is defined by the FLDOT as..., “Reliability” is defined by the FLDOT as..., etc.
- Prior to beginning the sessions in earnest, take the time to explain that what is seen as impossibilities in the future are the “leap frog” research opportunities that are needed and actively sought.

Observations that will be brought back to Wyoming:

- Look into research for asset management that allows Wyoming to have a systematic approach to rational decision making.
- Develop a balance between short-term implementable research that addresses today’s issues, and strategic long-term research that advances the future.
- Work with WYDOT’s Research Advisory Committee on developing research concepts that will fit Wyoming’s Long Range Strategic Plan. This can be accomplished by holding a research symposium somewhat in line with Florida’s model.



Carl Mikyska  
Transportation Planning Specialist  
Federal Highway Administration, Florida Division  
545 John Knox Road, Suite 200  
Tallahassee, FL 32303  
(850) 942-9650 ext. 3010  
[carl.mikyska@fhwa.dot.gov](mailto:carl.mikyska@fhwa.dot.gov)

What worked well?

Several items worked well, the interaction between participants was very productive. There was some idea building where participants fed off of each other. The breakout sessions worked well and the size of the groups seemed to be ideal. The groups were large enough to bring out a variety of ideas and small enough to be manageable. The schedule of events and structuring of the discussion worked well, the advance planning and thinking out of how this would work out showed through the working sessions. Conversation was structured and the advance planning helped the group to move through the exercises to reach meaningful input.

What can be improved?

In some cases, conversation was dominated by a few individuals and some forms of collecting ideas may be explored for future sessions. A software product named GroupWise may be helpful for this type of purpose. It encourages participation by many, including individuals who are shy or introverted. It also minimizes the possibility of a few persons dominating the entire group

What will I take away?

Working for a non-implementing agency the benefit to me will be in the ideas generated for future planning activities. Several of the ideas were futuristic in nature, and in order for them to be implemented, a great deal of planning will be needed. These ideas will make for interesting studies and I would enjoy participating in these potential studies.

Activities to strengthen this process

I really believe that the symposium was well organized and carefully thought out. The only factor to be altered in order to strengthen this process would be related to the personalities of individual participants. Using software as mentioned above (Groupwise) would be helpful. Also, some attendees did not participate very much, if at all. I don't know if this is related to a few persons dominating the conversation or if these persons just don't participate when given the opportunity.

### Looking into the future

The symposium is something I can easily see occurring on a regular basis and as discussed among the facilitators on Wednesday afternoon the idea of drawing ideas from university students could generate several ideas. These ideas could be used for future group sessions as starting points to then generate another set of ideas. There was not a discussion on fuel types/energy sources and this was rather surprising. Perhaps a session on energy and the environment as it relates to transportation could generate some ideas particularly if it is tied to policy discussions. While this is a politically charged topic, some benefit could be realized and with the coming change in National Ambient Air Quality Standards (NAAQS) for ground level ozone, this issue may become very important in the near future.



Harold "Skip" Paul, Director  
Louisiana Transportation Research Center  
4101 Gourrier Avenue  
Baton Rouge, LA 70808  
(225) 767-9101  
[haroldpaul@dotd.la.gov](mailto:haroldpaul@dotd.la.gov)

### Observations

- The development of a futuristic, conceptual research program is, in and of itself, a forward looking, innovative process in the DOT research community. Most of us are worried about solving today's problems with fewer people and dollars or at best aligning programs with at most a five year span aligned with the goals of current administrators. This is a bold leap forward! As such, it was exciting to have the opportunity to participate.

To be provided the opportunity to participate in this activity is invaluable. Removed from my normal, daily activity associated with running our Louisiana program, I was able to once again think creatively and assist in the facilitation of this process.

- The FL DOT staff provided an insightful framework for the development of this futuristic, conceptual program. The time spent in each session imagining the future scope of Florida was key to setting minds in the right direction. The white paper, web sites, and readings provided were well researched and set the mood for those participants who took the time to read them. Perhaps another 30-45 minutes would have been beneficial.
- The team leaders were well chosen, dynamic, and forced the individual teams to generate research concepts or themes to accommodate that vision of Florida created in the futures exercise. This was a difficult task in some instances as the team members, both DOT and academic in my group, came prepared with their agendas. On the first day, these agendas influenced the initial selection of conceptual topics.
- The categorization of the concepts into the A/B/C priority groupings was difficult and while I believe it is a very necessary process in selecting topics for funding is probably best not done by this group of people. Our team seemed to want to define the terms of risk and cost differently from concept to concept to fit their agenda. Consideration to categorizing the topical areas should be given to another, smaller, more select group.

- Similarly, the classification of the topics into SHRP 2 groupings was difficult for this group. Again, I think that it was influenced by their agendas. As this step was involved to assist the Chief Engineer for his presentation to the Executive Committee, it is a task that could best be served by the research staff.
- The recognition by the FL DOT research staff of the “set agenda” barriers being set up in the team meetings, the forcing of the A/B/C categories to meet agenda needs, was the turning point of the symposium. It was masterful. The realization that this was a barrier and the solution to let the teams explain their issues, risk, cost and leapfrog/incremental assignments to each conceptual topic area released the thought processes. This provided now a very vibrant and realistic list of conceptual topics rather than a listing of agenda items under forced category terms. Because of this, the real futuristic concepts came forward. I sincerely believe that there are at least six conceptual theme areas that have the opportunity to generate outstanding, creative solutions to meet Florida’s future needs. This would not have happened without the insightfulness of the FL DOT research staff to change direction.
- Louisiana has an employee award program naming employee, manager and team of the quarter/year. If Florida DOT has such a program, there should be no question that the research staff is a hand’s down winner.
- The LTAP staff provided outstanding support throughout the symposium. All needs were met and exceeded.
- The Chief Engineer’s opening comments set the tone for the symposium and provided the opportunity for the DOT employees to think creatively. It was very impressive that he additionally participated in the team meetings, demonstrating his commitment and belief in achieving the symposium goals.
- As always, the opportunity to discuss ideas, problems, and needs with professional peers is the highlight of the free time provided during the symposium. Sufficient time was allowed during breaks, lunch, and dinner.
- I will use my time on the trip home and the next several weeks to think about how we can implement a similar futuristic, conceptual research program at the Louisiana Transportation Research Center (LTRC). Climate change and its impact on the gulf and coastal states will pose the same future problems for Louisiana and Florida.. I will look forward to the symposium report, the selection of conceptual topic areas (RFPs), and especially the acceptance of this program by the Executive Committee. This forward looking idea of the FL DOT research staff will keep Florida DOT in a leadership position.

## CONCLUSIONS

First, and foremost, the Research Center would like to thank each member of the peer exchange for volunteering to spend the better part of a week helping us to explore possibilities for identifying research opportunities through visioning, specifically in the form of our first research symposium. It was a lot of work, but we hope that it benefited each member of the team by affording opportunities to think strategically and innovatively about how to maximize the value of research. The experience and expertise that the team brought to the exchange, and their willingness to help facilitate the Movement of People, Movement of Freight, Policy, and two Infrastructure breakout group sessions, not only allowed the team an opportunity to actively explore a part of FDOT's research program, but ensured the success of the symposium itself.

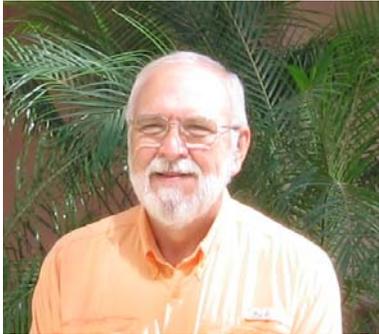
The Research Center will be reviewing the recommendations made by the symposium participants in the coming weeks and will develop recommendations to be presented to FDOT management in a separate report.

Some key takeaway items from the peer exchange include the following lessons that can be applied to future symposiums:

- Provide a more complete effort in setting the stage, which might include the following:
  - ✓ provide extra time during the plenary sessions
  - ✓ hire a professional facilitator for the plenary sessions
  - ✓ provide better, and perhaps more exhaustive, pre-reading materials
  - ✓ provide more time to train team leaders
- Do not make team exercises too complex. The effort to prioritize research ideas and concepts into SHRP categories (i.e., renewal, reliability, safety, capacity) was confusing to some participants and seemed to divert others from the substance and purpose of the symposium.
- Consider involving other transportation stakeholders to participate, such as the insurance industry, trucking, ports, airports, AAA, citizen's organizations, etc.
- Consider providing a role for students in visioning efforts, perhaps reaching down to high schools.
- Consider weblogs or other ways to maintain interest and to keep discussions active in the interim between symposiums (or possibly in place of them).
- Invite other research community friends who have similar programs or interests to be active participants.

This last takeaway proved a vital element in the success of the symposium. While future symposiums may not be centerpieces of a peer exchange, we found that the perspective, knowledge, and insights of other research program managers (both state and national in scope) was an invaluable piece of the event. These partners provided a structure and coherence to the symposium, particularly in the breakout sessions and post-event analysis, that would have been difficult to achieve otherwise.

## RESEARCH CENTER STAFF



Richard C. Long, Director  
Research Center  
Florida Department of Transportation  
605 Suwannee Street, MS 30  
Tallahassee, FL 32399  
(850) 414-4617  
[RichardC.Long@dot.state.fl.us](mailto:RichardC.Long@dot.state.fl.us)



Sandra Bell, Business Systems Coordinator  
Research Center  
Florida Department of Transportation  
605 Suwannee Street, MS 30  
Tallahassee, FL 32399  
(850) 414-4614  
[Sandra.Bell@dot.state.fl.us](mailto:Sandra.Bell@dot.state.fl.us)



Patti Brannon, Research Development Coordinator  
Research Center  
Florida Department of Transportation  
605 Suwannee Street, MS 30  
Tallahassee, FL 32399  
(850) 414-4616  
[Patti.Brannon@dot.state.fl.us](mailto:Patti.Brannon@dot.state.fl.us)



Darryll Dockstader, Research Deployment Coordinator  
Research Center  
Florida Department of Transportation  
605 Suwannee Street, MS 30  
Tallahassee, FL 32399  
(850) 414-4613  
[Darryll.Dockstader@dot.state.fl.us](mailto:Darryll.Dockstader@dot.state.fl.us)