

Suggested Questions for Panel Discussion: Infrastructure and Transportation

Moderator:

- **Kirk Hatfield**, Professor and Director of the Engineering School of Sustainable Infrastructure & Environment, UF

Panelists:

- **Jim Wood**, Director of the Office of Policy Planning, Florida Department of Transportation (FDOT)
- **Dr. Ruth Steiner**, Associate Professor; Director: Center for Health and the Built Environment Department of Urban and Regional Planning, UF

1. What are the most critical challenges that this sector will face due to future changes in climate/climate variability, and sea levels?

Jim Wood: One of the greatest challenges is the number of players. In Florida we have more than 400 municipalities, 67 counties, 26 transportation planning organizations, DOT, Federal Highway, and many others who are affecting those decisions...and then you are dealing with planning horizons that are short and long term (easily into 20 years) and policy planning in 50 years. How do you best guide this kind of decision making that has so many players involved from local to federal? How do you engage in new ways for adaptation? You can't put the brakes on...Investments continue to be made and projects continue to move forward. How do you inform that decision making? This is one of the key challenges.

Question from audience: The role of the state legislature projectory sets the state budget versus the role of the city (City Council) with generally a smaller influence...yet most of the decisions and good ideas come from the city. How do you see that working and influencing policy at the state level?

Jim Wood: There is a lot of coordination in transportation from the local up to the state, and again up to the federal level. As much as possible, the department tries to be the interface with the state level decision, and try to advance local transportation goals. Our role is monitoring policy and monitoring the budget. What is secondary, but may become the primary issue, is the gas tax. The fuel economy has gone up, so the money coming in to pay for the state transportation has gone down. That money needs to continue to come in to support local decisions.

Follow-up question from audience: Do the legislatures get good enough information to make those decisions?

Jim Wood: They will get it in different places. The NPO alliance is very forward with that.

Dr. Ruth Steiner: The innovative things are happening at the local level. That's where the impacts of climate change will be felt the most. Like South Florida...they are feeling the impacts of climate change directly. As a state, supporting local efforts will be important. [She gives some examples that the state will support, and concludes that she hopes that those examples will build some more support.]

Question from audience: Do you think they will look to the universities?

Dr. Ruth Steiner: Not sure anyone can answer that question right now.

Question from audience: Are we going to continue to rebuild roads on the coast when they continue to be destroyed by storms? It used to be hard for those communities to redevelop after a catastrophic event, but legislation changed and now we can rebuild. This comes at the cost of the taxpayers, though.

Dr. Kirk Hatfield: New York is currently addressing this and is purchasing properties at the highest risk to discourage rebuilding on the at-risk areas.

Dr. Ruth Steiner: Do we have enough information to determine what areas are the highest risks in Florida?

From the audience: Land use is a local decision. DOT should not take the lead on who should decide what roadways we abandon. It should be a partnership with the communities.

Other panelists: In alignment with sustainability, access to resources and the department of defense should also be included in these decisions. There are many players involved to come to sustainable solutions, but certainly the communities surrounding those roadways should be included.

2. How will increases in human populations, availability of fresh water, arable land, fossil fuels, and other resources impact business and policy in this sector?

Tim Jackson gave the example of the SunRail in Orlando in his presentation. He encouraged us to think about areas around each of these stations and how many people work in these areas. In his presentation, he stated that there are about 100,000 employees and about 7,000 homes...a lot of them downtown. About 60,000 have an easy commute to downtown (walk or bike), but right now it just connects these jobs to the talent pool. Parking lots near them could increase jobs. A family's income on transportation can have a big impact on the community. Being transit rich reduces transportation costs which allows for more spending in other ways. It is ultimately better for the economy and for the families. Energy consumption also decreases.

3. What future technologies are needed to address these challenges?

Tim Jackson: We need to change our attitude about travel, how we apply optimization, how we use transportation research, why we can't confine ourselves to moving people instead of people in cars ("Lateral Thinking"). We need to consider multimodal transportation systems and not treat transportation as a right but a resource.

In his presentation, Tim Jackson discussed that transportation is about sustainable communities...that it has always been related to the community around us. He posed the question, "Why not forecast the vision we have for the community, and then design transportation with that context in mind? ...Design different transitions that create the community you desire."

It was also stated in his presentation that trends in transportation investment are as follows, "Most transportation dollars go to regional mobility solutions, then maintenance and renewal, then community solutions. Community solutions really need to be focused on more...If we build more lanes today, it may be obsolete tomorrow. If we widen roads, we reduce delay and reduce cost, but we have higher congestion and reduced options...We need to research this more...Infrastructure and transportation has got to be a leader in sustainability."

Dr. Zietsman described transportation as the blood and veins of a society in his presentation. He proceeded to explain that we cannot look at transportation in isolation. It is linked to other sections like energy, manufacturing, production, agriculture, etc.

4. What research priorities are needed to address the challenges of the next 10 years? Next 50 years? What are the gaps that need to be filled?

Are there studies, lead by local efforts, which looked at the most vulnerable areas of Florida? Yes, Australia, Miami, Galveston are looking at compelling concerns driven by sea level changes, and we can learn from them.

Dr. Zietsman addressed NCHRP708 as a tool to address the application of sustainability using a proposed framework in his presentation. This is a free, user-friendly guidebook that is Excel-formatted so the user can pull out what they need. There is a performance measurement implementation framework that can be used for many things including communication of common understanding for public information, decision making, bus rapid transport tracking system, etc. The overall framework focuses on 1) Understanding Sustainability (common principles and terminology), 2) Measure (performance measures), and 3) Apply.

Dr. Blair Feltmate was faced with the challenge of determining the most critical areas of interest for adaption to climate change. He answered this question very thoroughly in his presentation through a collaborative project (Climate Change Adaptation Project). One of the first things he did was to determine the 5 key areas and courses of action to industry and private sectors that would otherwise result due to climate change. He solicited every area that could be affected to give a 15 minute presentation on their area of interest, why their area was a key area to consider. They had to be an expert in that area, be aspirational but realistic and provide practical, meaningful and cost effective recommendations. A survey followed their presentation to determine how important it was and a vote was conducted. It worked and there were very strong results. Key areas were identified. His project was in collaboration with a major insurance company but stated that a project like this could only be conducted at a university. The final report for this project will be released June 2013 and could serve as a model for other

entities to follow to determine the critical needs and areas for adaptation to climate change in their geographic location. Relative to the goals of the project, Dr. Feltmate states that this project 1) Characterizes challenges to sustain economies and natural resources, 2) Identifies city, state, and national research to address these challenges, and 3) Cultivates cooperation between academic, industry, government, and NGO's, aboriginals, and legal communities.

Ruth Steiner: We should do a better job of including the preference of what people want in terms of transportation.

Blaire Feltmate: Asked about updating flood maps as there is considerable concern over sea level rise – and the long-term liabilities and the stability of roads, buildings, and roads.

More than once the participants emphasized the need for more investment in education.

Other concerns raised include land use changes and how the DOT prioritizes research topics and how is sustainability incorporated.

5. Can new public-private research partnerships help? What are the prospects for greatly expanding such partnerships?

Possibly, however, privatizing the operations and maintenance of roads, ports and harbors is undermining communities. There is a need for studying the impacts on the Florida's ports and to prioritize ports to improve the State's economy. The new FDOT state plan is under development and public/private partnerships play an important role.

Dr. Feltmate's collaborative project with Property & Casualty Insurance is an example of a public-private research partnership that was beneficial. It greatly benefitted the insurance company to invest in adaptation research and implementation. Fire was the number one claim they were faced with, but now its water (flooding basements). They are faced with a huge difference in claim payouts due to climate change and were willing to invest in the adaptation research to reduce future claims. This is an example of a symbiotic relationship in which both parties benefit.

6. What can the University of Florida, as one of the major Land Grant Universities, do to position itself to address the challenges of the next 20-50 years in this sector and provide the science needed for sustaining economies and natural resources?

The University could work more with business groups to identify priorities for addressing sea level rise, reach out more with extension services and simply bring together people from across the State and Nations for productive conferences.

