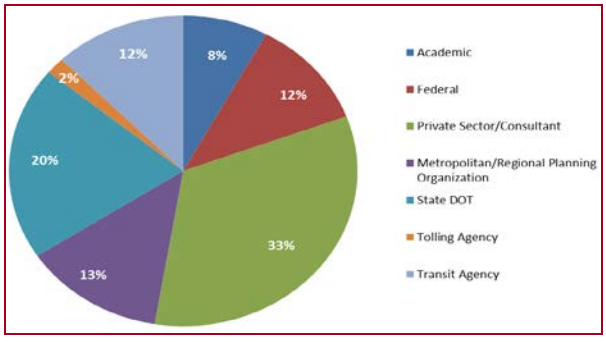
NATIONAL CONGESTION PRICING CONFERENCE

Seattle, Washington — July 9-10, 2013

National Workshop Attracts "Thought Leaders" in Congestion Pricing

On July 9-10, 2013, 114 leaders in congestion pricing, managed lanes, and parking pricing convened in Seattle, WA to discuss recent successes and challenges to advancing congestion pricing in the United States. Much of the discussion centered on the important outcomes of project implementations, especially the Urban Partnership Agreement (UPA)/Congestion Reduction Demonstration (CRD) programs as well as the Value Pricing Pilot Program (VPPP). The primary objective of the conference was raising the awareness, advancing the state-of-the-practice, and identifying the research and technology transfer needs in support of deploying congestion pricing strategies in the United States. Sharing the collective knowledge and experience of presenters and participants, the conference provided input to the Federal Highway Administration (FHWA), Transportation Research Board (TRB) and other research organizations, and implementing transportation agencies.

The participants represented state, local and regional jurisdictions from across the United States and Ontario, Canada. Nearly half of the participants came from regional entities and State agencies; including metropolitan planning organizations (MPOs), State departments of transportation (DOT), and tolling and transit agencies. The FHWA coordinated and worked with Washington State DOT (WSDOT) and the TRB Congestion Pricing Committee to make this conference a success. All photos appear courtesy of FHWA.



Wide Variety of Experts in Congestion Pricing Represented at the Conference


NATIONAL CONGESTION PRICING CONFERENCE 2013

AGENDA

National Congestion Pricing Conference

Washington State Convention Center

July 9-10, 2013

Welcome and Opening Remarks

Innovations in Congestion Pricing in the United States over the Past 3 years

Panel Discussion with Local Elected Officials on Gaining Support and Buy-in from Elected Officials

Issues, Impacts, and Lessons Learned in Advancing Congestion Pricing Projects

Parking Pricing Projects

Overview and Site Visit of Key Congestion Pricing Projects in the Seattle Area

Regional Approaches for Implementing Congestion Pricing

Experiences in Evaluating Congestion Pricing

Putting It All Together – A Year of Learning and the Year Ahead

Final Agenda for the Conference

Kick-Off Panel Motivates Thinking

Robert Arnold, *Director of Federal Highway Administration's Office of Transportation Operations*, noted the wealth of knowledge and experience in the congestion pricing field gathered for this conference. He commended the participants for the importance of, and recent progress in, congestion pricing programs, particularly those of the local sponsor transportation agencies.

Lynn Peterson, *Washington State Secretary of Transportation*, remarked that managing demand is the future of our transportation systems and that congestion pricing is an important element. About every 50 years there is a new transportation revolution, with the Interstate era being most recent. Transportation must be thought of as a utility.

Dow Constantine, *King County (Washington) Executive*, noted that, regionally, they are trying to break across the paradigm of tolling individual facilities; therefore, the Puget Sound Regional Council included systemwide pricing in its 2040 Plan.

David Ungemah, *Co-Chair of the TRB Congestion Pricing Committee*, remarked that partnerships between TRB and the agencies that are actually implementing pricing facilities around the world will remain very important. The TRB Congestion Pricing Committee strives to assist with applying the concepts discussed at this meeting so that the transportation community can grow in the application of the congestion pricing concept.

Opening Remarks by Lynn Peterson, Washington State Secretary of Transportation

Workshop Design Stimulates Participation

The workshop was designed to maximize participation by using a sequence of moderated panels followed by an interactive discussion involving all attendees. Most sessions were designed to limit presentations to only key points in order to maintain a discussion panel format. Panelists helped direct discussion to specific topics but the experts in the audience were equal participants. Open mic sessions followed each panel discussion and "key takeaways" were compiled for each session.

Practitioner Panelists Tell Their Stories – Innovations in Congestion Pricing in the United States over the Past 3 years

The first panel discussion of the conference was chaired by ***Greg Jones****, Federal Highway Administration.* The purpose of this session was to provide up-to-date results and findings of key pricing projects. The panelists focused on unique aspects of their projects that could be transferable to peer projects of participants.

The session began with a presentation of the Government Accountability Office (GAO) Road Pricing Report from ***Maureen Luna-Long,*** *Government Accountability Office*. She provided an overview of the report, which reviewed 14 congestion pricing projects to examine the Federal role in supporting congestion pricing, the results of projects in the United States, and emerging issues related to these projects. The report concluded that although congestion pricing, where evaluated, has helped reduce congestion, there is a need for a more complete understanding of the potential benefits and effects of congestion pricing and UPA/CRD evaluations are an important step to furthering this understanding.

Following the GAO report, nine panel members reviewed recent developments and discussed lessons learned from the UPA/CRD or Innovative VPPP projects with which they are involved. The panel members included:

(UPA/CRD Projects)

- ***Stephanie Wiggins,*** *Los Angeles County Metropolitan Transportation Authority;*
- ***Patty Rubstello,*** *Washington State Department of Transportation;*
- ***Gregg Letts,*** *AECOM representing Miami I-95 Express Lanes;*
- ***Steve Corbin,*** *Georgia State Road and Tollway Authority;*
- ***Ken Buckeye,*** *Minnesota Department of Transportation; and*
- ***Jay Primus,*** *San Francisco Municipal Transportation Authority;*

(VPPP Projects)

- ***Larry Cloyed,*** *Virginia Department of Transportation****;***
- ***Murali Ramanujam,*** *Santa Clara Valley Transportation Authority;* and
- ***Tilly Chang,*** *San Francisco County Transportation Authority*.

The panelists in this session shared the stories and lessons learned from their successful project deployments. They discussed the need for better understanding and identification of potential benefits, effects, pricing objectives, and performance measures. They agreed that often, not all effects of congestion pricing are measured; thus, there is a need for a more complete understanding of the potential benefits and effects of congestion pricing.

The UPA/CRD projects involved significant Federal funding tied to extremely aggressive implementation deadlines. There was agreement among the UPA/CRD panelists that, in most cases, this had a positive impact on projects in that it drove partner agencies and even politicians to resolve differences quickly in order to avoid "losing" Federal funding.

Panelists expressed their beliefs that there is also a widespread need to define the pricing objectives more clearly, communicate them broadly, and use them to guide project descriptions. The various pricing projects had different performance indicators, which made it difficult to see the benefits across all projects. It is very important to keep in mind the value of people's time when determining relevant performance indicators.

Another important common theme throughout these innovative projects was the importance of education and communication with the public. Congestion pricing is a concept where it is typically difficult for the public to understand the benefits, so it is important to explain how it can make their busy days less stressful. It is important to be flexible and have a realistic schedule, as delays will strain credibility with the public.

Some of the panelists reported that they had experienced minimal complaints post-implementation from the public regarding issues such as requiring transponders, tolling of previously un-tolled facilities, and conversion from High Occupancy Vehicle (HOV) 2+ to High Occupancy Toll (HOT) 3+. However, they all agreed that this apparent acceptance was not necessarily transferable to other similar projects and was a direct result of the aforementioned successful education and communications efforts.

Key Takeaways

- *Clearly define pricing objectives early in the process, communicate them broadly, and use them to guide project decisions.*
- *Identify relevant key performance indicators including traffic, safety, drivers' time savings, and revenues.*
- *Funding tied to aggressive deadlines established by USDOT for implementation of the UPA/CRD projects helps to expedite consensus and focus project delivery.*
- *Educate the public so that they understand how they can benefit from pricing.*

Panel Discussion with Local Elected Officials on Gaining Support and Buy-in from Elected Officials

As transportation agencies begin to delve into congestion pricing policies, programs, and projects, they have a tendency to focus upon important technical aspects including traffic management, technology, toll rates, and signage. Ultimately, elected officials will need to approve these programs, and their perspectives can be quite different from those of transportation professionals. ***Lee Munnich,*** *University of Minnesota, Co-Chair of TRB Congestion Pricing Committee*, moderated this panel discussion in which panelists shared their personal project related experiences. He observed that by the 1990s, the economic case had been made for congestion pricing, and technology was in development; however, political and institutional issues were still blocking widespread implementation.

The panel was comprised of current or former elected or appointed public officials and all have extensive backgrounds in transportation legislation and policy. Each has been a champion for congestion pricing programs and projects in their respective regions. They included:

- ***Frank Hornstein,*** *Minnesota State Representative;*
- ***Dan O'Neal,*** *Commissioner, Washington State Transportation Commission;*
- ***Fred Jarrett,*** *Former Washington State Senator and Current Deputy King County Executive;* and
- ***John Fasana,*** *Metro Board Member and Councilman for the City of Duarte, California.*

Practitioner Panelists Telling Their Stories

All speakers identified the need for coalition building in the broadest sense across varying political viewpoints, geographic boundaries, business interests, and socio-economic backgrounds. They observed that local politics surrounding transportation has trended toward being even more polarized than in the past. Pricing programs and managed lane systems must achieve a coalition comprised of core city, suburbs, and exurbs in order to draw the necessary bipartisan support.

These coalitions are particularly useful in politically balanced cities. Partners and champions must come from outside of the lead public agency. This could include elected officials, business groups, academics and researchers, and community groups. Academic partners also bring credibility to projects as independent voices.

Panelists agreed that the sources and uses of funds are particularly delicate issues for congestion pricing projects. The first tolling or pricing project in a region provides a special challenge in getting elected officials' support. Opposition often cites that taxpayers have

already paid for the road. Many successful projects have demonstrated that tolling was considered a user fee, not a tax, since the user is gaining a travel time advantage and other benefits. Tolling of the existing SR 520 Bridge required extensive effort to earn the public's trust that this funding source would be spent on related improvements. Dan O'Neal commented that early reaction from the public in Washington State indicates that they are typically "happy to pay" because of the significant time savings.

The speakers indicated that transit was a key piece of each of the UPA/CRD projects with which they were associated and that the grant funding was heavily weighted toward supportive transit in these priced corridors. They also observed that politicians tend to favor tolling as it is the only way they can see to expand transit service to meet existing demands. In order to create broad coalitions for pricing projects, political compromise is typically required. These projects often include expanded transit options coupled with limited capacity expansion or operational changes (e.g. HOT lanes) on existing managed lanes in order to achieve all of their objectives.

The panel noted that public outreach must be extensive, creative, and ongoing in order to develop trust and understanding of pricing programs. Elected officials in their corridors have tended to be very engaged in these political "hot button" issues. LA's new Express Lanes have been able to restore speeds to over 45 mph almost all the time, which has helped greatly with public support.

Key Takeaways

- *There is no such thing as too much education and outreach.*
- *Look for partners and champions outside of the lead public agency.*
- *Perceptions of elected officials are often quite different from the agency view. The far left and far right can find a common ground on pricing issues.*
- *Broad coalitions are particularly useful in politically balanced cities. A center city, suburb, and exurb coalition is very essential.*
- *Sources and uses of funds are particularly sensitive with pricing projects.*
- *Including expanded transit options within priced corridors can help bring support for pricing projects.*

Issues, Impacts, and Lessons Learned in Advancing Congestion Pricing Projects

During this session, experts in three topical areas of pricing conducted in-depth discussions about their experiences, successes, and lessons learned. The three key topics addressed by the three separate panels convened during this session were as follows: influence of congestion pricing on ridesharing, aligning back office capabilities with policy goals, and addressing the challenges of acceptability. ***Jane Lappin**, Federal Highway Administration*, moderated the session.

Influence of Congestion Pricing on Ridesharing

***Eric Schreffler**, an independent transportation consultant based in San Diego*, opened the session with a presentation of his preliminary assessment of the impacts that HOT conversion has had on carpooling. Three additional panel members led a discussion involving their specific experiences with the impacts that congestion pricing has had on mode shift for their projects. The three panel members were ***Craig LaMothe**, Twin Cities Metropolitan Council; **Stephanie Wiggins**, Los Angeles County Metropolitan Transportation Authority;* and ***David Schumacher**, San Diego Association of Governments.*

Determining the policy objectives is a very important step toward having a successful congestion pricing project or program. It is necessary to be open with the public regarding what the project is trying to achieve – revenue, mobility, etc. Also, modeling is still a big challenge with congestion pricing. There is not yet a good modeling tool to use to see what impacts and benefits you can have on carpooling and transit by tolling a certain corridor.

The panelists and participants agreed that to advance congestion pricing projects successfully, it is very important to help the public understand congestion pricing and also strive to understand their thoughts and opinions. For example, it is easy to make the assumption that carpoolers will understand the cost and time savings that congestion pricing will provide to them, but agencies need to think very carefully about how to educate the public. It takes a great deal of proactive involvement and often non-toll-related incentives to promote carpool usage successfully.

Panelists Leading Discussion with All Attendees

Aligning Back Office Capabilities with Policy Goals

The next topic area continued the conversation on policy objectives, this time focusing on how to align the policy goals to back office capabilities. Policy goals of the implementing agency, business rules applied to the managed lane facility, and back office functionalities are all interdependent. The panelists for this session included ***Patty Rubstello***, *Washington State Department of Transportation;* ***Jay Primus***, *San Francisco Municipal Transportation Authority; and* ***Jack Opiola***, *D'Artagnan Consulting.* Each panelist gave an overview of the lessons learned and challenges that they have experienced.

There are often challenges with the technology involved with toll facilities, especially when striving to make multiple facilities operate in a similar fashion. WSDOT had to retrofit much of their technology when they began to toll SR 520 so that all of their facilities worked the same. Additionally, it is important to be flexible when making policy decisions and to make sure back office functionality aligns with these policy goals through setting clear and manageable business rules. Typically, it is better to step back and look at all projects holistically rather than make decisions on a project by project basis.

Mr. Opiola discussed how controlling the cost of back office operations is very important because high costs of congestion pricing are a deterrent to public and stakeholder acceptance. State DOTs operating their first managed lane projects have tended not to be very concerned with the costs of back office operations as their objective has been to manage congestion rather than maximize revenue. Net revenues are what give the agency the funding to put back into the system. Looking to alternative designs, such as cloud computing, rather than relying on conventional tolling technology and infrastructure will lessen costs and add agility and flexibility.

In addition to the necessity of good modeling tools, which was discussed in the previous section, panelists agreed that there is a need for good data analysis tools for data warehousing, structuring, and processing. The *SFPark* project team learned the importance of this tool and was very particular with how the data was stored. Deciding how and when to change rates is a massive data challenge. This parking data is likely the first of its kind, so having a well-structured way of warehousing it was very important.

Panelists Sharing Their Lessons Learned

Addressing the Challenges of Acceptability

During the planning stages of the early congestion pricing projects in the United States, conceptual design was driven primarily by economic theory, emerging technology, and potential traffic improvements. As project development progressed, it became apparent that non-technical aspects needed to be given equal consideration. Project success required political, institutional, and public support.

The panelists who guided this discussion were ***Myron Swisher***, *SAIC;* ***Rob Fellows***, *Washington State Department of Transportation;* ***Jim Edwards***, *SoundTransit, Seattle;* and ***John Swanson***, *Metropolitan Washington Council of Governments.*

As was a recurring theme throughout the conference, the panelists and participants again agreed that the objectives of pricing projects need to be collaboratively established up front and project design must reflect those objectives. Maximizing revenue and mobility, optimizing person throughput, providing travel choices, and improving highway performance and efficiency were all cited as objectives. These can be applied either singularly or in combination and can be complementary objectives; however, in some cases they can also be competing objectives.

As with any perceived "new" revenue source, distribution of costs and revenues is a key political and interagency issue that needs to be addressed up front. Revenues for many of the more traditional HOV to HOT conversion projects (no additional capacity provided) have produced modest revenues—typically enough to cover conversion expenses, but little remains for significant additional investment. Panelists agreed that managed lane system concepts currently being developed by several metropolitan regions could require forethought regarding the revenue and cost sharing issues among partner agencies. It was noted that the SR 520 project in Washington would not have any "excess" revenue (part of the SR 520 project is not yet fully funded), and sharing gross revenue will not lead to

achieving overall project objectives. Other participants suggested a tiered sharing of revenues: corridor project costs, then transit, then the communities impacted by the project or program. This is a key question for legislators, who have historically restricted revenue uses, often excluding transit as an eligible use.

Panelists agreed that the public needs to see direct benefits in their lives, a "value proposition," in order to support or even understand the concept of congestion pricing. It was suggested that the public often does not believe that road pricing will cause improvements in traffic flow, and pricing must be part of a larger goal regarding regional mobility. Use of "pilot" projects has been successful in gaining acceptance to test pricing concepts in several regions in the United States and internationally. However, agencies have found that they must have a credible plan in place to terminate an unsuccessful pilot project. Finally, panelists agreed that congestion pricing was the "wave of the future" in their regions.

Key Takeaways

- *Identify project/program objectives up front in the concept development phase – What are you trying to achieve? Revenue, mobility, or a combination? Sometimes these objectives can be complimentary, but sometimes competing.*
- *Use market research to better understand your audience and customers.*
- *Back office functionality must align with policy goals through setting clear and manageable business rules.*
- *Demonstrate that you are reinvesting excess revenues and back office cost savings into the corridor and local regions. Transparency can help build trust in the surrounding regions regarding "getting their fair share."*
- *It is not about raising revenue – it is about meeting a specific need. Articulating what the need is and how this solution addresses that need is very important. The public requires a "value proposition" for pricing and needs to see clear, direct benefits in their lives.*

Parking Pricing – A Key Element of Regional Congestion Pricing Programs

***Allen Greenberg**, Federal Highway Administration,* moderated the session, during which panelists shared insights and experiences from their innovative parking pricing projects. He opened the session by emphasizing the important role that technology plays in enabling parking pricing. He stated the importance of parking cash-out programs and explained the inequity of free employee parking that benefits suburban commuters while placing the burden on inner city residents.

The panelists that presented on this topic were ***Jay Primus**, San Francisco Municipal Transportation Authority; **Mary Catherine Snyder**, City of Seattle; and **Dan Rowe**, King County, Washington.* Their presentations were focused on future needs and synergies with other pricing elements in their region.

As with all congestion pricing, effective communication with the public is very important. The benefits need to be "sold" and improved convenience for motorists needs to be shown. The agencies gained credibility with the public when they actually lowered parking prices in lower demand areas and times and then publicized that they did so.

Transferring parking violations revenue to meter revenue through pricing and advanced technology (similar to converting violators to customers in HOT lanes), coupled with more liberal time limits, vastly improves the parking situation. The panelists noted that parking availability is more important than turnover. By properly balancing parking supply and demand, each of the panelists' projects has been successful in making the right amount of parking available. In the case of King County's Right Size Parking Project, developers were advised about observed parking demand (priced and un-priced) in the hope that they would price their parking and reduce its supply (it is oversupplied by an average of 40 percent). The availability of one or two spaces on each block has had the desired effect of reducing traffic congestion caused by circling the block.

Nationally, regulations for minimum parking are based upon very outdated data and also the misconception that on-street parking should be "managed" through minimum off-street parking requirements instead of through on-street parking pricing. Innovative parking management programs have been implemented in several cities which, in turn, have made housing more affordable by reducing the amount of unused parking built within new projects and by unbundling or decoupling parking and housing costs.

Key Takeaways

- *Sell the benefits to the individual. Talk to people about what the quality of life benefits are. To the public, it's not about the larger social benefits; it's about how it will improve their day to day life.*
- *Parking pricing with advanced technology allows for a shift from violation revenue to meter revenue, which is far more effective and popular.*
- *Many things are priced on a cost recovery basis rather than what really makes sense. There is movement toward looking at system benefits rather than a specific project benefits.*
- *Effective parking management requires a balance between actual demand and supply. Current parking minimum policies are outdated.*

Congestion Pricing Projects in Seattle – Tour of the Broad Array of Local Projects

The second day of the conference began with a presentation on tolling in Washington State from ***Craig Stone*** and ***Patty Rubstello***, *Washington State Department of Transportation (WSDOT)*. Mr. Stone noted that tolling is expanding nationally for the purposes of funding and traffic management. Tolling responds to declining gas tax revenues and increasing transportation demands on an aging infrastructure. In 2008, Washington State's Legislature established that toll rates must be set to meet anticipated funding obligation to the greatest extent possible, and they should be set to optimize system performance, recognizing necessary trade-offs to generate revenue.

Craig Stone, WSDOT, Giving Tour of Projects in Seattle Area

Following the presentation, the group departed for a bus tour of congestion pricing projects around the Seattle area, including SR 520, I-90, I-405, SR 167, and Active Traffic Management (ATM). The tour started at the Washington State Convention Center in downtown Seattle and headed north to the SR 520 Bridge. The buses traveled across the existing bridge and then stopped to hear about the construction and see the current tolling of the existing bridge. The new SR 520 Bridge, which is currently under construction, will be a floating 6 lane bridge that includes bus rapid transit lanes. The buses then drove south on the I-405 corridor (which is in the planning/design stage for Express Lanes) to the SR 167 HOT lanes that are currently in operation. Finally, they headed north on I-5 to the ATM "Smarter Highways." The ATM signs were active, demonstrating how the ATM system responds to the level of congestion.

Key Takeaways

- *Equity issues are not just social, but also jurisdictional. If one jurisdiction has tolling, they want the other ones to have the same tolling.*
- *This is a learning process. There are so many details that you can read and hear about, but that don't really sink in until seen in person.*
- *Domestic scans can be very useful to share information and introduce people to projects that they may not have been familiar with otherwise.*

Regional Approaches for Implementing Congestion Pricing

Regional and state practitioners led this panel discussion, describing their recent experiences with successful practices for incorporating congestion pricing into regional transportation plans. The panelists for this session were ***Pierce Gould***, *San Francisco Metropolitan Transportation Commission;* ***Annie Nam***, *Southern California Association of Governments;* ***Charlie Howard***, *Puget Sound Regional Council;* ***Joe Waggoner***, *Tampa-Hillsborough Expressway Authority;* ***Dan Lamers***, *North Central Texas Council of Governments; and* ***Andrew Smith***, *HNTB Corporation (Miami I-95 Express Lanes).*

Many metropolitan regions in the United States are advancing with planning and implementation of significant managed lane networks and systems. Panelists and audience participants offered perspectives on where there are knowledge gaps and research needs from the regional perspective.

Opportunities to positively impact traffic congestion can grow exponentially with a well-managed, coordinated network of managed lanes as opposed to independent facilities. However, issues related to technology, tolling systems, institutional relationships, communications, and other areas can also become much more complex.

A project is likely to get much broader support if there is a direct link between where people are being tolled and where improvements that are funded by the toll revenue are being made. Therefore, it is important to consider

having a value proposition discussion with the public. It is necessary to have a dialogue with the public about funding in order to put the system into perspective for them.

By building off of initial successes, cohesive regional systems are quickly becoming more common. However, it is important to still keep flexibility in mind when coming up with regional systems. Although the maps may look similar in terms of networks of interconnected facilities, the policies, business rules, and finances can still be different for each one. Questions were raised regarding governance of multi-jurisdictional systems and making multi-operator systems operate seamlessly. We need to focus on reliability and mobility, but understand that our expectations are going to change over time as congestion pricing evolves and becomes more popular.

Long-term visions of regions conclude that gas tax revenue is already insufficient and must be supplemented or replaced as a funding source for transportation. Regional plans in several major cities have begun the difficult process of converting to various forms of system-wide pricing.

Key Takeaways

- *Regional Long Range Plans are starting to effectively address funding shortfalls by using various pricing strategies.*
- *It is time to start looking at expanding from regional to state or national approaches and establish a national vision for funding.*
- *Regional priced managed lane networks that are now in development need to address what to do with carpools and transit.*
- *Focus on reliability and mobility, but understand that expectations are going to change over time as this idea of pricing evolves and becomes more popular.*
- *Policies, business rules, and finances will continue to be very different for each new project; flexibility in developing regional systems is important.*

Experiences in Evaluating Congestion Pricing

The panel members delivered the results and findings of major pricing research and evaluation programs, focusing on future industry needs.

***Carol Zimmerman**, Battelle,* presented on the early findings of the UPA/CRD national evaluation projects. The objectives of this USDOT-sponsored evaluation are to assess impacts of certain strategies, provide information to support deployments in other areas, and help inform Federal policy and program development. In Miami (where a HOT lane was added and occupancy was increased from 2+ to 3+) and Minnesota, the evaluations showed dramatic reductions in congestion in HOT and general purpose lanes since tolling. However, in Atlanta, where the occupancy was also increased from 2+ to 3+, congestion increased in the general purpose lanes. All three evaluations found an increase in bus usage post-tolling.

***Sean Peirce**, U.S. Department of Transportation Volpe Center,* presented on the effects of congestion pricing on traveler behavior, as made evident from panel studies in the Seattle SR 520 and Atlanta I-85 Corridors. This FHWA-sponsored evaluation surveyed the same households before and after tolling to figure out how people's behaviors changed after tolling was implemented. The Seattle evaluation found a significant drop in overall corridor traffic that was not offset by an increase in off-corridor traffic as many people simply began to avoid unnecessary trips. Alternatively, in Atlanta, driving habits and mode choices were found to be largely unchanged.

***Randy Guensler**, Georgia Tech: HOV to HOT Research,* presented on a performance assessment of Atlanta's I-85 HOT lanes. The results that were presented were preliminary and are not yet released for publication.

***John Swanson**, Metropolitan Washington Council of Governments (MWCOG),* presented on a study conducted by MWCOG on public acceptability of congestion pricing. The study found that people are skeptical of pricing as an overall solution, but they may support specific proposals if they see direct benefits in their daily lives. They are more likely to support more obvious solutions to revenue issues, such as increasing gas taxes, than congestion pricing. In order to gain public acceptance, it is important to give people a sense of control in their lives, inspiring confidence that congestion pricing will solve the problems at hand and that it is part of a larger strategic vision.

***Karen White**, Federal Highway Administration,* presented findings from a study on the application of "Experimental Economics" to congestion pricing and the role that risk attitudes play in motorists' use of managed lanes. Experimental economics combines the use of field data from participating drivers with laboratory experiments with the same drivers in order to try to understand how individual drivers react to congestion pricing. The study showed that drivers are motivated by their perception of travel time on various routes and times, their value of money, and their attitude toward travel time reliability.

Conference Attendees Participating in Discussion

Workshop Wrap-Up Summarizes "Key Takeaways" and Action Items

This section summarizes the action items that conference attendees expressed during the sessions or listed on an evaluation survey completed at the end of the conference. Individuals making statements are identified where known to allow for and encourage peer discussions with agencies working in parallel on similar issues.

- Evaluate potential for a congestion tolling strategy for inclusion in San Diego Association of Governments' long range plan. We need to figure out how to take our managed lane network to the next level. – *Dave Schumacher, San Diego Association of Governments*
- Three primary areas of research and development for the TRB Congestion Pricing Committee (*David Ungemah, chair):*
  - Quantify transit benefit and reframe congestion pricing as a transit investment.
  - Investigate "default" basic systems that can integrate across boundaries.
  - Simplify business rules so that there is a mechanism in place to improve over time.
- As an MPO practitioner, more freely investigate how pricing can be integrated into the Metropolitan Washington Council of Governments' larger planning efforts. Our work is fragmented more than we know. – *John Swanson, Metropolitan Washington Council of Governments*
- Make regional transportation planners and activists aware of Federal resources and some of the findings from the conference. – *John Niles, Center for Advanced Transportation and Energy Solutions*
- Work on continuing the role of the Federal Government in congestion pricing and road user charges. Find a way that we can proceed without specific direct incentives – *Lee Munnich, University of Minnesota*
- Will think about writing a paper evaluating parking pricing– *Tom Higgins, KT Analytics*
- Plan for more outreach and marketing within the Metropolitan Transportation Commission. – *Jim Macrae, Metropolitan Transportation Commission*
- Take advantage of the contacts made here and make an effort to share information and questions with them in tracking issues moving forward. – *Larry Cloyed, Virginia Department of Transportation*
- Make contact with key persons leading relevant projects that were presented here. – *Steve Morello, D'Artagnan Consulting*
- Study long-term impacts of these priced facilities on congestion and the use of this salvaged infrastructure. – *Vikrant Sanghai, Parsons Brinckerhoff*
- Evaluate the applicability of a Congestion Tolling Strategy like PSRC's for the San Diego region. – *Dave Schumacher, San Diego Association of Governments*
- The idea about sharing congestion pricing revenue with local units of government needs further exploration in order to win broader support. This may be the key to winning support from a strong and motivated coalition. – *Ken Buckeye, Minnesota Department of Transportation*
- Congestion pricing needs to fit into the social and physical environment – the fabric of the region. Equity issues are not just on a social level, but also on a larger jurisdictional level – *Wayne Berman, Federal Highway Administration*
- Look into language of existing state bonds and discover if they can be paid back through toll revenues or VMT fees, or if they're solely yoked to gas tax revenues. – *Anonymous*
- Seek a seat at the table on the State DOT's efforts to use HOT lanes for congestion management. – *Anonymous*
- Continue to participate in conferences similar to this that will assist private sector firms in developing emerging technologies. – *Anonymous*

Learn more about the FHWA Tolling and Pricing Program at www.ops.fhwa.dot.gov/tolling_pricing/ and Office of Innovative Program Delivery at http://www.fhwa.dot.gov/ipd/revenue/road_pricing/. For more information about related FHWA programs and initiatives, contact Wayne Berman at wayne.berman@dot.gov / 202.366.4069 or Angela Jacobs at angela.jacobs@dot.gov / 202.366.0076. Full presentations from this conference can be found at www.trb-pricing.org.

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