
MNPASS SYSTEM STUDY PEER REVIEW

March 25, 2005

As part of the MnPASS System Study, Mn/DOT and the Metropolitan Council commissioned a peer review panel to assess the reasonableness of the study's assumptions, methodologies, findings and conclusions. The peer review panel¹ was comprised of:

- **Patrick DeCorla-Souza**, Team Leader, Highway Pricing and System Analysis Team, Federal Highway Administration
- **Servando Parapar**, Executive Director, Miami-Dade Expressway Authority
- **Edward Sullivan**, Professor, Cal Poly State University – San Luis Obispo

The peer review panel convened via a conference call on March 1, 2005. The purpose of the conference call was to orient and brief the peer reviewers on study related information that were previously made available to them. The peer review process culminated in a 2-day workshop on March 15-16, 2005, in the Twin Cities which involved peer reviewers, Mn/DOT and Metropolitan Council staff as well as the MnPASS System Study consultant and steering committee. The following summary comments reflect the insights, perspective and conclusions reached by the peer review panel at the end of the 2-day workshop.

Summary of Study Strengths

1. Disproves myth of using MnPASS lanes to pay for themselves and raise revenues.
2. Shows value of managed lanes to provide mobility and address congestion problems; shows people would be willing to pay for congestion-free travel.
3. Numbers are believable and within reasonable range.
 - a. Puts revenue potential within a reasonable band of expectation.
 - b. Estimate of benefits is appropriately conservative.
 - c. Approach of disaggregating costs into components is a good way to do it and yields good confidence in costs.
4. Illustrates well where projects are most likely to be successful.
5. Close integration of technical findings and policy discussions produced higher credibility.
6. Peer reviewers concur that HOV policy must be left flexible to ensure they don't fill up lanes, and that hybrids should not drive free.
7. Impressed with how "nimble" the study was to address what was needed in order for the results to be useful.
8. Study fulfilled objectives of effort – and more.
9. The incremental cost of the pricing component of MnPASS lanes just about equals the revenue from potential users, which is borne out in recent studies in another major US city; this increases confidence in financial analysis.

Summary of Concerns

1. Need clearer description of study goals and objectives.

¹ See biographies for more detailed information about peer reviewers.

2. As the technical report states , the regional model is a blunt tool to estimate congested speeds; future microsimulation of the system would produce more accurate numbers and therefore better estimates.
 - a. The HOV-choice estimation methodology produces results which should be validated.
 - b. The regional model does not factor in peak spreading.
3. Deemphasize the benefit/cost ratio in the final report.
 - a. Both benefits and costs may be underestimated; benefits may be underestimated in part because study does not factor in peak spreading.
 - b. Residual value of the MnPASS system is not taken into account, which understates the benefits.
 - c. Need to account for TPP costs and costs for tolling operations in the benefit/cost analysis to provide more accurate cost detail.
4. Unclear what proportion of benefits are derived from the pricing component of new MnPASS Lanes because the base case was 2013 network rather than the entire 2030 system without tolling.
5. Clarify that the modeling is based on a single systemwide toll rate being applied at a given time period, with the result that traffic volume estimates on different segments do not represent continuous trips.
6. It may be more accurate to conclude that any financial benefits that accrue from MnPASS lanes are not relevant to decision making; the focus should be on managing congestion.
7. In future studies:
 - a. Use alternative discount rate in order to capture the uncertainties of the analysis.
 - b. Consider a higher value of time for toll lane users.
 - c. Analyze potential differences of other toll-setting strategies, such as optimizing level of service in lieu of maximizing revenue.
 - d. Evaluate the effect of a high quality express bus system integrated with the MnPASS Lanes, and determine the best way for transit to access these lanes; look at the trade-off between.
 - Benefits to transit vehicles and reduced freeway congestion due to elimination of MnPASS vehicles' weaving movements in the free lanes, and
 - Cost of building direct access ramps.

Wisdom and Guidance

1. More detailed studies should be completed before Mn/DOT moves ahead with additional MnPASS lanes.
2. The political blinders about transit operations and controlling sprawl are problematic; there is a disconnect between community goals around congestion relief and actions that underfund transit and don't support controlling sprawl. This disconnect is not unique to the Twin Cities region. Nationally, many other metropolitan areas are grappling with similar policy issues.
3. MnPASS lanes may be an integral part of a broader transportation system, but they are a single component, no more. This tool is not compared to any other, such as rail, more free lanes, or tolling all lanes. Decisions must be made in a broader context.
4. The Twin Cities does not have severe congestion but it is the number one community concern and projected growth will produce significantly more congestion. A key benefit is that the incremental cost of managing traffic on the lanes with pricing is covered by toll revenues. The tremendous value of planning ahead to put a system of managed lanes in place to ensure maximum effectiveness of new lane capacity for as long as possible should not be underestimated.

Peer Reviewer Biographies

Patrick DeCorla-Souza, AICP

Patrick DeCorla-Souza is Team Leader for Highway Pricing and System Analysis in the Office of Transportation Policy Studies at the Federal Highway Administration (FHWA) in Washington, DC. Mr. DeCorla-Souza currently directs FHWA's road pricing program, known as the Value Pricing Pilot Program. In this capacity, he works with public and private sector partners in 15 States to implement innovative road pricing strategies. Mr. DeCorla-Souza's research interests include road pricing and travel demand management, transportation and air quality planning and analysis, transportation benefit-cost analysis and evaluation, and travel demand modeling. He has authored over 100 published papers and articles, over fifty of which have been on the subject of road pricing.

Prior to joining FHWA in 1987, Mr. DeCorla-Souza was a transportation planner with the Metropolitan Planning Organization for the Toledo, Ohio metropolitan area. Mr. DeCorla-Souza holds an M.S. in Planning from Florida State University and an M.S. in Civil Engineering from the University of Toledo.

He currently chairs the Transportation Research Board's Joint Subcommittee on Road Pricing, and serves on TRB Committees on Economics, Financing and Taxation, and Planning, Programming and System Evaluation. He serves on the Planning and Economics Committee of the American Society of Civil Engineers (ASCE), is a member of the Institute of Transportation Engineers (ITE), and a charter member of the American Institute of Certified Planners (AICP).

Servando M. Parapar, PE

Servando M. Parapar has served as executive director of the Miami-Dade Expressway Authority (MDX) since its inception in April 1996. His primary duties are to oversee all aspects of MDX's Twenty-Year Master Transportation Plan, with its current \$857 million five-year work program. MDX's overriding objective is to create an integrated transportation system that provides a seamless and balanced movement of traffic and eases traffic congestion in Miami-Dade County.

Mr. Parapar's responsibilities encompass the operation and maintenance of the existing toll road system, its expansion and financing. This includes long-range planning, design, right-of-way acquisition, construction, purchasing and contracting, long-range planning and managing relations with its partners: the State of Florida, the Department of Transportation, the Florida's Turnpike Enterprise, Miami-Dade County, Metropolitan Planning Organization, state and local agencies and municipalities.

Under Mr. Parapar's leadership and guidance, MDX has completed several roadway construction projects in record time, utilizing design-built contracts. He also has directed the strategic alliance with the Florida Department of Transportation (FDOT) which has led to the successful implementation of SunPass®, a statewide electronic toll collection tag, at the MDX facilities.

Previously, Mr. Parapar worked with FDOT for almost 12 years, including nine years as Director of Planning & Programs for District VI. While holding this position, Mr. Parapar proposed and

promoted the concept of multi-modal links and inter-modal transportation centers for Miami-Dade County. He led the implementation of these concepts, as they became the East-West Corridor and the Miami Intermodal Center Studies. His responsibilities also included developing FDOT's five year work program in Miami-Dade and Monroe counties; the identifying of FDOT funding levels for public transportation and airport expansion programs and acting as the chief liaison with the Miami-Dade Metropolitan Planning Organization and Monroe County planning officials. Prior to joining FDOT in 1984, Mr. Parapar worked as traffic engineer for Unisys Corporation and Metro-Dade County.

Mr. Parapar served on the Board of Directors of the International Bridge, Tunnel and Turnpike Association (IBTTA), among others professional associations. Born in Havana, Cuba, he is a Registered Professional Engineer in Florida, and holds a bachelor's degree in Architectural Engineering from the University of Miami and a master's degree in Civil Engineering from the University of Florida.

Edward C. Sullivan, PhD

Edward Sullivan is a professor in the Civil and Environmental Engineering Department, Cal Poly State University, San Luis Obispo, where he teaches classes in transportation planning and evaluation, traffic engineering, and introductory engineering design. He holds bachelors and masters degrees from M.I.T. and a Ph.D. in Transportation Engineering from U.C., Berkeley. During fourteen years at Cal Poly and his previous eighteen years as a research engineer with the Institute of Transportation Studies, Berkeley, he directed numerous research and public service projects related to transportation planning and development, safety, and traffic management.

His activities and recent activities include:

- Principal Investigator for the State Route 91 Express Lanes Evaluation, a five-year effort funded by Caltrans and the federal Value Pricing program to identify and quantify impacts of the privately operated value-priced toll lanes constructed in the median of SR 91.
- Advisor to the Rensselaer Polytechnic Institute on the New York, New Jersey Port Authority study of impacts of value pricing on the Hudson River toll crossings.
- Member of an advisory panel regarding the design of an evaluation program for the I-394 HOT lane project in Minneapolis, MN.
- Principal Investigator for a study of the safety of planting decorative trees in medians of urban arterials, conducted for Caltrans.
- Researcher on a study for Caltrans of the safety aspects of a prototype advanced fog-warning system installed in the California Central Valley.
- Developer of the Guide to Benefit-Cost Analysis web site sponsored by the A.S.C.E. Committee on Urban Transportation Economics and Policy.
- Principal investigator on a program for Caltrans and the CA Highway Patrol for training personnel who work in urban Traffic Management Centers.

He has authored numerous research articles and reports and served as a consultant in this country as well as China, India, Africa, and South America. He is a member of the American Society of Civil Engineers, Institute of Transportation Engineers, Transportation Research Board, and American Society for Engineering Education.